Report on statistical data SPOT

Report on the results of the statistical data collected in the case studies of the SPOT report

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Purpose and scope of the deliverable

Work Package 1 is mainly concerned with documenting the case study areas of the 15 SPOT partners by developing quantitative and qualitative indicators at national, regional and local levels which are appropriate for understanding the role of cultural tourism.

This is a report on statistical data collected within the scope of the SPOT project. The purpose of this deliverable is to provide the results of the collected data, and provide an analysis and discussion comparing the results of the fifteen participating case studies. The aim is to find out more about the similarities and differences that exist among the case studies for a number of topics ranging from geography to tourism.

Document history

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Content

Summary

This is a report on the results of statistical data collected for fifteen case studies in the context of the SPOT project, funded by the European Commission within the framework programme Horizon 2020. The goal of the SPOT project is to develop a new approach to understand and address cultural tourism and to promote sustainable development of cultural tourism in both disadvantaged and privileged areas. The concept of cultural tourism is changing from a more traditional form (focusing on museums, art galleries and such) towards people seeking to experience culture rather than observing it. These trends provide opportunities to both revitalize poorer and rural areas through economic and social development while protecting local culture and landscape.

In the information system of a democratic society, statistics are indispensable and serve not only the government, but also the economy and the public with data on the demography, economy, and social situation. This includes data on culture. Therefore, this study made use of a number of quantitative indictors, to give an indication of the economic, environmental, social and cultural situation in the SPOT case studies. The research question we attempt to answer via these statistical indicators is as follows: is there a relationship between the characteristics of cultural tourism in the case studies and the economic, social and environmental development of the case study areas?

The indicators used in this study were defined in cooperation with the SPOT consortium by means of brainstorm sessions and feedback processes. This led to four categories of indicators: environmental, social and economic, tourism in the case studies and tourists. A special data website was created to facilitate the collection and input of data by the SPOT teams. Besides data values, other required input per indicator was the year on which the data is based (preferably 2019), level of the data (case study, regional or national). After data collection, a selection was made for indicators to be investigated further, leaving out those indicators for which only few case studies were able to collect data for. Furthermore, data for case studies consisting of sub-regions was aggregated in the appropriate manner. Besides a general visualisation of the indicator results, the indicators were also, where possible, compared with the number of tourists visiting the case study areas. For this, the Spearman ranked correlation test was used using one of the indicators of this study – annual number of overnight stays – as a measure of visitor numbers.

An important limitation of this study was the availability of data: data was often not available or is available in different formats and units. Also, it was often not available at the preferred case study level. Another limitation was ambiguity of the indicators. Although each of the indicators came with a description, indicators were often not defined clearly enough, making collected data less comparable and reliable.

The statistical result on environment and socio-economic characteristics show the uniqueness of each case study area. They differ largely in size and terrain elevation. Climate also differs, with different patterns of temperature and precipitation. Socially, there are areas with a large population density (for example Barcelona with over 16,000 people/km^2) and others with a very low density (for example the German Leichhardt Land with 17 people/km^2). In some case studies, population is increasing, even up to 2.7% in Ljubljana (Slovenia), but in others it is decreasing. The largest decrease is found in the Buzău Carpathians and Subcarpathians, with over 16% decrease. Economically, there are large differences between minimum wage and average monthly income, varying from around 500 euros to over 2,500 euros per month. Likewise, case studies vary greatly in their unemployment rates. In some case studies, a large share of the working population is employed in the tourism sector, for example in the Cyclades with over 25%, whereas in other case studies this share is only small.

A positive correlation was found between the average summer temperature and annual overnight stays per square kilometre, and a negative correlation was found for average summer precipitation and annual overnight stays. Population density, population increase, and the share of the working population employed in the tourism sector are also found to be positively correlated with annual overnight stays per square kilometre.

The uniqueness of each case study area is again shown by the statistical results of the characteristics of tourism in each area. Number of accommodations ranged from over 10,000 in Barcelona to around 20 in other case studies. Most case studies have a share of foreign tourists lower than 50%. The highest share of foreign tourists can be found in Ljubljana, with almost 95%. The majority of foreign tourists visiting the case study areas are German. The summer months are the most common time of travel. There are large differences in number of annual overnight stays per square kilometre, ranging from almost 200,000 in Barcelona, to fewer than 100 stays in several other case studies. Tourist expenditure is largest in the Styrian Iron Route, with over 150 euros per person per day on average, and lowest in Kinderdijk, with only 35 euros, showing again large differences. The number of restaurants in the areas varies greatly, the most restaurants being in Barcelona. Some other case studies have only 15 restaurants or fewer. Statistical data on cultural tourism is not readily available, making it difficult to collect data. The number of cultural objects differs greatly among the case studies, the most cultural objects being present in Ida-Virumaa, Kinderdijk and Barcelona. Fewest are found in the Beit-She'an Valley and Komárom/Komárno.

The number of accommodations, restaurants and tourist agencies is found to be positively correlated with the number of annual overnight stays per square kilometre. Also, a positive correlation was found between the share of foreign and EU tourists and annual overnight stays. Historical sites, museums and religious site are the main three attractors of tangible cultural heritage in the case studies, although every case study is unique in their cultural offer. Tangible and intangible cultural heritage are not dependent on the geographical situation (e.g. urban/rural).

EU policy to stimulate sustainable (cultural) tourism requires customization. We see that environmental and socio-economic differences require different approaches to stimulate tourism. Tourism should be recognized as a relevant policy field on EU level where cultural tourism policy should be integrated into the territorial development policies. Furthermore, investment is necessary mostly into private services (e.g. accommodations and restaurants) and public services (e.g. public transport). Intangible cultural tourism can be a tool to attract tourists during the low season or as a driver to decentralise tourists from over-touristed places. Additionally, more research is necessary to collect data on tangible and intangible cultural heritage and objects (and how to collect such data), and the best way to quantify such heritage or objects. Each case study is unique, and the strategy for promoting cultural tourism can therefore be aimed at promoting this uniqueness, where both material cultural facilities and intangible cultural activities could be further explored and expanded. This could also increase the sense of 'identity' of local residents.

In conclusion, weather conditions and, therefore, geographical position of case studies, is correlated with the number of tourists. The number of tourists is associated with population increase and higher population density in case studies. We see also that higher numbers of tourists in case studies correspond with more work in the tourism sector. So, cities and rural areas surrounded by cities visited by many tourists, are more suited for the development of (cultural) tourism. Rural areas in peripheral conditions, with fewer tourists, are in a disadvantaged position. The tourism offer of accommodations, restaurants and tourist agencies is also higher in cities. Presence of tangible and intangible cultural heritage does not depend on the geographical situation.

There are relationships between the characteristics of cultural tourism in the case studies and the economic, social and environmental development of the case study areas. However, it is hard to categorize case studies in terms of cities or rural areas, peripheral or centrally situated, or de-industrialized. The correlations show that every case study is unique and that the combinations of results make it impossible to generalize research findings. We can conclude that these independent variables are less important for the development of cultural tourism and the economic, social and environmental development than we previously expected.

Lastly, availability of good statistical data on all levels is very important. Currently, such data is mostly not available. Therefore, investments should be made in open data collection on all levels, guided by EU directives. This should be done according to a common methodology, so that statistical data can be easily compared and analysed across different levels.

1. Introduction

1.1. Project context

This is a report on the results of statistical data collected for fifteen case studies of the SPOT project (Social and innovative Platform On cultural Tourism and its potential towards deepening Europeanisation), a three-year project that started in January 2020 and will end in December 2022. It is funded by the European Commission within the framework programme Horizon 2020.

The goal of SPOT is to develop a new approach to understand and address cultural tourism and to promote sustainable development of cultural tourism in disadvantaged or privileged areas. On the one hand Europe is a key cultural tourism destination thanks to a remarkable cultural heritage that includes museums, theatres, archaeological sites, historical cities and industrial sites as well as music and gastronomy (McKercher and Du Cros 2007, Prentice 2001). Regions that host these forms of cultural tourism are privileged areas. On the other hand there are disadvantaged regions in Europe with no or fewer forms of cultural tourism. Because cultural tourism can lead to economic growth, stakeholders try to stimulate and support a sustainable development of cultural tourism in disadvantaged areas.

The EC funded different projects to redefine the concept of cultural tourism and to provide European regions with strategies that engage stakeholders to co-create cultural tourism practices. Different literature reviews of studies to cultural tourism show us that the concept of cultural tourism is changing (Richards 1996, McKercher and Du Cros 2007, Richards 2018). The traditional forms still exist – focusing on museums, art galleries, landscapes, historical sites, festivals – but both cultural destinations and the tourists are under transformation. Many 'cultural tourists' see themselves neither as seeking culture nor as tourists; there is increasing evidence (Prentice 2001, Richards 2018) of people seeking to experience culture rather than merely observing it. That is: agritourism where visitors want to experience rural life; people wanting to visit the actual venues of TV crime thrillers; culture being explored by those using themed routes in winery regions or via pilgrimage.

These trends provide opportunities to both revitalize poorer and rural areas through economic and social development while protecting local culture and landscape. The project brings an extension of existing policies and the promotion of new approaches. Regions with over-tourism show us that sustainability is important. Positive and negative aspects of cultural tourism exist; a balanced development path needs to be sought. The project helps to identify themes and areas where intervention at local, regional, national and European levels may assist in achieving successful developments, managing that balance and offering solutions. In the end it is all about identifying opportunities and developing strategies, allowing local people to benefit from their precious cultural assets.

1.2. Development of – and need for – cultural tourism statistics

First we pay attention to the usefulness and practical application of using statistics for cultural tourism in this section. Why we make use of statistics in the SPOT project? A statistical report gives an objective description of numerical data that are presented in tables or figures.

In the information system of a democratic society, statistics are indispensable and serve not only the government, but also the economy and the public with data on the demography, economy, and social situation[1]. This includes data on culture. Statistics make it possible to develop measurements for cultural tourism to increase knowledge of the sector, monitor progress, evaluate impact, promote results-focused management, and highlight strategic issues for policy objectives. Statistics also make it possible to work on advancing methodological frameworks for measuring cultural tourism and expanding its analytical potential.

[1] https://www.unwto.org/statistics

The development of statistical concepts and frameworks for cultural tourism has not kept pace with the changes in nature and significance of cultural tourism worldwide and its potential for future growth. The traditional measures of cultural tourism have not kept up with the increasing Europeanisation: economic interdependence of all countries and the reduction of political and economic barriers between them. Meanwhile the requirements for tourism statistics have expanded enormously. Not only do the national administrations of each country have requirements for specialized tourism data needs, but the same holds true for many interest groups, such as industries, industry associations, local communities and academia. These interest groups have specialized needs for data relating to a wide variety of issues such as market analysis, marketing effectiveness, industrial investment, human resource development, policy analysis and issue oriented advocacy. Some countries and industries have already established a wide and diverse range of tourism data sources, with varying concepts and definitions to meet these needs, while other countries have not yet developed significant statistical systems for tourism. Therefore, the development of a common language for cultural tourism statistics is in this environment indispensable to the work of government statistical offices and the private sector[2].

1.3. Objectives of this report

This report is written for Work Package 1: Documentation and Data Collection. This report refers to the statistical data collected. A number of quantitative indictors, defined by the WP 1 team, give an indication of the economic, environmental, social and cultural situation and development in the SPOT case studies.

The statistical data collection will be combined in WP 1 with a quantitative and qualitative understanding of the meaning and importance of cultural tourism for the regions involved.

1.4. Central question and research questions

The central question for this survey report is as follows:

Is there a relationship between the characteristics of cultural tourism in the case studies and the economic, social and environmental development of the case study areas?

To analyse the results of the statistical data there are three further research questions, that will help in answering the central question.

These are:

- What are the environmental and social characteristics of the case studies and (how) can this influence (cultural) tourism?
- What are the general characteristics of the tourism sector in the case study sites and (how) can this influence (cultural) tourism?
- Which types of cultural tourism can be defined to characterize the similarities and differences in the case studies?

1.5. Reading guide

First we describe the used methodology (Chapter 2). We explain how we defined our indicators and created a data template. Then we describe the method of data collection, data processing and analysis. At last we present the methodological limitations we encountered.

In Chapter 3 we introduce the fifteen case studies by presenting infographics for each case study, using a selection of the statistical data that was collected by the teams. Data shown in these infographics are

[2] https://www.unwto.org/statistics

explained in more detail in the succeeding chapters.

After, the characteristics of the case studies are presented per indicator (Chapter 4): geographical and environmental characteristics, demographic characteristics and economic characteristics.

Chapter 5 presents the collected data on tourism as an economic activity. It deals with tourism capacities, tourists and gastronomy and services.

In chapter 6 we describe the data collected regarding the specifics of cultural tourism, such as the cultural objects present in the case study areas.

The discussion and conclusions is the final chapter (chapter 7), where the research questions are answered. Sections in this chapter are about 1) a measure for the number of tourists, 2) environmental, social and economic characteristics, 3) the tourism sector and 4) defining types of cultural tourism.

2. Methodology

2.1. Defining indicators and creating a data template

At the start of the SPOT project, in the beginning of 2020, the WP1 team (Wageningen Research) created a draft template with indicators. This was presented to and discussed with all SPOT-partners during the kick-off meeting in Brno at the end of January 2020. Participants were divided in eight groups of five people to provide comments on the created draft. These comments were used to improve the template.

Also, a brief literature research was done on cultural tourism (Du Cros and McKercher, 2015; Smith, 2016; Richards, 2018), sustainable tourism (Agyeiwaah et al., 2017; Blancas et al., 2010; Castellani and Sala, 2010; Larson and Poudyal, 2012; Loulanski and Loulanski, 2011; Lozano-Oyala et al., 2012; Tanguay et al. 2013; Torres-Delgado and Palomeque, 2014; Torres-Delgado and Saarinen, 2014; Waligo et al., 2013 and Zolfani et al., 2015), tourism development and landscape (Batman et al., 2019; González-Álvarez, 2019), tourist motivation (Bond and Falk, 2013), local stakeholders (Jeon et al., 2016; Scheyvens and Biddulph, 2018; Bimonte et al., 2019) and gender and tourism (Ferguson and Alarcon, 2015; Rinaldi and Salerno, 2019). This research was performed to help with defining proper indicators.

Using the improved draft template, and the researched literature, the WP1 team did a brainstorm session and noted all possible indicators on post-its. Following this, the post-its were ordered into categories, combined together when similar and removed when not deemed relevant for the purpose of the SPOT project. An example of this process is shown in Figure 1. Four categories of indicators were created: environment, social-economic, case study, and tourism.

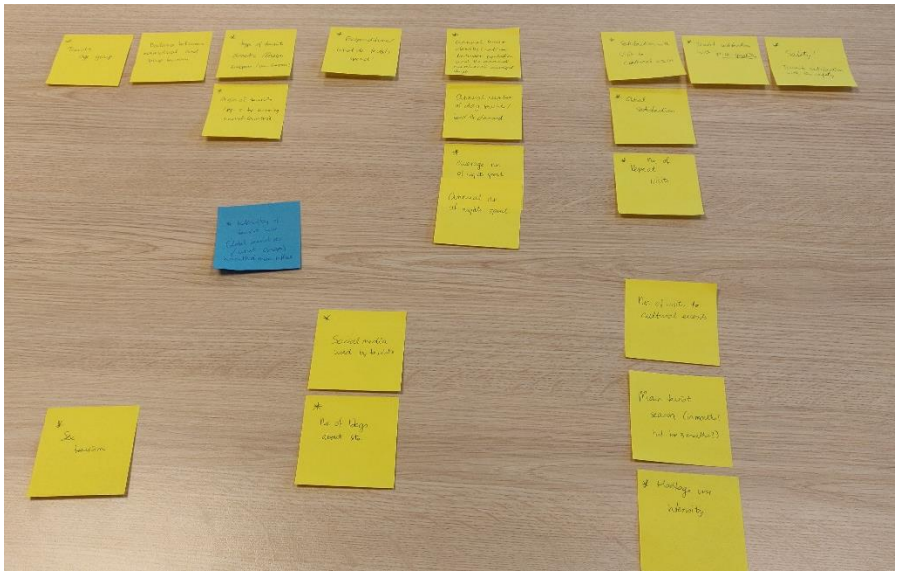


Figure 1: Example of potential indicators written on post-its categorized in the group 'tourists'.

These four categories were chosen as follows. According to ETIS (2016:3), sustainable development and sustainability are integral parts of the debate about how tourism should use natural and social resources to gain economic benefits: "It led to the growing recognition that public and private tourism actors need to consider the equal distribution of maximized economic benefits, the minimalization of the socio-cultural impacts on hosts and tourists as well as the protection and the enhancement of the natural environment through tourism activities."

In our template, we distinguish indicators that can be linked to the main theme profit (economic indicators), people (social indicators) and planet (environmental indicators). For us, this leads to two main categories of indicators: 1. environmental indicators and 2. social and economic indicators. Subsequently, we also divided

cultural tourism into two main categories of indicators, entitled 3. Case study and 4. Tourists. These last two categories will give us information about the case study itself, and the tourists that come to visit. Finding statistical indicators regarding tourists and cultural tourism was very difficult. For this reason, a decision was made to obtain information about tourists, their experiences, and cultural tourism in the case study areas via a number of surveys for tourists, residents, and companies (the report on these surveys is another deliverable of WP1). Consequently, the number of tourist/cultural tourism indicators in this study is low.

In our study, the assumption is that mass tourism is mainly aimed at profit, which is at the expense of the elements of people and planet. We believe that cultural tourism should benefit the landscape, society as well as the economy of the regions. This would make cultural tourism at odds with global tourism, where revenues mainly go to the world players on the market (EU, 2016).

The brainstorm session with the post-its was used to again improve the template. This template was distributed among the partners at the end of February 2020. We asked the partners to:

- Verify the list of indicators: is the list complete and necessary/relevant for our study?
- Study (inter)national, regional and local databases to see if the data are available for their case studies.

Comments from all partners about indicators and data availability was collected and studied. The final template was finished at the 23rd of March 2020. A small example subset of the indicators is shown in Figure 2. Shown are some indicators of the categories 'environmental' and 'social-economic'.

Row	Category	Group	Indicator nr.	Indicator	Subdivision	Preferred scale	Unit	Explanation	Indicator description
40	Environmental	Water management	16	Water use		Case study	l/p/day		Average water use in liters per person per day
41	Environmental	Water management	17	Volume of water treated		Case study	m3		Volume of water treated in cubic meters
42	Environmental	Waste management	18	Separate waste collection		Case study		**Multiple choices allowed: paper,**	Do the municipalities to which the case study site belongs collect these types of waste separately?
43	Environmental	Waste management	19	Collected waste		Case study	m3/hh/year		Volume of waste collected in cubic meter per household per year.
44	Environmental	Waste management	20	Recycled waste		Case study	m3/hh/year		All waste that is not disposed in landfills or incinerated
45	Social-economic	Demography	21	Number of inhabitants	Men	Case study		Number	Number of inhabitants at the end of 2019, aggregated for your case study area.
46					Women				
47					Non-binary				
48	Social-economic	Demography	22	Demographic pyramid	0-15	Case study		Number	Number of inhabitants, divided per age group.
49					15-65				
50					> 65				

Figure 2: A small exempla subset of the final set of indicators created by the WP1 team.

2.2. Data collection

In order to make it easier for the partners to collect the data and leave less room for errors, a data collection website was created by the WP1 team. Each of the case study areas got its own username and password, and entered data is immediately saved into a PostgreSQL database. When case studies were divided into subregions, they could request a separate username and password for each of the subregions. Data can then be entered separately for each of the subregions.

Figure 3 shows a screenshot of this website, which can be found at the address https://spot.wenr.wur.nl/. In the top, four tabs with the different categories can be found. These can be clicked, after which all indicators that belong to the clicked category are loaded. Currently, the category 'social-economic' is chosen. In the screen a number of indicators are visible (number of inhabitants, demographic pyramid and population increase). The last indicator consists only of one value, but the first two each consist of three data entries (men, women and non-binary for the first, and several age groups for the second). The data can be entered in these text fields and is stored immediately in the database. The data format is pre-set in the website, meaning that fields that should contain whole numbers (such as is the case for the first two indicators in the example), accept only whole numbers. For population increase a percentage is expected, and the field only accepts decimal numbers from -100% to 100% (minus percentage is allowed since a population decrease is also possible). Next to the data entry field the required unit is stated, in this case either 'nr.' for numbers and '%' for the percentage population decrease.

The year that the data comes from had to be stated, and could be entered in the 'year' data field. SPOT partners were asked to collect data preferably from 2019, or earlier. Data from 2020 was not preferred, as the COVID-19 pandemic might have had a large impact and this would make data more difficult to compare among the case studies. Also the scale at which the data was collected had to be chosen. Preferably data was from the lowest possible scale: at the level of the case study itself. However, it is not always possible to collect data at this scale, so if this was the case the levels 'regional' and 'national' could be chosen were relevant.

The 'i' icon next to the scale field could be clicked in case more information about the indicator was needed. The goal was to provide each indicator with a short but clear description, so that there would be no doubts about the data that was needed.

Below the data entry fields a description text box is visible. In this box partners were encouraged to put all sorts of information such as a description about the data, the source of the data, potential problems, doubts, or other types of situations that should be noted.

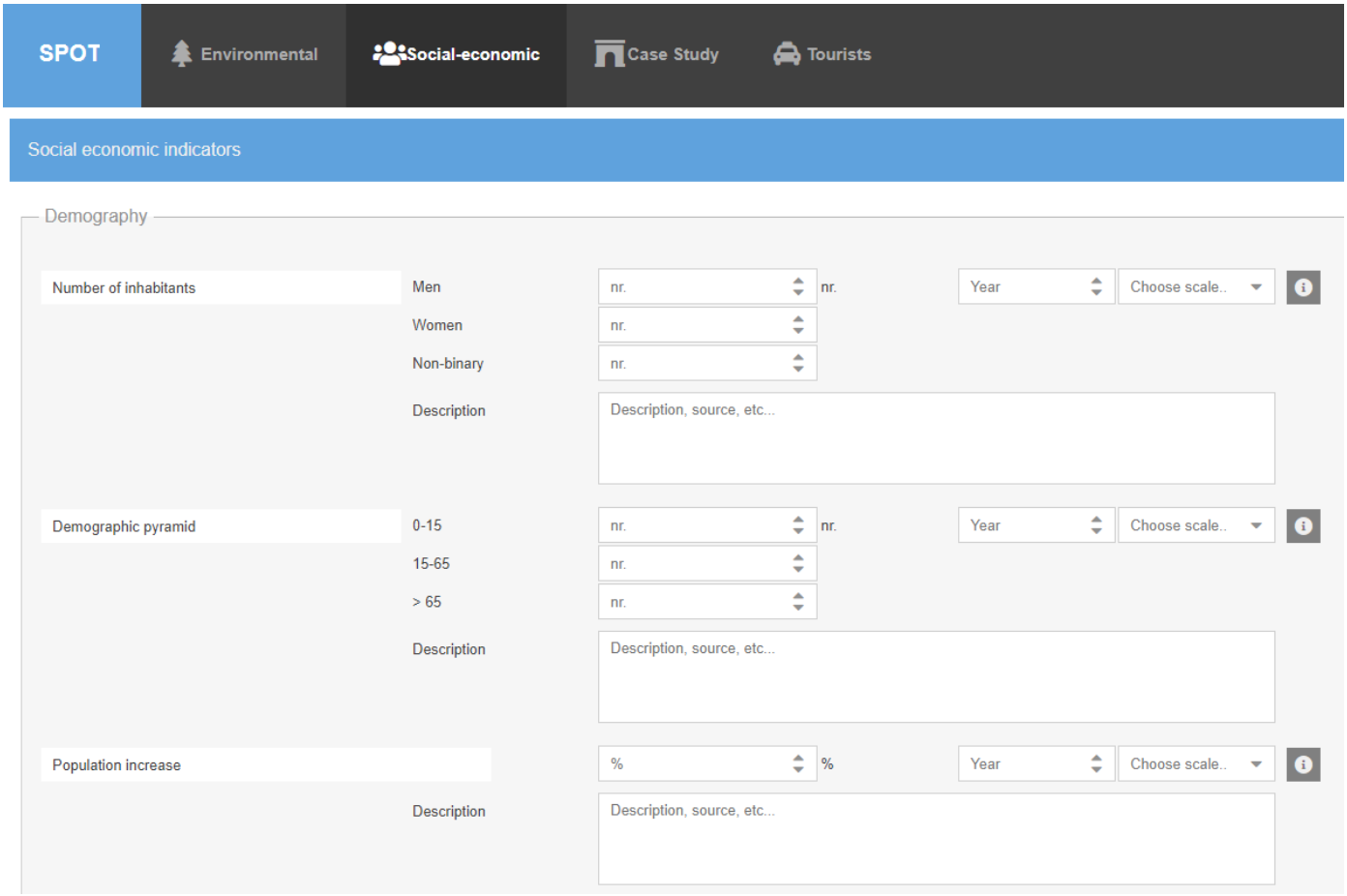


Figure 3: The SPOT data collection website created by WP1 for the purpose of collecting statistical data. Explanation of the different elements is found in section 2.2.

SPOT partners were given until the end of October 2020 to collect the requested data. After the deadline, the website remained available in case partners would like to improve or add data.

2.3. Data processing and analysis

2.3.1. Indicator selection

For each of the indicators, the WP1 team investigated how many partners were able to collect data, what the data looked like (for example, how likely was it that data contained errors), and whether there was

important information in the descriptions about the reliability of the data. We then made a selection of indicators that would be included in this report. A list of included indicators is shown in Table 1. The remaining indicators were not further processed and analysed. A list of excluded indicators can be found in the appendix of this report (Table 23).

Table 1: List of included indicators and the requested data units. If relevant, subdivision of data is shown.

Indicator	Subdivision	Unit
Geographical centre of the case study	Latitude/longitude	Decimal degrees
Altitude	Lowest point/highest point	Metres above sea level
Size of the area		Square kilometres
Average weather conditions	Precipitation/temperature per month	Millimetres/degrees Celsius
Share of Natura2000 sites		Percentage
Share of protected sites		Percentage
Nearest national park		Kilometres
Number of inhabitants	Men/women	Number
Age groups	Ages < 15, 15 – 65, > 65	Number
Population increase		Percentage
Average monthly income		Euros
Minimum wage		Euros
Unemployment rate		Percentage
Share of population in salaried work		Percentage
Share of working population in tourism		Percentage
Share of working population in services		Percentage
Contribution of tourism to the economy		Percentage
Number of cultural routes (by Council of Europe)		Number
Number of national tourist offices		Number
Number of commercial tourist offices		Number
Number of tourist agencies		Number
Number of tourist promotion websites		Number
Number of cultural objects	Museums/art galleries/UNESCO sites/religious sites/historical sites/commemoration sites/war monuments/archaeological sites/other	Number
Top 3 main attractors	Same choices as number of cultural objects	Three choices
Companies offering shows	Dance/music/theatre	Number
Number of restaurants	Top level/high level/good local level/basic level/street food level	Number
Number of accommodations and beds	Hotels 5, 4, 3, 2 stars/hostels/farm accommodations/camp sites/AirBnBs/mountain lodges/other	Number
Monthly accommodation occupancy	Per month	Percentage
Yearly accommodation occupancy		Percentage
Transportation within case study	Metro stations/tram stations/train stations/bus stops/taxi stands/bike rental locations/boat services	Number
Cross-border tourism		Number
Share of foreign tourists		Percentage
Share of EU tourists		Percentage
Top 5 incoming countries		Five choices
Average daily expenditure		Euros
Annual number of overnight stays		Number
Average number of nights spent		Number
Top 3 main tourist months		Three choices

2.3.2. Processing and plotting

In the PostgreSQL database data is stored in a format that is not practical for quickly studying and extracting indicators. Therefore, using Python scripts, the data is extracted from the database and put in practical and accessible formats using Excel files. For example, for the plotting of the data, and being able to quickly see the years the data come from, the scales, and the descriptions put by the partners, each indicator was extracted to its own Excel file. An example of this is shown in Figure 4, where a subset of the data for the indicator 'altitude' is shown.

	A	B	C	D	E	F	G
1	CountryCode	case_study	year	scale	description	lowest_point	highest_point
2	CZ-xx	MENDELU	2020	Case study	Geodatabase ArcCR500, Digital relief model DMR 4G from the Czech Office for Surveying, Mapping and Cadastre (CUZK). Analysis performed in GIS.	158	299
3	IL	BIU	2020	Case study	SRTM 90M DIGITAL ELEVATION DATABASE https://bigdata.cgiar.org/srtm-90m-digital-elevation-database/ Take notice that part of the area is under the sea level.	-297	535
4	RO	IGAR	2019	Case study	Is a DEM at 25m resolution obtained from: https://land.copernicus.eu/imagery-in-situ/eu-dem/eu-dem-v1.1/	79	1741
5	DE	IOER	2020	Case study	Lowest point: Lake shore Schwielochsee (40 m) Highest point: Lieberoser Spitzberg (112 m) https://de-de.topographic-map.com/maps/6fu9/Brandenburg/	40	112
6	HU-hu	MTA_HU	2020	Case study	Based on meter above Baltic-sea. There is no statistical data avalaible about the lowest and highest point of altitude.		110

Figure 4: Example of an Excel file of the indicator 'altitude', extracted from the database with help of Python scripts, showing the case studies, year, scale, description and the data itself, in this case the lowest and highest points within the case study areas.

The Excel files described above (these data will be made available along with the report) were also used as input for the plots. Further processing of the data and the creation of plots was performed using scripts written in R. Each indicator has its own R plotting script, as the required processing differed among the indicators. Also, data aggregation of subregions was performed, this is further explained in section 2.3.3. The method of using scripts to extract data and create plots allows us to quickly recreate a plot when data changes.

2.3.3. Case studies with subregions

Some case studies have been divided into multiple areas. This is the case for Czechia (5 regions), Greece (3 islands), United Kingdom/Scotland (2 regions) and Hungary (2 regions, one in Hungary, the other in Slovakia). Each institute had specific motivations for making such a division. For example, the Hungarian case study is Komárom/Komárno, a city that is actually two cities divided by a river and the Slovakian/Hungarian border. The Greek case study are three Cycladic islands, in varying degrees of popularity for tourists. For these case studies the statistical data has been collected separately for each subregion.

Although these differences are naturally very interesting, mostly from the perspective of the country itself, we have decided that it is not in the best interest of this overview report to make the distinction between subregions within case studies. After all, for other work packages, and for example on the SPOT website, this distinction in subregions is not applied. Therefore, all data has been summarized in the most appropriate way for these four case studies. For each indicator, the method of data aggregation is described in the figure or table caption.

2.3.4. Data analysis

To be able to investigate the relation between the characteristics of (cultural) tourism and economic, social and environmental indicators, we decided to compare the individual indicators with the number of tourists visiting the case study areas. However, we do not have exact data on the number of visitors. Therefore, we chose an 'indicator' collected during this project that can act as a measure for this data. We assume that a

higher number of annual overnight stays also means a higher number of tourists overall, which is why we made the decision to use the indicator 'number of annual overnight stays' as a measure for the number of visitors. Another reason we chose this indicator is because most case studies were able to collect the data (as opposed to for example 'number of annual day tourists'), and most case studies were able to collect data at a case study level. This makes this one of the most complete data indicators, and therefore a good measure of the number of tourists visiting a case study area.

The indicator 'annual overnight stays' is an absolute number, and therefore largely depends on the size of the case study area. To make the data comparable among the case studies, we standardized it by calculating the annual number of overnight stays per square kilometre. A table is shown in section 7.1. In some case studies, data could not be collected at case study level, or was not collected for all sub regions within a case study. For these cases, we requested the corresponding region size in km^2 from the teams, so that a representative value per square kilometres could be calculated.

To quickly compare the indicators with the number of annual overnight stays per square kilometres, we used a correlation analysis. To avoid the issue of normality of the data (we are only dealing with very small samples and therefore do not expect the data to come from a bivariate normal distribution), we apply the Spearman ranked correlation test. As a result, we obtain the Spearman's rho statistic, which is an estimate of the strength of the correlation between a certain indicator (independent variable or 'x') and the annual number of overnight stays per square kilometre (dependent variable or 'y'). This rho statistic will vary between -1 (strong negative correlation) and 1 (strong positive correlation). Also, the p-value is calculated. Since the sample is small (only fifteen case studies, and data missing for most indicators), we decided on an alpha significance level of 0.1. Data analysis was performed using the statistical software R.

2.4. Methodological limitations

An important limitation of this study is the availability of data. We found that requested data could not be collected for many indicators because this data simply was not available. This is further complicated by the fact that the case studies are located in fifteen different countries. Data is often not available, or is not available in the same format and units, in all fifteen countries. The result of this data availability limitation is that we have decided to remove several indicators because there were too few case studies that could collect data. For the indicators that remain, it means that for many of them, not all partners provided data.

Data was preferably collected at case study level, to get the most detailed information about the areas chosen. However, it turned out that data was often not available at this level, and partners had to fall back on less detailed data on a regional, or even national scale. It is then unclear how close the collected data is to the actual situation in the case study area. Consequently, the results are not completely reliable, especially when considering absolute numbers.

Another important limitation is the clarity of the indicators as created by the WP1 team. Each indicator was accompanied by a small description of the data requested. However, for several indicators the results showed that the indicator was not defined clearly enough. This resulted in 'incorrect' data, making it difficult to compare with the other case studies. In some cases the researchers had to make decisions on what should be included in the data and what not, as the indicators were not defined clearly enough. Decisions made differed among the teams and it was not always clear to the WP 1 researchers what those decisions were. This too makes it difficult to reliably compare the data. If the indicators were clearly defined, and not ambiguous, this kind of issues would have occurred less.

Above described limitations can have an influence on the analysis of the data. For example, when performing correlation tests, results can turn out to be significant (or not) based on incorrect or ambiguous data. This should be kept in mind when reading the results and discussion.

3. Introduction of the case study areas

This report shows the results of the collection of statistical data in 15 different regions in 15 countries. The case studies are chosen by each of the SPOT partner teams to exemplify the different aspects of cultural tourism being developed in the project: spatial features such as peripheral locations, deindustrialised and urban locations and social features such as the role of local stakeholders, the extent of over-tourism and under-tourism and the relationship to local/regional/European identity.

A map of the participating countries and the location of their case studies is shown in Figure 5. Some case studies consist of multiple subregions, these are shown on the map as a single point using the centroid of these subregions.

Figure 5: map with participating countries (highlighted in darker blue) and the point locations of the case studies with their accompanying codes (see also Table 2). Case studies consisting of multiple subregions are represented by one point.

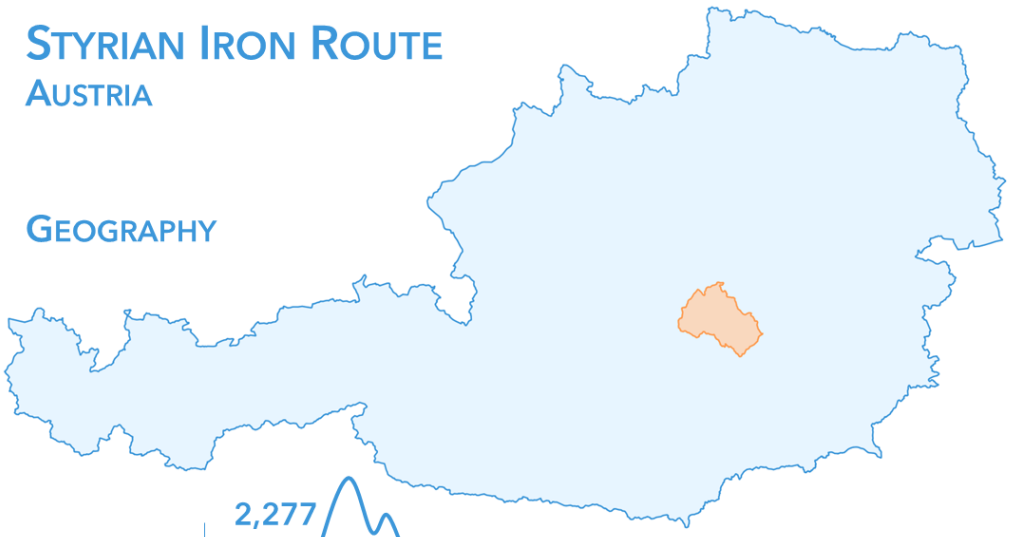
In this report ISO 2-digit country codes are used to define the case studies in tables and graphs. The case studies and their accompanying codes can be viewed in Table 2. To introduce all fifteen case studies we show infographics per case study, using a selection of data of the most important indicators. Shown data is explained and studied in more detail in the relevant sections within this report.

Table 2: case study areas and the accompanying codes used throughout this report in tables and figures.

Case study area	Code	Case study area	Code
Styrian Iron Route	AT	Piedmont Landscape and Literary Park	IT
South Moravia	CZ	Kinderdijk in the Water Triangle	NL
Leichhardt Land	DE	The Valley of Palaces and Gardens, Lower Silesia	PL
Ida-Virumaa	EE	Buzău Carpathians and Subcarpathians	RO
Art Nouveau in Barcelona	ES	Ljubljana	SI
The Cyclades	GR	Nitra	SK
City of Komárom/Komárno	HU/SK	Media tourism in Scotland	UK
Beit-She'an Valley	IL		

STYRIAN IRON ROUTE
AUSTRIA

GEOGRAPHY



Precipitation (mm)

Temperature (°C)

1,053 km²
Size

2,277
505
Altitude

POPULATION

60,060
Inhabitants

57
Per km²

-1.46%
Decrease

ECONOMY

1,500
Minimum wage

2,764
Average wage

15.3%
Contribution of tourism to economy

6.1%
Unemployment

3.8%
Employed in tourism sector

TOURISM

88
Accommodations

20.24%
Yearly occupancy

252
Annual overnight stays per km²

3
Average number of nights

46.8%
Foreign tourists

Germany-Hungary-The Netherlands-Poland-Czechia
Main incoming countries

June-July-August
Main tourism months

153
Daily expenditure

70
Restaurants

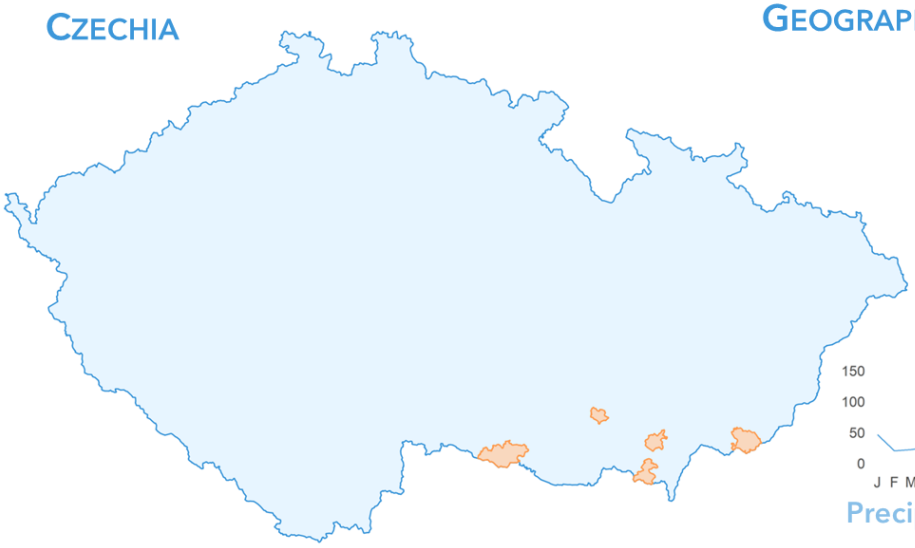
Historical sites

Museums

Main tourism attractors

Southern Moravia

Czechia



Geography

564 km²
Size

821
158
Altitude

Precipitation (mm)

Temperature (°C)

Population

35,024
Inhabitants

62
Per km²

-0.12%
Decrease

Economy

538
Minimum wage

1,202
Average wage

2.9%
Contribution of tourism to economy

4.3%
Unemployment

4.5%
Employed in tourism sector

Tourism

338
Accommodations

40.6%
Yearly occupancy

588
Annual overnight stays per km²

2
Average number of nights

12.5%
Foreign tourists

Poland-Slovakia-Germany-Austria-South Korea
Main incoming countries

June-July-August
Main tourism months

80
Daily expenditure

109
Restaurants

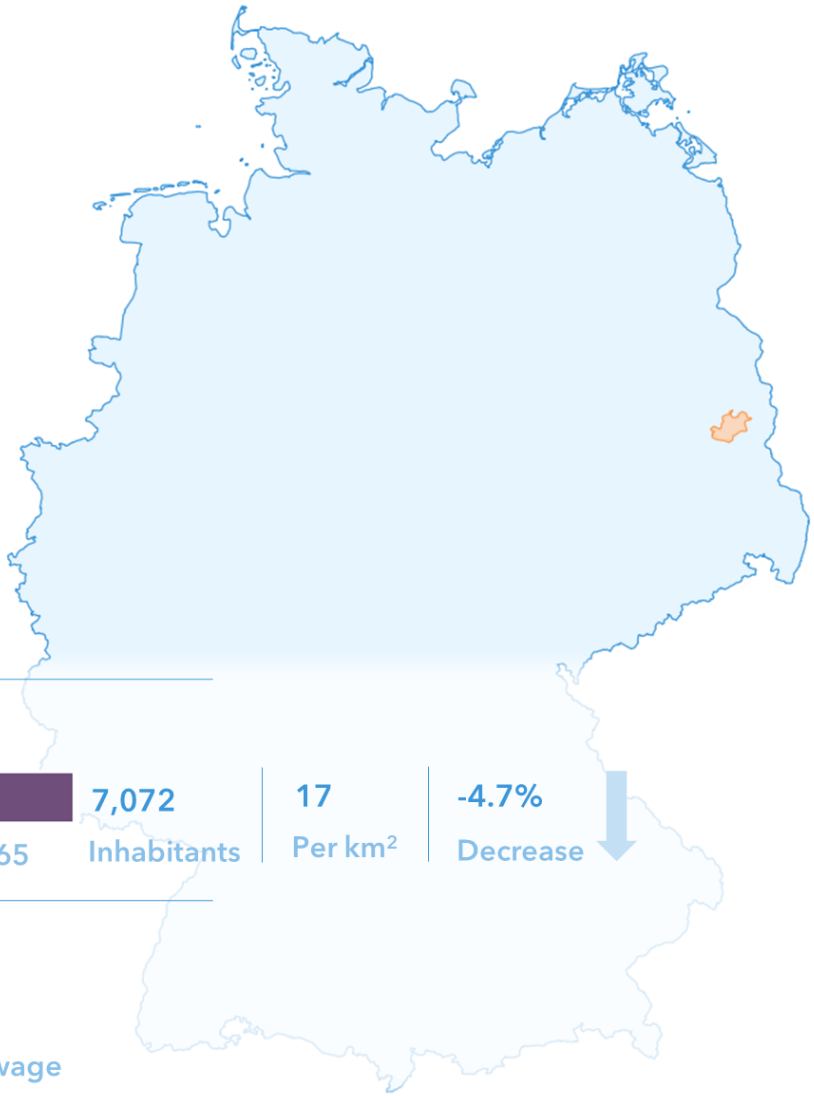
Religious sites

Historical sites

Museums

Main tourism attractors

Leichhardt Land
Germany



Geography

414 km²
Size

112
40
Altitude

Precipitation (mm)

Temperature (°C)

Population

7,072
Inhabitants

17
Per km²

-4.7%
Decrease

Economy

1,561
Minimum wage

2,758
Average wage

3.2%
Unemployment

4.3%
Employed in tourism sector

Tourism

88
Accommodations

33.5%
Yearly occupancy

210
Annual overnight stays per km²

3
Average number of nights

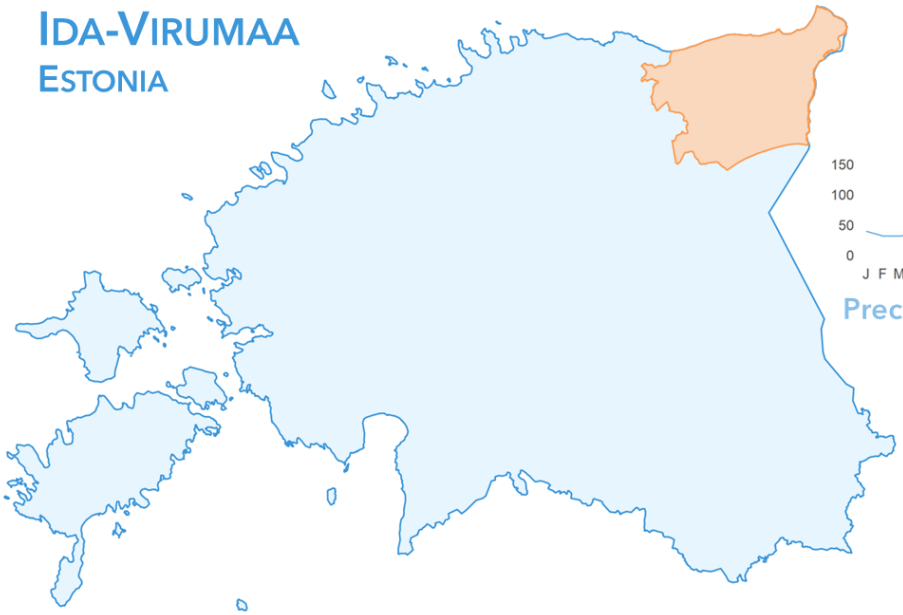
8.9%
Foreign tourists

Poland-Denmark-The Netherlands-Sweden-Switzerland
Main incoming countries

May-July-August
Main tourism months

13
Restaurants

IDA-VIRUMAA
ESTONIA



GEOGRAPHY

Precipitation (mm)

Temperature (°C)

2,972 km²
Size

95
0
Altitude

POPULATION

<15 | 15 - 65 | >65

143,880
Inhabitants

48
Per km²

-6.1%
Decrease

ECONOMY

570
Minimum wage

1,054
Average wage

7.9%
Contribution of tourism to economy

8.7%
Unemployment

5.9%
Employed in tourism sector

TOURISM

193
Accommodations

51%
Yearly occupancy

91
Annual overnight stays per km²

2
Average number of nights

Foreign tourists

Russia-Finland-Latvia-Germany-Lithuania
Main incoming countries

June-July-August
Main tourism months

103
Daily expenditure

74
Restaurants

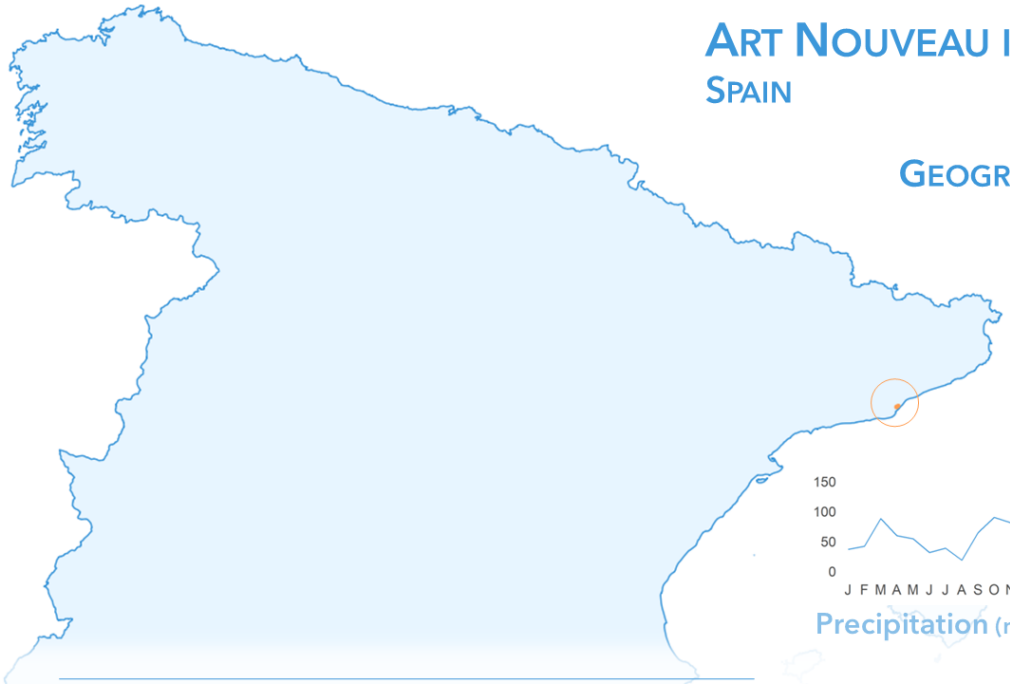
Historical sites

Museums

Religious sites

Main tourism attractors

Art Nouveau in Barcelona
Spain



Geography

101 km²
Size

512
13
Altitude

Precipitation (mm)

Temperature (°C)

Population

1,636,762
Inhabitants

16,150
Per km²

1.97%
Increase

Economy

€ 950
Minimum wage

2,201
Average wage

7.3%
Contribution of tourism to economy

10.9%
Unemployment

8.6%
Employed in tourism sector

Tourism

10,432
Accommodations

76.6%
Yearly occupancy

195,880
Annual overnight stays per km²

2
Average number of nights

83.1%
Foreign tourists

USA-United Kingdom-France-Italy-Germany
Main incoming countries

April-July-August
Main tourism months

€ 82
Daily expenditure

7,010
Restaurants

UNESCO world heritage sites

Museums

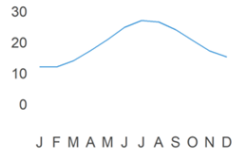
Religious sites

Main tourism attractors

The Cyclades
Greece

Geography

Precipitation (mm)



Temperature (°C)

558 km²
Size

994
0
Altitude

Population

46,278
Inhabitants

83
Per km²

-0.25%
Decrease

Economy

€ 758
Minimum wage

1,061
Average wage

20.8%
Contribution of tourism to economy

13.4%
Unemployment

27.7%
Employed in tourism sector

Tourism

1192
Accommodations

49.2%
Yearly occupancy

4815
Annual overnight stays per km²

4
Average number of nights

55.3%
Foreign tourists

Germany-United Kingdom-France-Italy-USA
Main incoming countries

July-August-September
Main tourism months

€ 86
Daily expenditure

760
Restaurants

Historical sites

Archaeological sites

Main tourism attractors

City of Komárom/Komárno
Hungary/Slovakia

Geography

173 km²
Size

270
100
Altitude

Precipitation (mm)

Temperature (°C)

Population

333,046
Inhabitants

0.72%
Increase

Economy

€ 500
Minimum wage

1,079
Average wage

7.9%
Contribution of tourism to economy

1.9%
Unemployment

2.1%
Employed in tourism sector

Tourism

16
Accommodations

75%
Yearly occupancy

521
Annual overnight stays per km²

2
Average number of nights

Foreign tourists

Slovakia-Germany-South Korea-Austria-Poland
Main incoming countries

July-August-September
Main tourism months

€ 45
Daily expenditure

15
Restaurants

War monuments
Religious sites
Museums
Main tourism attractors

BEIT-SHE'AN VALLEY
ISRAEL

GEOGRAPHY

255 km²
Size

535
-297
Altitude

Precipitation (mm)

Temperature (°C)

POPULATION

31,000
Inhabitants

122
Per km²

1.3%
Increase

ECONOMY

1,301
Minimum wage

2,493
Average wage

5.9%
Contribution of tourism to economy

4.7%
Unemployment

3.6%
Employed in tourism sector

TOURISM

40
Accommodations

2
Average number of nights

47%
Foreign tourists

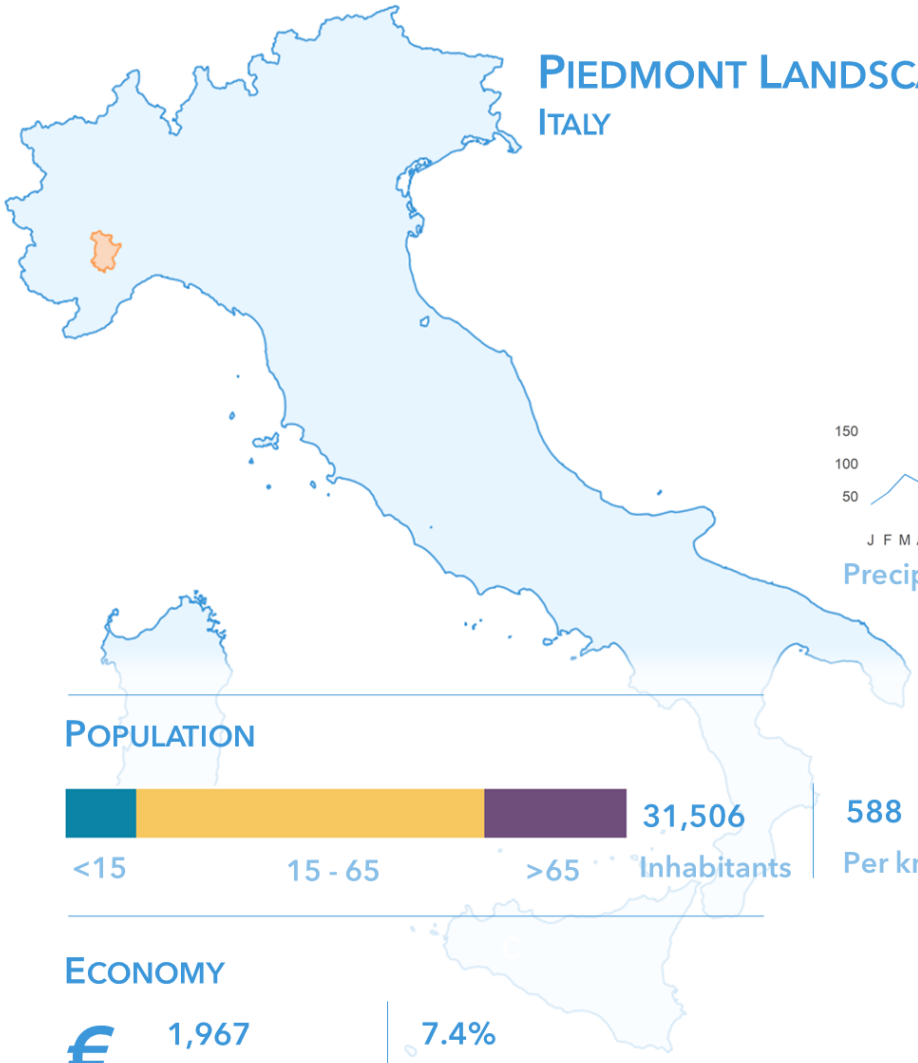
Germany-United Kingdom-Ukraine-China-Italy
Main incoming countries

April-August-October
Main tourism months

132
Daily expenditure

28
Restaurants

Historical sites
Archaeological sites
Museums
Main tourism attractors



Piedmont Landscape and Literary Park

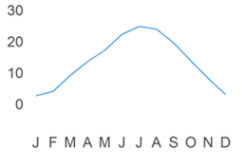
Italy

Geography

54 km²
Size

591
139
Altitude

Precipitation (mm)



Temperature (°C)

Population

31,506
Inhabitants

588
Per km²

-1.8%
Decrease

Economy

€ 1,967
Average wage

7.4%
Contribution of tourism to economy

13%
Unemployment

10.7%
Employed in tourism sector

Tourism

204
Accommodations

24.4%
Yearly occupancy

4,085
Annual overnight stays per km²

2
Average number of nights

53.5%
Foreign tourists

Switzerland-Germany-France-USA-Norway
Main incoming countries

May-September-October
Main tourism months

€ 103
Daily expenditure

74
Restaurants

Historical sites

Religious sites

Main tourism attractors

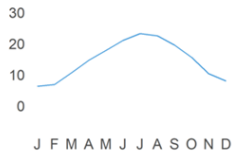
KINDERDIJK IN THE WATER TRIANGLE
THE NETHERLANDS

GEOGRAPHY

326 km²
Size

31
0
Altitude

Precipitation (mm)



Temperature (°C)

POPULATION

240,714
Inhabitants

739
Per km²

0.66%
Increase

ECONOMY

€ 1,636
Minimum wage

2,645
Average wage

4.4%
Contribution of tourism to economy

3.7%
Unemployment

4.2%
Employed in tourism sector

TOURISM

102
Accommodations

29.4%
Yearly occupancy

3,695
Annual overnight stays per km²

2
Average number of nights

43.7%
Foreign tourists

Germany-Belgium-United Kingdom-USA-France
Main incoming countries

April-June-August
Main tourism months

€ 34
Daily expenditure

266
Restaurants

UNESCO world heritage sites

Historical sites

Main tourism attractors

Valley of palaces and gardens, Lower Silesia
Poland

Geography

146 km²
Size

944
338
Altitude

Precipitation (mm)

Temperature (°C)

Population

14,462
Inhabitants

99
Per km²

-0.79%
Decrease

Economy

523
Minimum wage

630
Average wage

5.8%
Contribution of tourism to economy

5.7%
Unemployment

3.5%
Employed in tourism sector

Tourism

28
Accommodations

39.4%
Yearly occupancy

57
Annual overnight stays per km²

3
Average number of nights

20.2%
Foreign tourists

Germany-Czechia-United Kingdom-Austria-The Netherlands
Main incoming countries

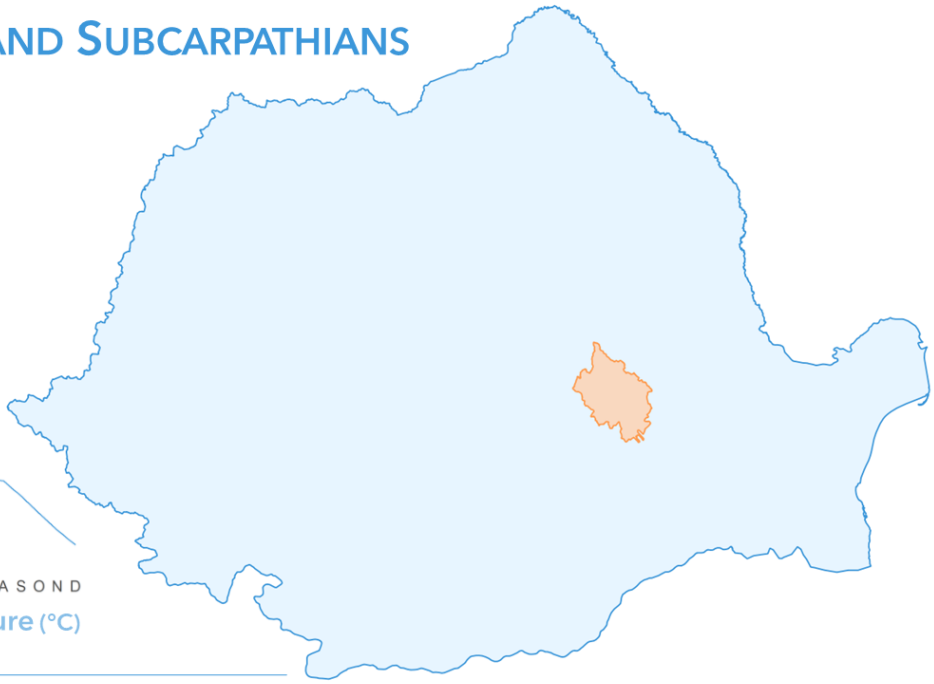
June-July-August
Main tourism months

24
Restaurants

Historical sites
Main tourism attractors

Buzău Carpathians and Subcarpathians

Romania

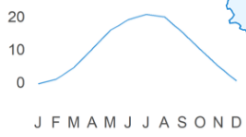


Geography

2,694 km²
Size

1741
79
Altitude

Precipitation (mm)



Temperature (°C)

Population

122,788
Inhabitants

46
Per km²

-16.5%
Decrease

Economy

439
Minimum wage

574
Average wage

2.7%
Contribution of tourism to economy

5.1%
Unemployment

1.9%
Employed in tourism sector

Tourism

77
Accommodations

12.7%
Yearly occupancy

39
Annual overnight stays per km²

2
Average number of nights

1.02%
Foreign tourists

Germany-Poland-France-Italy-Czechia
Main incoming countries

July-August-September
Main tourism months

63
Restaurants

Religious sites

Museums

Historical sites

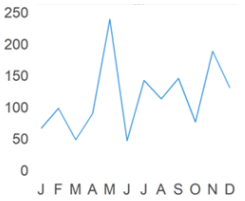
Main tourism attractors

LJUBLJANA
SLOVENIA

GEOGRAPHY

275 km²
Size

794
298
Altitude



Precipitation (mm)

Temperature (°C)

POPULATION

294,113
Inhabitants

1070
Per km²

2.73%
Increase

ECONOMY

941
Minimum wage

1,967
Average wage

5.3%
Contribution of tourism to economy

8.2%
Unemployment

6.7%
Employed in tourism sector

TOURISM

2211
Accommodations

46.2%
Yearly occupancy

8101
Annual overnight stays per km²

2
Average number of nights

Foreign tourists

Italy-Germany-USA-United Kingdom-Austria
Main incoming countries

July-August-September
Main tourism months

249
Daily expenditure

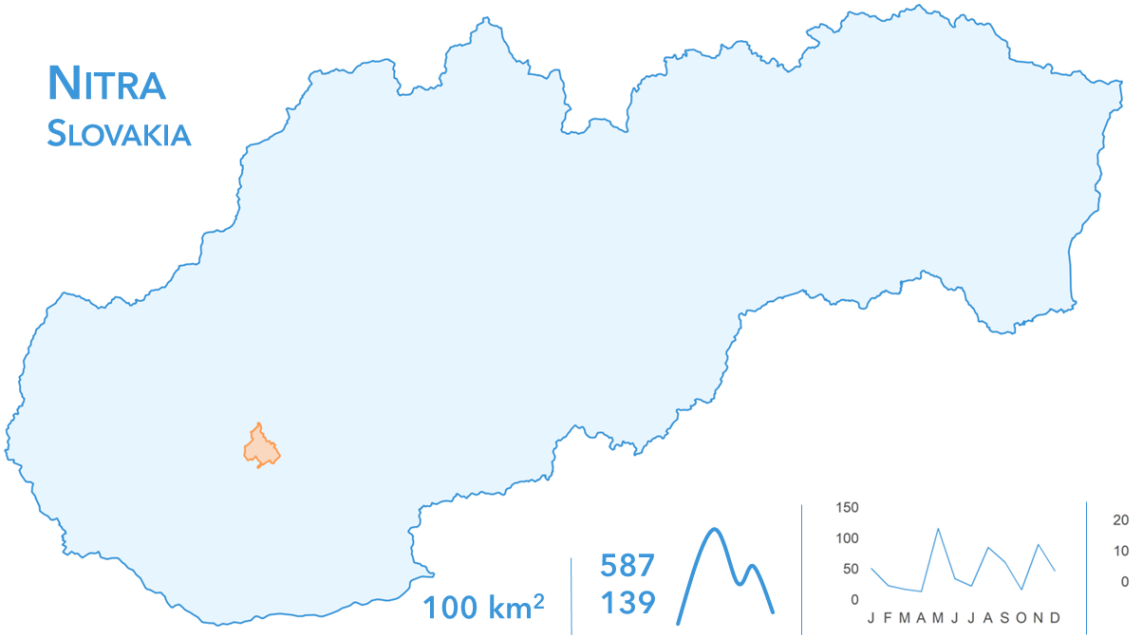
535
Restaurants

Historical sites

Museums

Main tourism attractors

NITRA
SLOVAKIA



GEOGRAPHY

100 km²
Size

587
139
Altitude

Precipitation (mm)

Temperature (°C)

POPULATION

76,533
Inhabitants

765
Per km²

1.01%
Increase

ECONOMY

520
Minimum wage

1,122
Average wage

1.97%
Unemployment

4.0%
Employed in tourism sector

TOURISM

95
Accommodations

28.1%
Yearly occupancy

1790
Annual overnight stays per km²

2
Average number of nights

4.0%
Foreign tourists

Czechia-Germany-Poland-United Kingdom-Spain
Main incoming countries

August-October-November
Main tourism months

Daily expenditure

94
Restaurants

Historical sites

Religious sites

Main tourism attractors

Media tourism in Scotland
United Kingdom

Geography

240 km²
Size

429
11
Altitude

Precipitation (mm)

Temperature (°C)

Population

15,150
Inhabitants

63
Per km²

0.2%
Increase

Economy

1,624
Minimum wage

2,267
Average wage

5%
Contribution of tourism to economy

8.7%
Unemployment

3.3%
Employed in tourism sector

Tourism

173
Accommodations

66.8%
Yearly occupancy

162
Annual overnight stays per km²

6
Average number of nights

Foreign tourists

Germany-The Netherlands-USA-France-Canada
Main incoming countries

June-July-August
Main tourism months

67
Daily expenditure

64
Restaurants

Religious sites

Historical sites

Museums

Main tourism attractors

4. Characteristics of the case studies

4.1. Geographical and environmental characteristics

4.1.1. Size and altitude

The case study areas differ quite in size, with most areas being below 500 km^2 (Figure 6, left). The largest areas are almost 3,000 km^2: Ida-Virumaa in Estonia, and the Buzău Carpathians and Sub-Carpathians (Romania). The third largest area is the Styrian Iron route in Austria. Smallest case studies are the Piedmont Landscape and Literary Park (Italy) with around 50 km^2, and Barcelona (Spain) and Nitra (Slovakia) with both around 100 km^2.

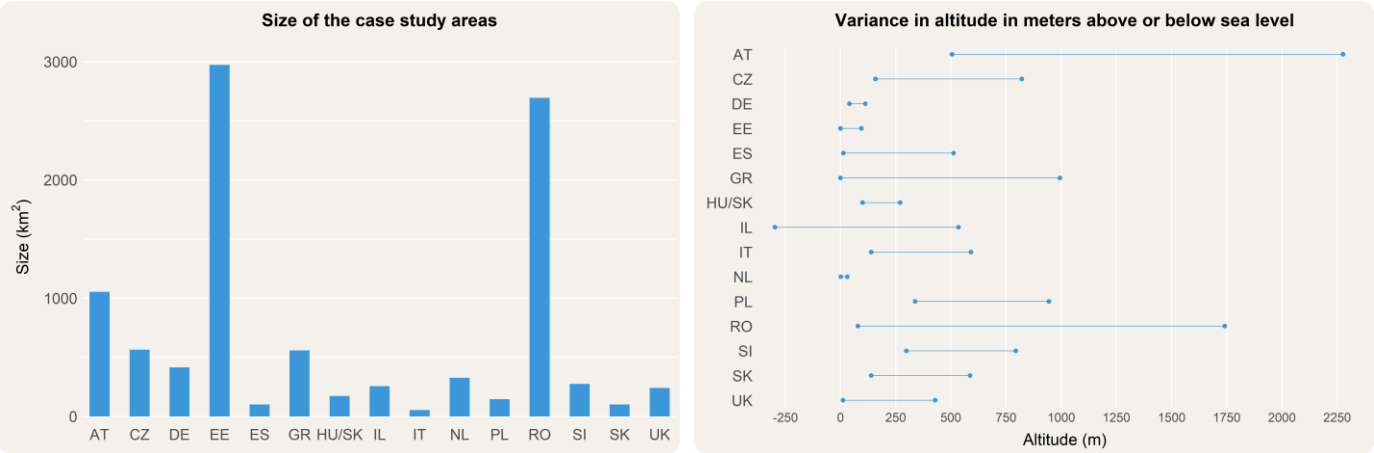


Figure 6: Size of the case study areas (left) in square kilometres. In case of subregions, sizes of subregions have been summed. Data for all case studies on case study level, for the years 2020 (CZ, EE, ES, GR, IL, NL, SK), 2019 (AT, HU/SK, PL, RO, SI, UK), 2018 (DE) or 2011 (IT). On the right, variance in altitude in meters above or below sea level. In case of subregions, minimum and maximum value of all subregions has been selected. Data for all case studies on case study level, for the years 2021 (UK), 2020 (AT, CZ, DE, ES, GR, HU/SK, IL, NL, PL, RO, SI, SK), 2019 (RO, SI), 2017 (EE) or 2011 (IT).

Variance in altitude of the case study areas is equally large (Figure 6, right). Some areas, such as Kinderdijk in The Netherlands, the Leichhardt Land in Germany and Ida-Virumaa have very little variance. In other words, these areas are relatively flat. Other case studies have a large variance in altitude, such as the Styrian Iron route and the Buzău Carpathians and Sub-Carpathians (Romania), these are mountainous areas. Remarkably, the lowest point in the Beit-She'an Valley (Israel) is well below zero, at -297 below sea level. In general, most case study areas have quite some variance in altitude.

4.1.2. Monthly precipitation and temperature

Precipitation patterns are quite different among the case studies (Figure 7). In some case studies monthly fluctuations are large, such as in Ljubljana (Slovenia) and Nitra (Slovakia). In other case study areas, rainfall is much more consistent throughout the year, this is the case in for example the Leichhardt Land (Germany). Some areas have a clear dry period, such as the Beit-She'an Valley (Israel), with no precipitation in the summer months and to a lesser extent the Cyclades in Greece. Most case studies have more rainfall in the summer months.

Patterns in monthly average temperature are naturally more similar, with warmer temperatures in the summer (Figure 8). The highest average temperatures are found in the Beit-She'an Valley (Israel), rising up to around 40°C in the summer months and not going below 20°C in the winter. To a lesser extent higher temperatures are found in Barcelona (Spain) and the Cyclades (Greece). Lowest winter temperatures are found in Ida-Virumaa (Estonia), the Valley of Palaces and Gardens (Poland), the Styrian Iron Route (Austria),

Nitra, South Moravia (Czechia) and the Buzău Carpathians and Subcarpathians (Romania). All these case studies have an average January temperature below zero.

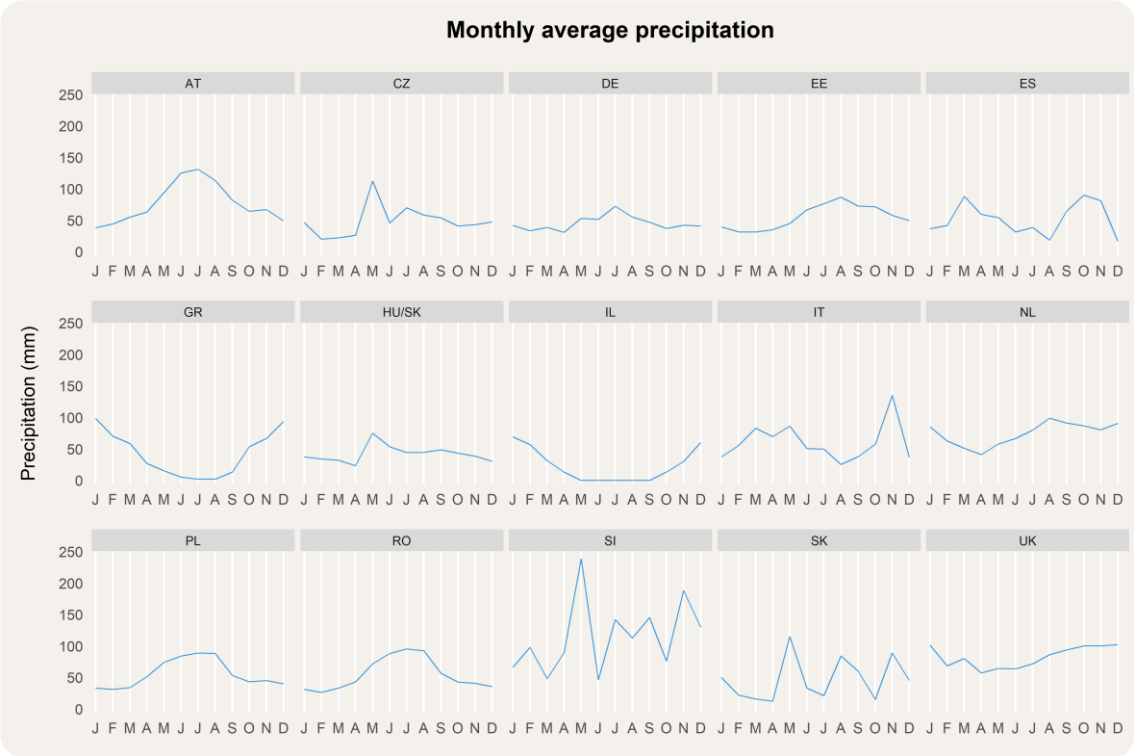


Figure 7: Monthly average precipitation in millimetres. Preferred time span of average was from 2009 to 2019. In case of subregions, the average was taken of all subregions per case study.

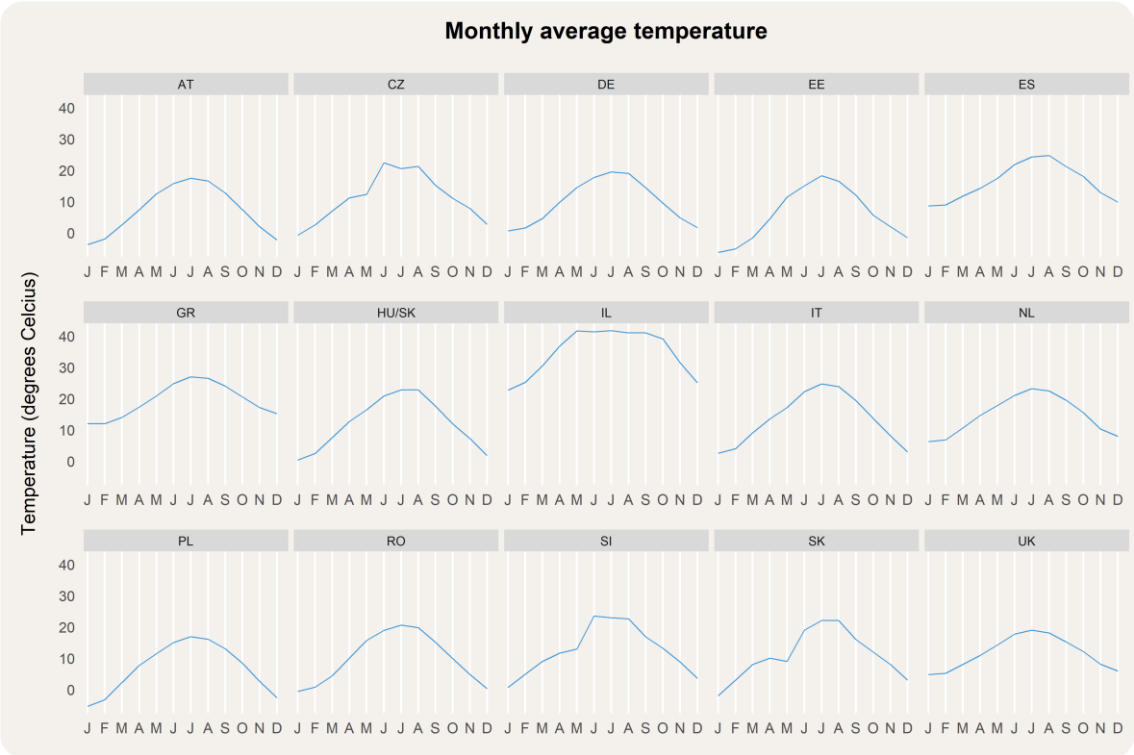


Figure 8: Monthly average temperature in degrees Celsius. Preferred time span of average was from 2009 to 2019. In case of subregions, the average was taken of all subregions per case study.

4.1.3. Natural and protected sites

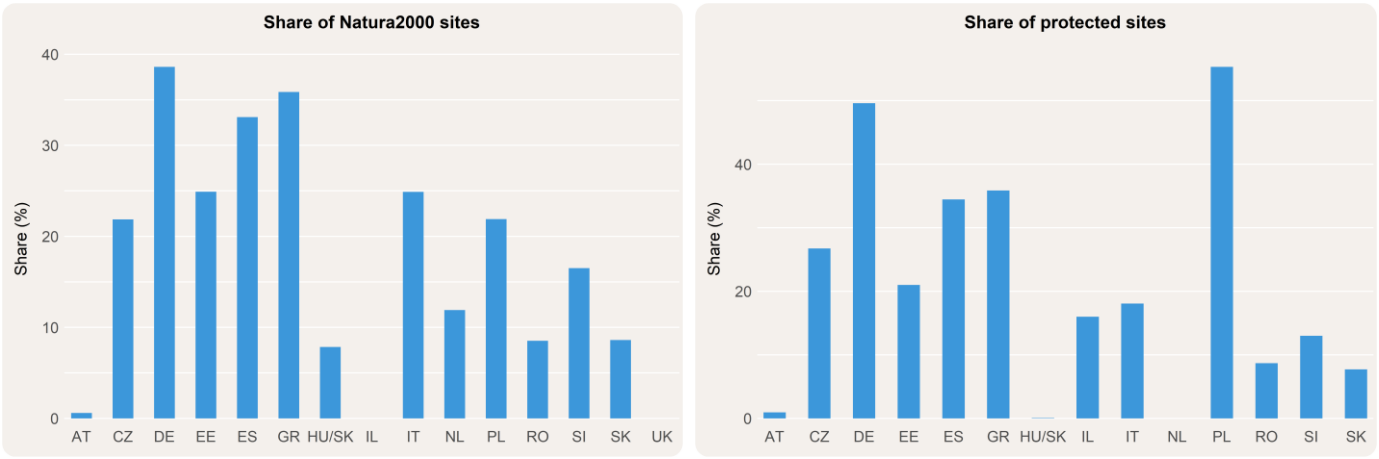


Figure 9: Share of Natura2000 sites within the case study areas (%) on the left. Data collected on case study level, except for ES and IT (regional level), for the years 2022 (PL), 2020 (AT, CZ, EE, GR, HU/SK, NL, SK, UK), 2019 (IT, SI), 2018 (DE), 2017 (RO) and 2009 (ES). Share of protected sites on the right. In case of subregions, the weighted average with the size of all subregions was taken. Data collected on case study level, except for ES and IT (regional level), for the years 2022 (PL), 2020 (AT, CZ, GR, HU/SK, IL, NL, SI, SK), 2019 (EE, IT), 2017 (DE, RO) and 2012 (ES).

Several case study areas have a large share of Natura2000 areas (Figure 9, left), with the largest shares being in the Leichhardt Land in Germany (almost 40%), the Cyclades in Greece (just over 35% on average), Ida-Virumaa in Estonia (25%), the Valley of Palaces and Gardens (Poland) and South Moravia (Czechia) with both 22%. There are no Natura2000 sites in Israel (as Israel is not a member of the European Union), and also the Scottish case study area did not contain any Natura2000 sites. Large values are also given for Barcelona (Spain) and the Piedmont Landscape and Literary Park (Italy). However, these data were on a regional scale.

The share of case studies with a national natural protection status (Figure 9, right) is the highest in the Valley of Palaces and Gardens and the Leichhardt Land, with shares of 55% and almost 50% respectively. Also in the Cyclades and South Moravia a large share of the area has a national protection status.

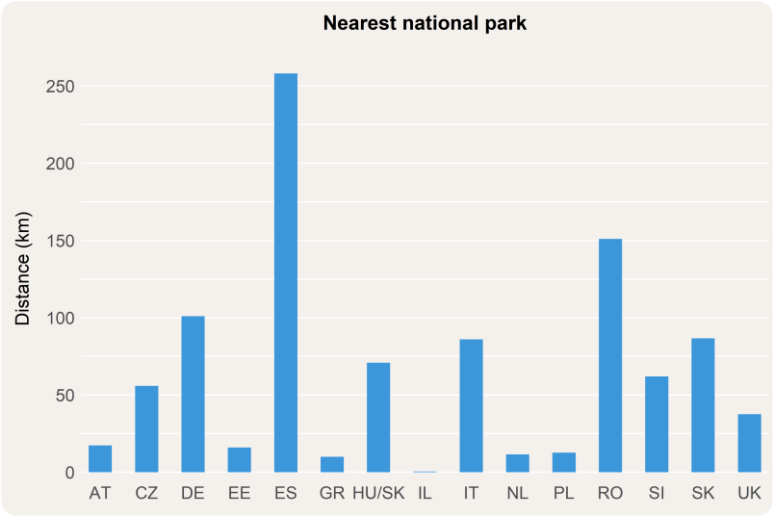


Figure 10: Nearest national park from the centre of the case study. In case of subregions, the average of distances of all subregions was taken. Data collected on case study level, except for ES, IT and RO (regional level), for the year 2020, except for UK (2021), RO (2019) and PL (2012).

In general, distances from the case study centres to the nearest national park are relatively high: at least 50 kilometres for nine out of fifteen case study sites. The largest distance is from Barcelona (over 250 km) and the shortest distance in the Israeli Beit-She'an Valley, where the national park is inside the case study area. However, this question should have been clearer. Both as-the-crow-flies and driving distances were used, and it was unclear whether the distance should be measured to the closest national park boundary, closest entrance, or centre.

4.2. Demographic characteristics

The case study with the largest number of inhabitants is Barcelona (Spain), with over 1.6 million inhabitants (Table 3). This is also the case study with the highest population density: 16,150 people per square kilometre. Komárom/Komárno (Hungary/Slovakia) has the second largest number of inhabitants. However, data on number of inhabitants is based on a regional scale for the Hungarian side of the case study, whereas the size of the area is not. Therefore, the population density was not calculated for this case study. Ljubljana (Slovenia) has the third largest number of inhabitants, followed by Kinderdijk (The Netherlands) and Ida-Virumaa (Estonia). As for population density, after the Spanish case study the highest population densities are found in Ljubljana, followed by the Nitra (Slovakia) and Kinderdijk.

Lowest population is found in the Leichhardt Land (Germany), with only 7,072 inhabitants, followed by the Valley of Palaces and Gardens (Poland) and Media tourism in Scotland (United Kingdom). As for population density, lowest density can again be found in the Leichhardt Land, followed by the Buzău Carpathians and Subcarpathians (Romania) and Ida-Virumaa.

All but three case studies report a higher number of female inhabitants. The largest difference can be found in Ida-Virumaa, where the surplus of women is over 8% of the total. The Piedmont Landscape and Literary Park (Italy) and Barcelona both have over 5% more women. In the Beit She'an Valley (Israel) on the other hand, there is a surplus of men of over 3%.

Table 3: Number of inhabitants (men, women and total) in each case study, the surplus of women as a percentage of the total inhabitants and the population density per square kilometre. In case of subregions, number of inhabitants of all subregions have been summed. Data scale and year are shown in the last columns. Population density for HU/SK is not calculated as inhabitant data was collected at regional scale and accompanying region size is not known.

Case study area	Men	Women	Total	Surplus women (% of total)	Pop. density (per km2)	Data scale	Year
AT	29,595	30,465	60,060	1.4	57	Case study	2019
CZ	17,524	17,500	35,024	-0.1	62	case study	2020
DE	3,609	3,463	7,072	-2.1	17	Case study	2018
EE	66,083	77,797	143,880	8.1	48	Case study	2017
ES	775,619	861,143	1,636,762	5.2	16150	Case study	2019
GR	22,808	23,470	46,278	1.4	83	Case study	2012
HU/SK	160,193	172,853	333,046	3.8		Regional	2019
IL	16,000	15,000	31,000	-3.2	122	Case study	2018
IT	14,903	16,603	31,506	5.4	588	Case study	2019
NL	119,490	121,224	240,714	0.7	739	Case study	2019
PL	7,177	7,285	14,462	0.7	99	Case study	2019
RO	60,937	61,851	122,788	0.7	46	Case study	2019
SI	142,958	151,155	294,113	2.8	1070	Case study	2019
SK	36,525	40,008	76,533	4.6	765	Case study	2019
UK	7,377	7,773	15,150	2.6	63	Case Study	2019

The population by age group (as a percentage of total inhabitants) looks similar among most of the case studies (Figure 11). In the Beit-She'an Valley the population younger than 15 years is considerably larger than in the other case studies, whereas the population above the age of 65 is smaller.

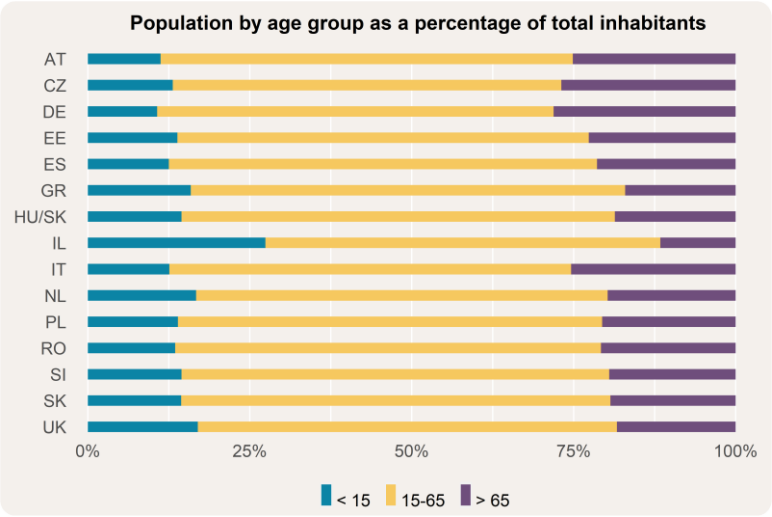


Figure 11: Population by age group as a percentage of total inhabitants. In case of subregions, number of inhabitants of all subregions have been summed. Data collected on case study level, except for HU/SK (regional level), for the year 2019, except for DE, IL and PL (2018), EE (2017) and GR (2011).

In eight out of fifteen case studies population has decreased in the last five years (Figure 12), in six others it has increased and in one (Nitra) there was neither an increase nor a decrease. The largest increase is found in Ljubljana and Barcelona with approximately 3% and 2% population increase respectively. The largest decrease is found in the Buzău Carpathians and Subcarpathians (Romania), with a decrease of more than 16%. This is followed by Ida-Virumaa and the Leichhardt Land with approximately 6% and 5% respectively.

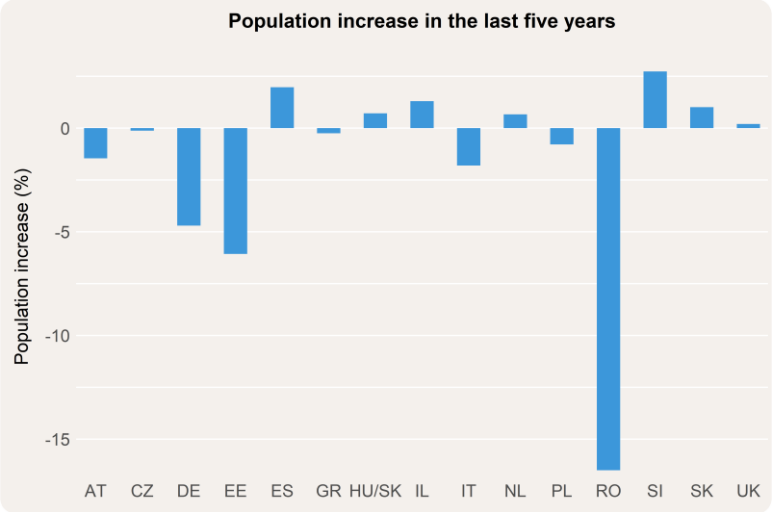


Figure 12: Population increase (%) in the last five years. In case of subregions, the weighted average with the number of inhabitants in all subregions was taken. Data collected on case study level, except for IT (regional level) and GR and UK (national level), for the year 2019, except for DE, GR, HU/SK, IL, IT, PL, UK (2018), and EE (2020).

4.3. Economic characteristics

4.3.1. Income and unemployment

Minimum wages are highest in Kinderdijk (The Netherlands), Media tourism in Scotland (United Kingdom), the Styrian Iron Route (Austria) and the Leichhardt Land (Germany), ranging from 1,500 euros to 1,635 euros per month (Figure 13, left). Six case studies have a minimum wage of around 500 euros per month or lower: the Buzău Carpathians and Subcarpathians (Romania), Komárom/Komárno (Hungary/Slovakia), Nitra (Slovakia), the Valley of Palaces and Gardens (Poland), South Moravia (Czechia) and Ida-Virumaa (Estonia).

Not all countries appear to have an official federal minimum wage (for example in Austria, where it is implemented via collective agreements), and in Italy there is no minimum whatsoever.

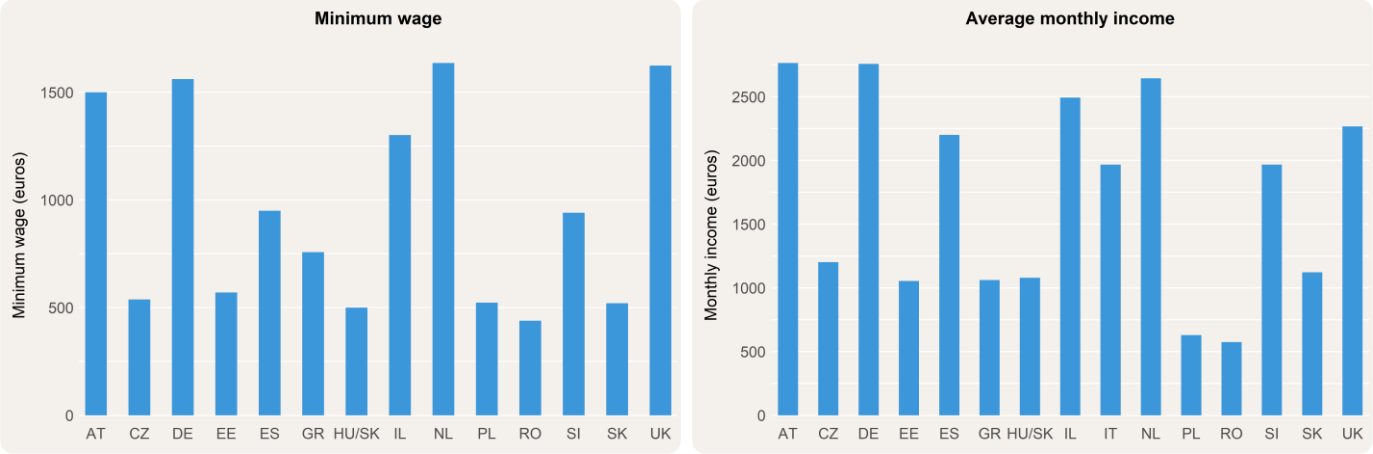


Figure 13: Minimum wage (left) in euros. In case of subregions the average of minimum wages (if different) of all subregions was taken. Data collected on national level, except for CZ (regional level), for the years 2021 (UK), 2020 (AT, EE, ES, GR, IL, IT, SI), 2019 (DE, HU/SK, NL, PL, RO, SK) and 2018 (CZ). On the right, the average gross monthly income in euros. In case of subregions, the weighted average with number of inhabitants of all subregions was taken. Data collected on case study level (AT, EE, ES, IL, IT, NL, UK), regional level (CZ, DE, PL, SI) or national level (GR, HU/SK, RO, SK), for the years 2019 (EE, GR, HU/SK, SI, SK, UK), 2018 (CZ, ES, IL, NL, RO), 2017 (AT, DE, IT, PL).

Average gross monthly income is around 2,000 euros or higher in eight case studies (Figure 13, right), with income being the highest in the Styrian Iron Route, the Leichhardt Land and Kinderdijk. Lowest income is found in the Buzău Carpathians and Subcarpathians, the Valley of Palaces and Gardens and Nitra, and is below 700 euros per month.

Unemployment rates show a large variation between case studies (Figure 14, left). The largest rates can be found in the Cyclades (Greece), Piedmont Landscape and Literary Park (Italy) and Barcelona (Spain), all with rates above 10%. Lowest rates are found in Nitra and Komárom/Komárno with rates below 2.5%.

Four case studies have a share of inhabitants within the working age population in salaried work above 75% (Figure 14, right): Barcelona, Media tourism in Scotland (United Kingdom), Kinderdijk and South Moravia. Six case studies have a share around 50% or lower: the Leichhardt Land has the lowest with 35%, the Greek Cyclades, the Styrian Iron Route, Komárom/Komárno, Ida-Virumaa and the Buzău Carpathians and Subcarpathians. It is possible that it was unclear that a share of the working population was meant (this was not stated completely) and therefore these values are possibly lower than they should be.

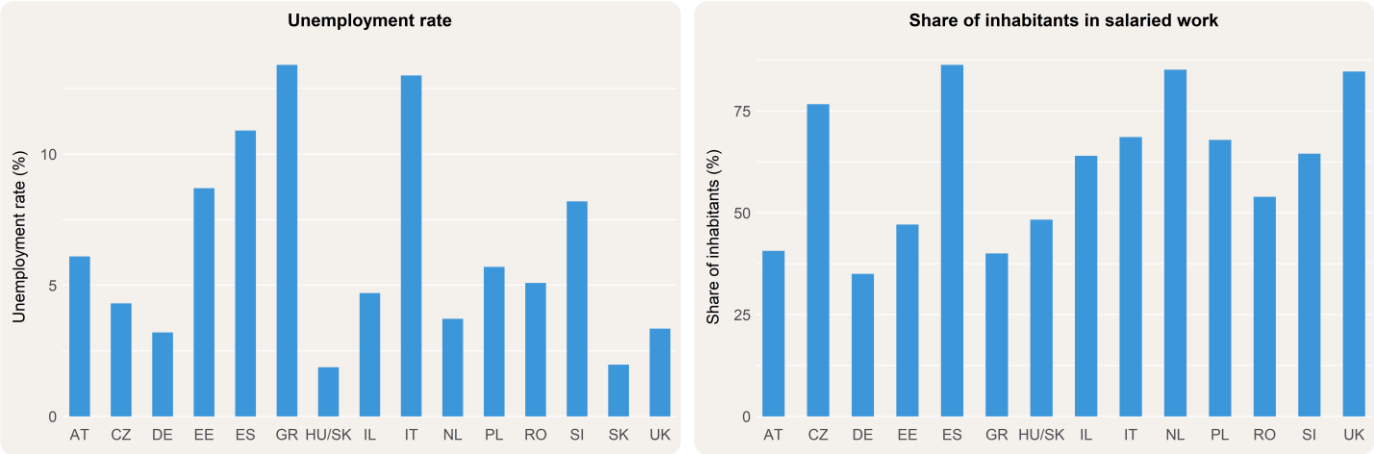


Figure 14: Unemployment rate (%) on the left. Data collected on case study level, except for DE, GR, HU/SK, IL, IT and SK (regional level), for the year 2019, except for CZ and SI (2020) and HU/SK, IL, and PL (2018). On the right, the share of inhabitants within the working age population in salaried work (%). In case of subregions, the weighted average with number of inhabitants of all subregions was taken. Data collected on case study level (AT, CZ, EE, ES, IL, NL, SI), regional level (DE, GR, IT, PL, RO) or national level (HU/SK, UK) for the years 2019 (EE, ES, NL), 2018 (HU/SK, IT PL, RO, SI, UK), 2017 (AT, GR, IL), 2015 (DE) and 2011 (CZ).

4.3.2. The economy and tourism

Inhabitants of the Greek Cyclades work by far the most often in the tourism sector (Figure 15, left), with almost 28% of the working population, although the data was collected at a regional scale and the researchers expect local values to be even higher. The second largest share is in the Piedmont Landscape and Literary Park (Italy), again regional data, with almost 11%. Lowest shares are found in the Buzău Carpathians and Subcarpathians (Romania) and Komárom/Komárno (Hungary/Slovakia).

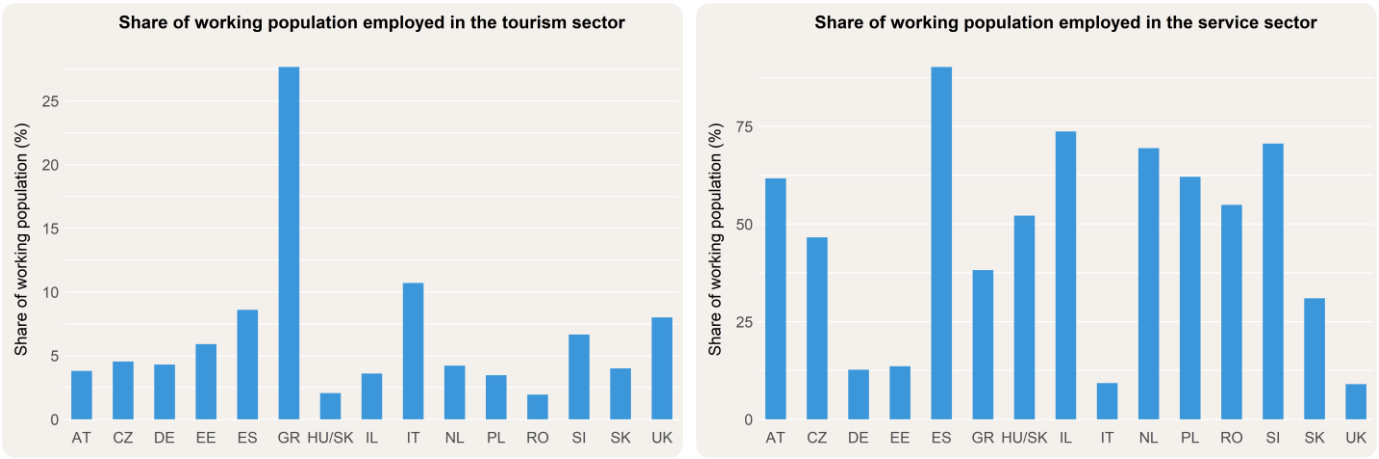


Figure 15: Share of working population employed in the tourism sector (%) on the left. Data collected on case study level (AT, CZ, ES, NL, SK), regional level (DE, GR, IT, PL, RO) or national level (EE, HU/SK, IL, SI, UK) for the years 2020 (ES), 2019 (CZ, EE, GR, NL, SI), 2018 (AT, IT, PL, RO), 2017 (SK), 2015 (DE) and 2011 (HU/SK). Share of working population employed in the service sector on the right (%). In case of subregions, the weighted average with number of inhabitants of all subregions was taken. Data collected on case study level (AT, CZ, ES, NL, SK), regional level (DE, GR, IT, PL, RO, SI, UK) or national level (EE, HU/SK, IL) for the years 2020 (IL, UK), 2019 (AT, NL, SI), 2018 (EE, ES, PL, RO), 2017 (GR, IT, SK), 2016 (HU/SK), 2015 (DE), and 2011 (CZ).

In nine case studies the share of the working population employed in the service sector is close to 50% or higher (Figure 15, right). The largest share is in Barcelona, Spain, where approximately 90% works in the service sector (data was collected at case study level). Lowest values are from Piedmont Landscape and Literary Park and Media tourism in Scotland (United Kingdom). However, the category 'service sector' was not clearly defined, so the large variation could partly be caused by ambiguity of the definition.

The contribution of tourism to the destination's economy (Figure 16) is the highest in the Cyclades and the Styrian Iron Route (Austria), and lowest in South Moravia (Czechia) and the Buzău Carpathians and Subcarpathians (Romania). However, in all case studies this data could only be collected at a national level, and thus local values could be much lower or higher depending on the case study. For example, researchers of the Styrian Iron Route expect the value to be lower than the national average in their case study.

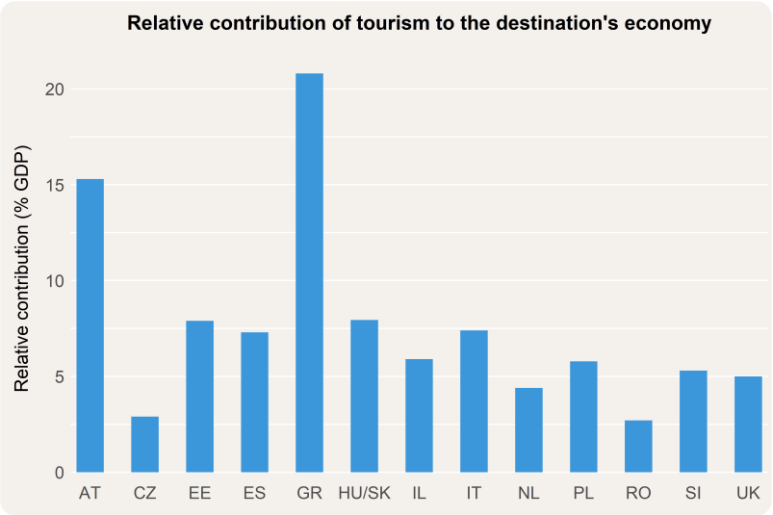


Figure 16: Relative contribution of tourism to the destination's economy, as a percentage of GDP. In case of subregions, the weighted average with number of inhabitants of all subregions was taken. Data collected on national level except for ES (case study level), IT and PL (regional level) for the years 2019 (CZ, ES, GR, NL, RO, SI), 2018 (AT, HU/SK, IT, UK), 2017 (PL), and 2015 (EE, IL).

5. Tourism as an economic activity

5.1. Tourism capacities

5.1.1. Number of accommodations and beds

As each of the case study areas is very different from the others, the number of accommodations within the sites vary a lot (Table 4). The number of accommodations is by far the highest for Barcelona (Spain), with over 10,000 accommodations, and is followed by Ljubljana (Slovenia) and the Greek Cyclades, with approximately 2,200 and 1,200 accommodations respectively. Komárom/Komárno (Hungary/Slovakia), the Valley of Palaces and Gardens (Poland) and the Beit-She'an Valley (Israel) have the least accommodations, with 16, 28 and 40 accommodations respectively. Five-star hotels are not very common in the case study areas, only occurring in Barcelona, the Cyclades and Ljubljana. Hotels with four and three stars occur in most case study areas, with the highest shares in the Leichhardt Land (Germany), Nitra (Slovakia), the Greek Cyclades and Komárom/Komárno. Two-star hotels and hostels occur mostly in the Styrian Iron Route (Austria) and the Greek Cyclades, taking up approximately 22% and 13% of the accommodations. AirBnBs also occur in most case studies. In Ljubljana over 97%, in Barcelona almost 92% and in the Beit-She'an Valley over 87% of accommodations is an AirBnB, far higher than in the remaining case studies. However, many case studies have high numbers of AirBnBs: at least 40% when AirBnBs are present. Only Komárom/Komárno has less than 20% AirBnBs. There are no AirBnBs in the South Moravia (Czechia), the Leichhardt Land and the Buzău Carpathians and Subcarpathians (Romania). In the case of Poland, it was stated that there is no data on number of AirBnBs available.

The share of other types of accommodations (category 'other') is very high in some cases, for example in South Moravia, the Buzău Carpathians and Subcarpathians and the Leichhardt Land over 60% of accommodations fall in this category. Some of the requested categories, such as farm accommodations, camp sites and mountain lodges, have been merged with the 'other' category as these only occurred in some case studies, which explains part of the high values. However, it still appears that many accommodations could not be defined using the requested categories. Missing categories are for example pensions, apartments, touristic bungalows, bed and breakfasts, youth hostels, holiday parks, chalets and guest houses. Also, in some cases apartments were merged together with the AirBnBs.

Table 4: Total number of accommodations per case study, and the share of accommodations of different types of the total (%). Category 'other' includes the requested categories farm accommodations, camp sites, mountain lodges and other kinds of accommodations not requested. In case of subregions, the number of accommodations of all subregions were summed. Data scale and year are shown in the last columns.

Case study area	Total	% Hotel *****	% Hotel ****	% Hotel ***	% Hotel **	% Hostel *	% AirBnB	% Other	Data scale	Year
AT	88		4.5	8.0	18.2	3.4	54.5	11.4	Case study	2020
CZ	338		2.4	10.7		1.8		85.2	Case study	2021
DE	88		15.9	17.0	1.1	1.1		64.8	Case study	2020
EE	193		2.1	6.2	0.5	4.7	69.9	16.6	Case study	2020
ES	10,432	0.4	1.8	1.2	0.4	3.2	91.8	1.2	Case study	2019
GR	1,192	4.9	9.6	9.8	9.4	3.7	62.2	0.4	Case study	2019
HU/SK	16			25	6.25		18.8	50	Case study	2020
IL	40			5		2.5	87.5	5	Case study	2019
IT	204		2.5	0.5	1.0	0.5	42.2	53.4	Case study	2018
NL	102		3.9	4.9	1.0	2.0	46.1	42.2	Case study	2020
PL	28			3.6	3.6		57.1	35.7	Case study	2019
RO	77		1.3	5.2	3.9	5.2		84.4	Case study	2019
SI	2,211	0.05	0.9	0.7	0.1	0.9	97.2	0.1	Case study	2020

Case study area	Total	% Hotel *****	% Hotel ****	% Hotel ***	% Hotel **	% Hostel *	% AirBnB	% Other	Data scale	Year
SK	95		12.6	6.3	3.2	4.2	50.5	23.2	Case study	2020
UK	173		4.0	7.5			74.6	13.9	Case Study	2020

Data on number of beds per accommodation was less readily available, and thus the total number of beds and shares of beds in different kinds of accommodations are possibly not completely reliable. Most beds are located in the case study sites that also had the highest number of accommodations (Table 5): Barcelona, Ljubljana and the Greek Cyclades. Lowest number of beds are in the Valley of Palaces and Gardens and the Leichhardt Land, however, data is missing completely for three case studies.

The share of beds in different accommodation types does not correspond with the share of accommodation types within the case study (Table 4). For example, whereas the proportion of AirBnB was generally very high, this is not always the case with the share of AirBnB beds in the case studies. For example, in Barcelona almost 92% of accommodations were AirBnBs, yet these only account for about 39% of the beds. This is still the largest proportion of all accommodation types in Barcelona, but the number of beds is spread more equally than accommodations themselves. In the Greek Cyclades, around 20% of beds are in five-star hotels, whereas these only account for less than 0.5% of the accommodations. However, there was no data given for number of AirBnB beds so this distorts these results.

Table 5: Total number of beds per case study, and the share of beds in different types of accommodation the total (%). Category 'other' includes the requested categories farm accommodations, camp sites, mountain lodges and other kinds of accommodations not requested. In case of subregions, the number of accommodations of all subregions were summed. Data scale and year are shown in the last columns.

Case study area	Total	% Hotel *****	% Hotel ****	% Hotel ***	% Hotel **	% Hostel *	% AirBnB	% Other	Data scale	Year
AT	1,925		22.1	17.6	30.0	8.7	9.9	11.7	Case study	2020
CZ	8,141								Case study	2021
DE	1,127		21.7	16.2	0.4	14.6		47.1	Case study	2020
EE									Case study	2020
ES	148,702	7.4	26.3	10.1	3.2	6.6	39.4	7.0	Case study	2019
GR	19,089	19.9	16.9	29.3	26.6	7.2			Case study	2019
HU/SK									Case study	2020
IL	1,548			3.1				96.9	Case study	2019
IT	1,770		42.5	3.2	2.8	0.8	19.4	31.2	Case study	2018
NL	1,778		42.1	19.8		7.3	14.1	16.7	Case study	2020
PL	819			22.5	8.4		11.1	58.0	Case study	2019
RO	2,231		1.9	8.9	5.0	14.1		70.1	Case study	2019
SI	14,142	1.2	12.5	5.8	0.6	8.4	63.8	7.7	Case study	2020
SK	2,193		29.4	15.0	22.8	8.5	9.1	15.2	Case study	2020
UK									Case study	2020

5.1.2. Accommodation occupancy

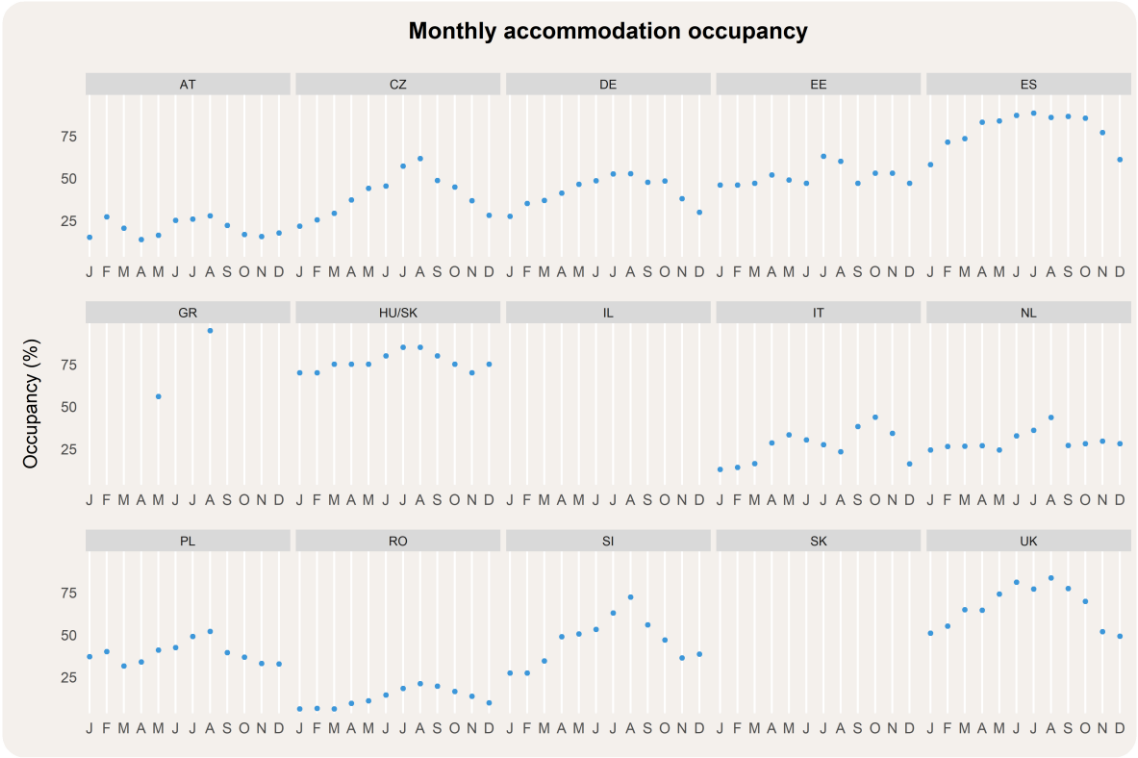


Figure 17: Monthly average accommodation occupancy per case study. In case of subregions, the weighted average with the number of accommodations of all subregions was taken. Data collected on case study level (AT, EE, ES, HU/SK, RO, SI), regional level (CZ, GR, PL, UK) or national level (NL) for the year 2019, except for ES and IT (2018), DE (2016) and GR (2015).

As far as data is available, accommodation occupancy is higher in the summer months (Figure 17), which can be expected. In some case studies, differences in accommodation occupancy between the winter and summer months are large, for example in Media tourism in Scotland (United Kingdom), South Moravia (Czechia) and Ljubljana (Slovenia). In others, occupancy is more stable throughout the year, such as in Komárom/Komárno (Hungary/Slovakia). In this last case study, occupancy is also consistent at a high level of approximately 50% or higher for the whole year, as is also the case in Barcelona (Spain) and Media tourism in Scotland. In other case studies occupancy is always rather low, such as in the Styrian Iron Route (Austria) and the Buzău Carpathians and Subcarpathians (Romania).

Yearly average accommodation occupancy (Figure 18) corresponds with these results. Occupancy is highest in Barcelona, Komárom/Komárno and Media tourism in Scotland. In these case studies yearly occupancy was 60% or higher. Lowest occupancy value is found in the Buzău Carpathians and Subcarpathians.

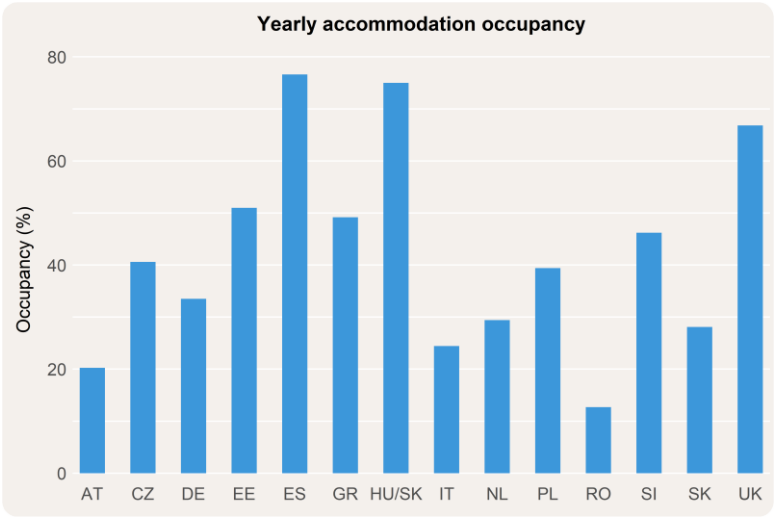


Figure 18: Yearly average accommodation occupancy per case study. In case of subregions, the weighted average with the number of accommodations of all subregions was taken. Data collected on case study level (AT, DE, EE, ES, HU/SK, IT, RO, SK), regional level (CZ, GR, PL, UK) or national level (NL) for the year 2019, except for HU/SK (2020), ES, GR and IT (2018), and DE (2014).

5.2. Tourists

5.2.1. Origin and main time of travel

In four case study areas, the share of foreign tourists is over 50%: Ljubljana (Slovenia), Barcelona (Spain), the Cyclades (Greece) and Piedmont Landscape and Literary Park (Italy) ranging from almost 54% for the Italian case study to almost 95% for Ljubljana (Table 6). Several other case studies have close to 40% or more foreign visitors: Ida-Virumaa (Estonia), Kinderdijk (The Netherlands), the Styrian Iron Route (Austria) and the Beit-She'an Valley (Israel). The Buzău Carpathians and Subcarpathians (Romania) and Nitra (Slovakia) have the lowest shares of foreign visitors, 1% and 4% respectively.

In four case studies, the share of tourists from the European Union is over 50%: Nitra, the Styrian Iron Route, Media tourism in Scotland (United Kingdom) and Ljubljana, ranging from 99% for Nitra to 55% for Ljubljana. Lowest values are found in the Buzău Carpathians and Subcarpathians and the Leichhardt Land (Germany), with 0.8% and a bit over 7% respectively. However, some case studies included visitors from the country itself into the share of EU tourists whereas others possibly did not do this. It was unclear from the indicator explanation whether this was expected or not. This explains for example the large difference in foreign tourists (4%) and EU tourists (99%) for Nitra in Slovakia, but also this method was applied in Barcelona. Furthermore, in Barcelona local officials include visitors from Spanish regions other than Catalonia, as they consider Catalonia to be its own entity. Also, it appears that in several cases data was only available on tourists staying overnight, and thus do not include tourists taking a day trip to the area. For example, although regional data states that almost 44% of tourists visiting Kinderdijk in The Netherlands are foreign, local values are expected to be much higher.

Table 6: Proportion of foreign tourists and EU tourists visiting the case study areas. In case of subregions, the simple average was taken as there is no good data available on total tourist numbers. Data scale and year are shown in the last columns.

Case study area	Foreign tourists (%)	EU tourists (%)	Data scale foreign/EU	Year foreign/EU
AT	46.8	95.5	Case study	2019
CZ	12.5	14.3	Case study/Regional	2019/2020
DE	8.9	7.3	Regional	2019/2018
EE	38.7	10.9	Case study	2019/2018
ES	83.1	38.8	Case study	2019
GR	55.3	43.2	Case study/Regional	2019
HU/SK	26.1		Regional	2019
IL	47	42.2	National	2019
IT	53.5	27.7	Case study	2019/2018
NL	43.7	27.3	Regional	2019
PL	20.2	13.7	Regional	2019
RO	1.02	0.8	Case study	2019
SI	94.8	55	Case study	2019/2018
SK	4	99	Case study	2019
UK	33	85	National	2019

In Table 7, the five incoming countries with the most incoming tourists are listed. Germany is in the top five of visiting nationalities in all case studies (expect the Leichhardt Land naturally) and provides the most foreign tourists. Other countries of origin that are very common are the United Kingdom, France, Poland and the United States. Only two case studies solely have EU countries in their top 5, four if the United Kingdom is included (which was still a EU country before 2020). These are the Styrian Iron Route and the Buzău Carpathians and Subcarpathians without the UK, and Nitra and the Valley of Palaces and Gardens (Poland) when the UK is included.

Table 7: The five incoming countries providing most tourists in the case study areas. In case of subregions, the most occurring countries of origin of all subregions have been selected. Data scale and year are shown in the last columns.

Case study area	The five incoming countries providing most tourists					Data scale	Year
AT	Germany	Hungary	The Netherlands	Poland	Czechia	Case study	2019
CZ	Poland	Slovakia	Germany	Austria	South Korea	Regional	2019
DE	Poland	Denmark	The Netherlands	Sweden	Switzerland	Case study	2019
EE	Russia	Finland	Latvia	Germany	Lithuania	Case study	2018
ES	United States	United Kingdom	France	Italy	Germany	Case study	2019
GR	Germany	United Kingdom	France	Italy	United States	Regional	2019
HU/SK	Slovakia	Germany	South Korea	Austria	Poland	Case study	2019
IL	Germany	United Kingdom	Ukraine	China	Italy	National	2020
IT	Switzerland	Germany	France	United States	Norway	Case study	2018
NL	Germany	Belgium	United Kingdom	United States	France	Regional	2019
PL	Germany	Czechia	United Kingdom	Austria	The Netherlands	Case study	2019
RO	Germany	Poland	France	Italy	Czechia	Case study	2019
SI	Italy	Germany	United States	United Kingdom	Austria	Case study	2019
SK	Czechia	Germany	Poland	United Kingdom	Spain	Case study	2019
UK	Germany	The Netherlands	United States	France	Canada	Regional	2019

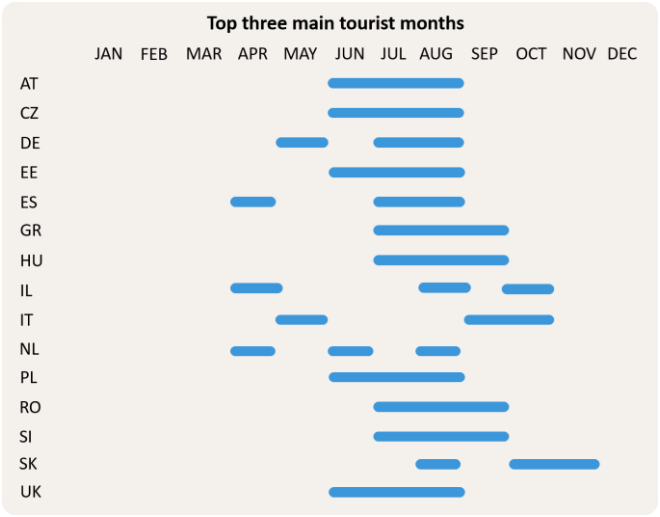


Figure 19: Three main tourist months per case study. In case of subregions, most occurring three months of all subregions were chosen.

The summer months (August and July) are the most common times of travel, followed by June and September (Figure 19). Although October and/or November are common times to visit Nitra, the Beit-She'an Valley and Piedmont Landscape and Literary Park, the fall and winter months are not common to visit the case study areas.

5.2.2. Staying in the area

The largest annual number of overnight stays comes from Barcelona (Spain), with almost 20 million overnight stays in 2019 (Table 8). This is followed by Kinderdijk, The Netherlands, with almost 13 million stays in 2019. However, this data is not on case study level, and thus includes stays from large cities nearby. South Moravia (Czechia) has over four million annual overnight stays, although again, data was given at a regional level. The fourth largest number comes from Ljubljana (Slovenia), with over 2 million overnight stays. The lowest numbers of annual overnight stays are found in the Leichhardt Land (Germany), Komárom/Komárno (Hungary/Slovakia), the Buzău Carpathians and Subcarpathians (Romania) and the Valley of Palaces and Gardens (Poland), ranging from almost 90 thousand to 8,300 overnight stays. Due to the large differences in case study areas and the fact that not all data was collected at case study level, it is not very useful to compare absolute values. Therefore, the annual overnight stays per square kilometres was calculated for each case study. When data was not collected at the case study level, the region area corresponding to the given number of stays was used to calculate overnight stays per km^2. Again, by far the most stays are found in Barcelona with almost 200,000 annual stays per square km^2. This is followed at a large distance by Ljubljana (over 8,000 stays), the Greek Cyclades (almost 5,000 annual stays per km^2) and the Piedmont Landscape and Literary Park (Italy) with a little over 4,000 annual stays per km^2. Fewest stays per km^2 are found in the Buzău Carpathians and Subcarpathians, the Valley of Palaces and Gardens and Ida-Virumaa (Estonia) with all fewer than 100 annual stays per km^2.

Table 8: Annual number of overnight stays and the accompanying overnight stays per km^2, based on the size of the case study, or the region on which the absolute annual number of overnight stays was based. In case of subregions, annual number of overnight stays for all subregions has been summed. Data scale and year are shown in the last columns.

Case study area	Annual number of overnight stays	Case study size	Region size	Annual overnight stays per km^2	Data scale	Year
AT	265,362	1,053		252	Case study	2019
CZ	4,225,133	564	7,188	588	Regional	2019
DE	86,932	413.88		210	Case study	2018
EE	271,354	2,971.58		91	Case study	2019
ES	19,852,416	101.35		195,880	Case study	2019
GR	857,492	558.09	178.1	4,815	Case study	2018
HU/SK	90,000	172.9		521	Case study	2020
IL		255				
IT	218,918	53.59		4,085	Case study	2018
NL	12,575,000	325.92	3,403	3,695	Regional	2019
PL	8,300	146		57	Case study	2019
RO	104,857	2,693.81		39	Case study	2019
SI	2,227,669	275		8,101	Case study	2019
SK	179,046	100		1,790	Case study	2019
UK	1,196,000	240.25	7,375	162	Regional	2019

The average number of nights spent by tourists is shown in Figure 20. Tourists in all case studies stay on average at least two nights. Tourists stay the longest in the Media tourism in Scotland case study (United Kingdom): 6 nights. Tourists stay four nights on average in the Greek Cyclades, and three in the Styrian Iron Route (Austria), the Leichhardt Land, and the Valley of Palaces and Gardens. The data collection program mistakenly rounded all values to whole numbers, so the values cannot be further compared.

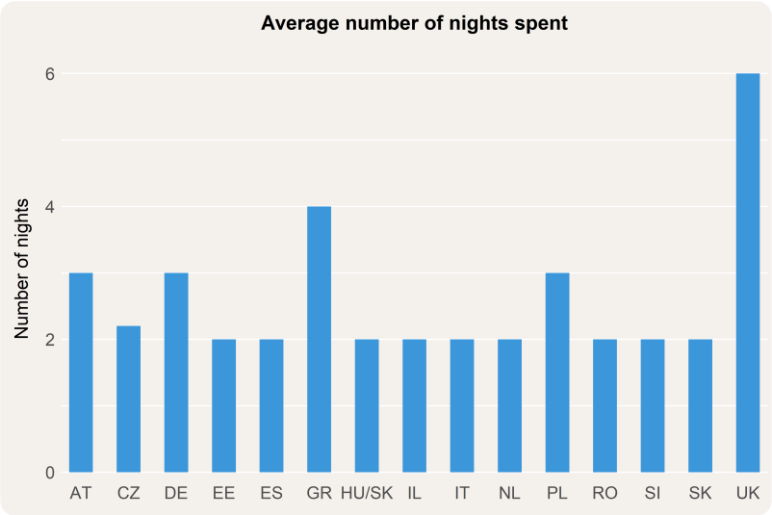


Figure 20: Average number of nights spent during stay in case study area. In case of subregions, the simple average was taken as there is no good data available on total tourist numbers. Data collected on case study level (AT, DE, EE, ES, IL, IT, RO, SI, SK), regional level (CZ, NL, PL, UK) or national level (GR) for the years 2020 (HU/SK), 2019 (AT, EE, ES, NL, PL, RO, SI, SK, UK), 2018 (DE, GR, IL, IT) and 2016 (CZ).

Tourists spend the most on a daily basis in the Styrian Iron Route, with over 150 euros per day. This is followed by tourists in Ljubljana, with around 140 euros and tourists visiting the Beit-She'an Valley (Israel): around 130 euros (Figure 21). The least is spent in Kinderdijk, with almost 35 euros per day and in Komárom/Komárno: 45 euros on average per day.

However, this indicator was not defined sufficiently. It was unclear what exactly should be included in daily expenditure (i.e. accommodation and travelling) and therefore it is not clear for most data points what is included in the value and what is not.

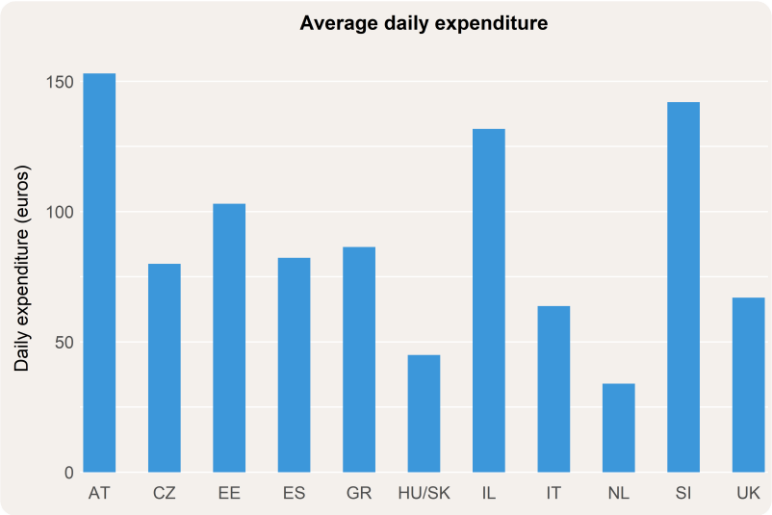


Figure 21: Average daily expenditure in euros. In case of subregions, the simple average was taken as there is no good data available on total tourist numbers. Data collected on case study (ES, SI) regional (AT, GR, IT, PL, UK) and national level (CZ, EE, HU/SK, IL, NL, RO) for the year 2019, except for GR, HU/SK, IL, IT and NL (2018), and EE (2017).

The possibility of cross-border tourism was investigated by requesting the number of countries that can be reached within 5-hours driving distance from the case study area (Table 9). Most countries can be visited within 5-hours driving distance from Komárom/Komárno, with thirteen country borders 'close-by'. This is followed by Ljubljana with eight and the Styrian Iron Route with seven. Case studies that do not have many

country borders close by are the Greek Cyclades, Media tourism in Scotland and the Buzău Carpathians and Subcarpathians (Romania) with zero countries reachable within 5 hours driving. It should be noted however that having a border reachable within 5-hours driving distance does not necessarily mean that this border can be (easily) crossed, as is the case with the Israeli Beit-She'an case study: four countries are reachable within the 5 hours, however only one border can actually be crossed.

Table 9: Number of countries within 5 hours driving distance to the border. Each subregion within the case studies had the same number so there was no need to aggregate the data. Data scale and year are shown in the last columns.

Case study area	Nr. of countries	Data scale	Year
AT	7	Regional	2020
CZ			
DE	2	Case study	2020
EE	3	Case study	2020
ES	2	Case study	2020
GR	0	Case study	2020
HU/SK	13	Case study	2020
IL	4	Case study	2019
IT	5	National	2020
NL	5	Case study	2020
PL	2	Regional	2020
RO	0	Case study	2019
SI	8	Case study	2020
SK			
UK	0	Case Study	2021

5.3. Gastronomy and services

Barcelona (Spain) has the most restaurants of different classes (over 7000), followed by the Greek Cyclades, with 760, and Ljubljana (Slovenia) with over 500. The case studies with the fewest restaurants are the Leichhardt Land (Germany) with 13, Komárom/Komárno (Hungary/Slovakia), with 15, and the Valley of Palaces and Gardens (Poland) with 24. In most case studies, most restaurant were of a good local level, or basic level. Most case studies do not have restaurants of top level, and several have none of high level.

The division in restaurant classes is not applicable in every case study and is open to subjective interpretation, which can have distorted the results. Categorization of restaurants therefore was not optimal and results should be interpreted with this in mind.

Table 10: Total number of restaurants in the case study areas and the proportion of different types of restaurants. In case of subregions, number of restaurants were summed for all subregions. Data scale and year are shown in the last columns.

Case study area	Total	Top level	High level	Good local level	Basic level	Street food level	Data scale	Year
AT	70	1.4		60.0	24.3	14.3	Case study	2020
CZ	109			84.4	6.4	9.2	Case study	2021
DE	13			53.8	46.2		Case study	2020
EE	74		2.7	27.0	51.4	18.9		2020
ES	7,010	0.03	0.3	68.2	29.2	2.3	Case study	2019
GR	760	0.4	7.8	68.2	23.7		Case study	2020
HU/SK	15			6.7	40.0	53.3	Case study	2020

Case study area	Total	Top level	High level	Good local level	Basic level	Street food level	Data scale	Year
IL	28			25.0	25.0	50.0	Case study	2019
IT	126	0.8	0.8	3.2	63.5	31.7	Case study	2019
NL	266		3.4	78.9	17.7		Case study	2020
PL	24			62.5	37.5		Case study	2020
RO	63		1.6	20.6	73.0	4.8	Case study	2020
SI	535		3.6	54.2	30.8	11.4	Case study	2020
SK	94			34.0	31.9	34.0	Case study	2019
UK	64		1.6	64.1	4.7	29.7	Case Study	2020

Most transportation stops and stations exist in Barcelona, with the majority being bus stops (Figure 22). Metro, trams and train stations do not exist in all case studies. Most case studies have a large number of bus stops, except for the Greek Cyclades. Bike rental locations are very common in the Cyclades, and Ljubljana with over 50 locations. Taxis are very common in Barcelona and to a lesser extent in Ljubljana. Boat services are common in the Cyclades, which can be expected, and Barcelona. Also in other regions, such as the Leichhardt Land boat services are present, although they are not numerous. Data was not always readily available, for example on taxi stands, so it appears data is not complete for all case studies.

Figure 22: Number of metro and tram stops, train stations, bus stops, taxi stands, bicycle rental locations and boat services within the case study area. In case of subregions, number of items were summed for all subregions. Data was collected on case study level for the year 2020, except for UK (2021).

The number of national tourist offices is the largest in Barcelona. Most other case studies contain only one or two national tourist offices (Table 11). In four areas, national tourist offices do not exist at all: the Greek Cyclades, the Styrian Iron Route (Austria), the Leichhardt Land and the Valley of Palaces and Gardens. Commercial tourist offices are more common in most case studies. Most are in Kinderdijk (The Netherlands) and the Cyclades. Tourist agencies/companies occur the most in Barcelona, with over 1,200 locations. After,

the most agencies/companies are located in Ida-Virumaa (Estonia), the Greek Cyclades and Ljubljana (with over 30 locations. However, data from Barcelona for tourist agencies/companies is on a regional scale, whereas data from the other three case studies is on local level.

The number of tourist promotion websites is also by far the largest in Barcelona. This is followed at a distance by Kinderdijk and the Buzău Carpathians and Subcarpathians (Romania). Eight case studies stated five or fewer tourist promotion websites, including big cities such as Ljubljana and Nitra (Slovakia). The definition of 'promotion website' was not clearly defined and this will have influenced results greatly.

Table 11: Number of national tourist offices, commercial tourist offices, tourist agencies/companies and tourist promotion websites. In case of subregions, values were summed for all subregions. Data scale and year are shown in the last columns. In case of differing scales/years per value, year and/or scale is given per value (C = case study, R = regional).

Case study area	Nr. of national tourist offices	Nr. of commercial tourist offices	Nr. of tourist agencies/companies	Nr. of tourist promotion websites	Scale	Year
AT	0	6	9	3	Case study	2020
CZ	5	0	0	31	Case study	2020
DE	0	5	1	10	Case study	2020
EE	2	0	37	5	Case study	2020
ES	18	5	1,213	2,000	C/C/R/R	2020
GR	0	33	33	12	Case study	2020
HU/SK	3	1	2	2	Case study	2020
IL	2	9	5	2	C/R/R/C	2020
IT	2	2	27	25	Case study	2020
NL	1	47		47	Case study	2020
PL	0	0	1	4	Case study	2020
RO	1	7	3	44	Case study	19/19/20/20
SI	1	2	32	2	Case study	2020
SK	1	0	0	4	Case study	2020
UK	1	2	0	3	Case study	2021

6. Specifics of cultural tourism

Not all case studies have cultural routes (certified by the European Council) crossing their areas, others have several (Table 12). Most cultural routes can be found in the Piedmont Landscape and Literary Park (Italy), with nine routes, although data is collected at regional level. Eight routes are found for the Romanian case study, although at national level. Regional data for the Polish case study finds six routes. Barcelona (Spain) has four routes, although again data is collected at the regional scale. Ljubljana (Slovenia) and Kinderdijk (The Netherlands) both have three routes crossing the case study areas. The Beit-She'an Valley has 5 cultural routes, as declared by the Israel National Authorities.

*Table 12: Number of cultural routes certified by the European Council that are located in or pass the case study areas. Data scale and year are shown in the last columns. *Routes in Israel are cultural routes declared by the Israel National Authorities.*

Case study area	Nr. of cultural routes	Scale	Year
AT	1	2020	Case study
CZ	0	2020	Case study
DE	0	2020	Case study
EE	1	2020	Case study
ES	4	2020	Regional
GR	0	2020	Case study
HU	2	2020	Case study
IL	5*		Case study
IT	9	2020	Regional
NL	3	2020	Case study
PL	6	2020	Regional
RO	8	2020	National
SI	3	2020	Case study
SK	1	2020	Case study
UK	0	2021	Case study

In Table 13 the total number of cultural objects within the case study areas, plus the proportion of different kinds of objects is shown. To begin with, what counts as a cultural object is subjective, and the decision whether a certain object or location falls into one of the below categories depends on the definition given to it. When requesting the data, the shown kinds of cultural objects have not been defined sufficiently. Also, obtaining good and reliable data appeared to be difficult. This influences the results. For example, Barcelona has, according to Table 13, around 30 cultural objects less than Kinderdijk. In Kinderdijk almost 50% of the cultural objects are religious sites. In Barcelona not even 3% are religious sites. It is likely that in the Kinderdijk case study all churches located in the case study area were included, whereas this was not the case in Barcelona. Therefore, these results are not immediately comparable.

Keeping the above in mind, most cultural objects are stated to be in Ida-Virumaa (Estonia), followed by Kinderdijk and Barcelona. Fewest cultural objects are found in the Beit-She'an Valley (Israel), Komárom/Komárno (Hungary/Slovakia) and Media tourism in Scotland (United Kingdom). In Barcelona, most of the objects are museums, whereas in the Valley of Palaces and Gardens (Poland) no museums are found. Only a small proportion of cultural objects in Piedmont Landscape and Literary Park and Ida-Virumaa are museums. Art galleries are mostly found in Barcelona, the Greek Cyclades, Kinderdijk and Ljubljana, with approximately 15% or more of the cultural objects.

Seven of the case studies have UNESCO world heritage sites within their case studies. The others, Ida-Virumaa, Media tourism in Scotland, the Cyclades, the Beit-She'an Valley, the Leichhardt Land (Germany), the Valley of Palaces and Gardens, the Buzău Carpathians and Subcarpathians (Romania) and Nitra (Slovakia), do not.

Religious sites occur in every case study, but the proportion in which varies. Five case studies have a proportion of almost 50% or larger: the Styrian Iron Route (Austria), South Moravia (Czechia), the Cyclades, the Piedmont Landscape and Literary Park and Kinderdijk. Ida-Virumaa, Barcelona and Ljubljana have the lowest share of religious sites.

All case studies have historical sites, the highest proportions being in Nitra with just over 50% and the Beit-She'an Valley with almost 50%. Fewest sites are found in Komárom/Komárno and the Leichhardt Land. Commemoration sites and war monuments can be found in most sites, but the highest proportions are in Komárom/Komárno, Ida-Virumaa and the Valley of Palaces and Gardens.

Archaeological sites are also found in every case study, except for Kinderdijk. Highest proportion of archaeological sites are in the Leichhardt Land, Ida-Virumaa and the Buzău Carpathians and Subcarpathians, ranging from approximately 28% in the Carpathians to over 60% in the Leichhardt Land.

There are also cultural objects that could not be included in any of the categories requested. Especially in the Buzău Carpathians and Subcarpathians this is the case for over 30% of objects. This comprises of for example old houses, households and mansions, landmark stone crosses and wineries. Other kinds of cultural objects that could not be included, as far as mentioned by the teams in the descriptions, are heritage walks, specific kinds of interactive museums (such as the Barcelona Football club museum with is different in nature than other museums) and historical cellars.

Table 13: The total number of several kinds of cultural objects within the case study areas, and the proportion of the different kinds of objects. In case of subregions, values were summed for all subregions. Data scale and year are shown in the last columns.

Case study area	Total	Museums	Art galleries	UNESCO world heritage sites	Religious sites	Historical sites	Commemoration sites	War monuments	Archaeological sites	Other	Scale	Year
AT	142	12		1.4	52.8	11.3	9.9	5.6	4.2	2.8	Case study	2020
CZ	211	5.7	0.9	5.2	29.9	14.2	1.4			42.7	Case study	2021
DE	10	8	1		9	3	9	3	63	4	Case study	2020
EE	398	2.5	0.5		2	5	20.4	10.6	57	2	Case study	2020
ES	232	59.1	19	3.9	2.6	7.3	2.6	3	2.2	0.4	Case study	2018
GR	172	12.2	15.1		58.1	5.2	1.7		7.6		Case study	2020
HU/SK	39	7.7	2.6	2.6	30.8	2.6		51.3	2.6		Case study	2020
IL	35	11.4	5.7		5.7	48.6	2.9	5.7	14.3	5.7	Case study	2018
IT	106	1.9		0.9	75.5	17		0.9	0.9	2.8	Regional	2017
NL	267	10.1	14.6	0.4	47.6	10.1		16.9		0.4	Case study	2020
PL	98	2	2		31.6	31.6	16.3	7.1	1.0	8.2	Case study	2020
RO	155	3.2			30.3	5.2		0.6	27.7	32.9	Case study	2019
SI	103	13.6	16.5	1	2.9	40.8	3.9	12.6	7.8	1	Case study	2020
SK	153	3.3	2		28.1	52.3	3.9	3.3	3.9	3.3	Case study	2020
UK	35	20			37.1	25.7	2.9	5.7	8.6		Case Study	2020

The most important attractor (options to choose from were the same as the categories in Table 13) overall are historical sites. In ten of the case studies these were in the top three. This is followed by museums, religious sites and other types of attractors. Considering that the category 'other' is so often seen as the most important attractor, indicates that the previously defined categories are not sufficient. Although UNESCO world heritage sites occur in seven case studies, they are only top attractors in two: Kinderdijk and Barcelona.

Table 14: Top three main attractors per case study site. In case of subregions, most occurring attractors of all subregions have been selected.

Case study area	1st choice	2nd choice	3rd choice
AT	Other	Historical sites	Museums
CZ	Religious sites	Historical sites	Museums
DE	Other		
EE	Historical sites	Museums	Religious sites
ES	UNESCO world heritage sites	Museums	Religious sites
GR	Other	Archaeological sites	Historical sites
HU/SK	War monuments	Religious sites	Museums
IL			
IT	Historical sites	Religious sites	Other
NL	UNESCO world heritage sites	Historical sites	Other
PL	Historical sites		
RO	Religious sites	Museums	Historical sites
SI	Historical sites	Other	Museums
SK	Historical sites	Religious sites	Other
UK			

Data on dance, music and theatre shows turned out not to be easy to obtain. Plus, the difference between dance and music shows is not always clear. This is for example the case in the Buzău Carpathians and Subcarpathians, where there are folkloric festivals with dancers and musicians. Also, groups performing are not always local and it was unclear whether these should be included. This ambiguity effects the results.

Dance shows are most common in Barcelona, as are theatre shows. Dance shows are also common in the Buzău Carpathians and Subcarpathians. In most case studies there are very few or no dance shows however (or data could not be found). Music shows are somewhat more common, although it was not always possible to find data for this indicator. As there is no differentiation possible between dance and music shows in the Buzău Carpathians and Subcarpathians, the number of shows is equal. Music shows are also common in the Styrian Iron Route, the Valley of Palaces and Gardens and Kinderdijk. In five case studies there are no music shows or data could not be found. Theatre shows are most common in Barcelona, followed at a large distance by Kinderdijk, Ljubljana and the Piedmont Landscape and Literary Park. In three case studies there are no theatre shows or data could not be found.

Table 15: Number of companies offering dance, music or theatre shows in the case study areas. In case of subregions, values were summed for all subregions. Data scale and year are shown in the last columns.

Case study area	Dance shows	Music shows	Theatre shows	Scale	Year
AT	9	13	4	Case study	2020
CZ	1	0	5	Case study	2020
DE	0	0	0	Case study	2020
EE	0	0	0	Case study	2020
ES	7,746		2,891	Regional	2017
GR	5	6	3	Case study	2020
HU	1	1	3	Case study	2020
IL	1	2	2	Case study	2018
IT	1	6	6	Case study	2020

Case study area	Dance shows	Music shows	Theatre shows	Scale	Year
NL	2	8	8	Case study	2020
PL	0	11	1	Case study	2020
RO	32	32	0	Case study	2019
SI		2	6	Case study	2016
SK	0	0	3	Case study	2020
UK	3	3	2	Case study	2019

7. Discussion

In this chapter we answer our research questions and give our recommendations for future research. Our research questions were introduced in section 1.4. To recap, they are as follows.

Central question

Is there a relation between the characteristics of cultural tourism in the case studies and the economic, social and environmental development of the case study areas?

- What are the environmental and social-economic characteristics of the case studies and (how) can this influence (cultural) tourism?
- What are the general characteristics of the tourism sector in the case study sites and (how) can this influence (cultural) tourism?
- Which types of cultural tourism can be defined to characterize the similarities and differences in the case studies?

7.1. A measure for the number and type of tourists

As described in section 2.3.4, we used an indicator as a measure for the number of tourists visiting the case study areas: the annual number of overnight stays per square kilometre (derived from the indicators 'annual number of overnight stays' and 'size of the case study area', these results were also been shown in Table 8). Table 16 shows the annual number of overnight stays per square kilometre, the data from which this value was derived (absolute number of overnight stays and case study or region size in km^2), and the level at which the data on annual overnight stays was collected.

Table 16: This table shows the annual number of overnight stays, the size of the case study areas, and the resulting number of overnight stays per square kilometre. Also, the level at which the annual number of overnight stays was collected, and the year, is shown. When data was not collected at case study level, corresponding region size was used, instead of case study size. In the case of the Greek Cyclades, part of the case study area was used for calculation.

Case study area	Annual number of overnight stays	Case study size	Region size	Annual overnight stays per km^2	Data scale	Year
AT	265,362	1,053		252	Case study	2019
CZ	4,225,133	564	7,188	588	Regional	2019
DE	86,932	413.88		210	Case study	2018
EE	271,354	2,971.58		91	Case study	2019
ES	19,852,416	101.35		195,880	Case study	2019
GR	857,492	558.09	178.1	4,815	Case study	2018
HU/SK	90,000	172.9		521	Case study	2020
IL		255				
IT	218,918	53.59		4,085	Case study	2018
NL	12,575,000	325.92	3,403	3,695	Regional	2019
PL	8,300	146		57	Case study	2019
RO	104,857	2,693.81		39	Case study	2019
SI	2,227,669	275		8,101	Case study	2019
SK	179,046	100		1,790	Case study	2019
UK	1,196,000	240.25	7,375	162	Regional	2019

7.2. Environmental, social and economic characteristics and (cultural) tourism

7.2.1. Environment and (cultural) tourism

The Spearman's correlation coefficient was calculated for a number of environmental indicators (Table 17). For altitude, both the highest points and the height difference (highest point minus the lowest point) were analysed. For average monthly precipitation and temperature the average value per month for the three summer months (June, July and August) was taken, because for most case studies most visits take place during these months (Figure 19).

Table 17: Computing the Spearman's correlation between the environmental indicators (independent variables) and the annual number of overnight stays per square kilometres (dependent variable). Spearman's rank correlation, p-value and degrees of freedom is shown.

Indicator	Result in report section	Spearman's rank correlation	p-value	Degrees of freedom (N-2)
Altitude – highest point	4.1.1	-0.06	0.844	12
Altitude – height difference	4.1.1	-0.002	1	12
Average precipitation in June, July, August	4.1.2	-0.50	0.067	12
Average temperature in June, July, August	4.1.2	0.88	0.000	12
Share of Natura2000 sites	0	0.30	0.295	12
Share of protected sites	0	-0.05	0.863	11
Nearest national park	0	0.08	0.797	12

The data show a strong positive correlation – r(12) = .88, p = .000 – between the average temperature in the summer months and the annual number of overnight stays per square kilometre. Furthermore, a negative correlation – r(12) = -.50, p = .067 – can be seen between the average precipitation in the summer months and overnight stays.

The correlation between average temperature in the summer and annual overnight stays is shown in Figure 23. Due to the large value of overnight stays for the Spanish case study of Barcelona, which is a bit of an outlier compared to the other case studies, the correlation is a bit difficult to see (this difficulty remains for all the correlations found also further in the report). However, it still can be seen that case studies with warmer summers, have higher values of overnight stays. This indicates that tourists have a preference for having holidays in areas with warmer temperatures, which is not surprising.

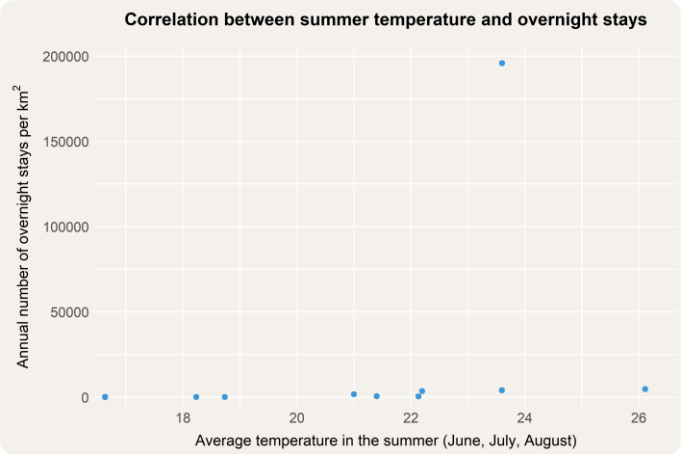


Figure 23: Scatterplot to show the correlation between average temperature in the summer months (June, July, August) and annual number of overnight stays per square kilometres - r(12) = .88, p = .000.

The negative correlation between average summer precipitation and annual overnight stays is shown in Figure 24. Again as can be expected, this indicates a preference of tourists for areas with less rain. Also, less rain is often accompanied with higher temperatures.

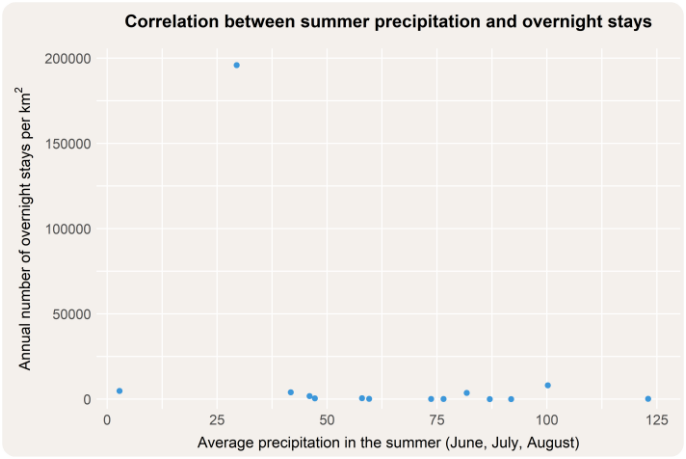


Figure 24: Scatterplot to show the correlation between average precipitation in the summer months (June, July, August) and annual number of overnight stays per square kilometres - r(12) = -.50, p = .067.

7.2.2. Demography and (cultural) tourism

The Spearman's correlation coefficient was calculated for a number of social-demographic indicators (Table 18). Population density was used instead of the absolute number of inhabitants, and correlation was computed separately for the three collected age groups. For both population density – r(12) = .69, p = .008 – and population increase - r(12) = .67, p = .010 – a significant correlation between these variables and the number of annual overnight stays per square kilometre was found.

Table 18: Computing the Spearman's correlation between the social-demographic indicators (independent variables) and the annual number of overnight stays per square kilometres (dependent variable). Spearman's rank correlation, p-value and degrees of freedom is shown.

Indicator	Result in report section	Spearman's rank correlation	p-value	Degrees of freedom (N-2)
Population density	4.2	0.69	0.008	12
Demographic pyramid ages <15	4.2	0.18	0.542	12
Demographic pyramid ages 15 - 65	4.2	0.16	0.594	12
Demographic pyramid ages > 65	4.2	-0.24	0.400	12
Population increase	4.2	0.67	0.010	12

The data show a strong and positive relationship between the population density and the number of overnight stays (Figure 26). The correlation is a logical one, and can be easily explained. Cities often have a lot more tourists than rural areas, and also a higher population density. Places with a higher population density will likely also have more services such as restaurants and accommodations, more opportunities for activities and sightseeing, and are easier to reach. All factors that result in a higher visitor number.

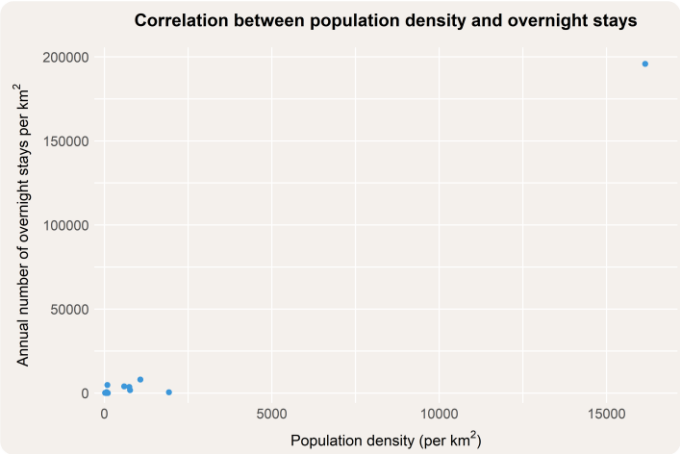


Figure 26: Scatterplot to show the correlation between population density and annual number of overnight stays per square kilometres - r(12) = .69, p = .008.

A strong positive correlation was also found between population increase and the number of overnight stays (Figure 25). The scatterplot shows that case studies with a large population decrease also have low numbers of annual overnight stays. This is especially the case in peripheral areas such as the Buzău Carpathians and Subcarpathians (Romania), the Leichhardt Land (Germany) and Ida-Virumaa (Estonia). These are depopulating areas where the number of inhabitants is decreasing and tourism is not succeeding (yet) in turning the tide. The significant results can be explained. Areas where the population is decreasing often do not contain a lot of services or opportunities, and consequently are less attractive for tourists. Fewer tourists will automatically results in fewer overnight stays.

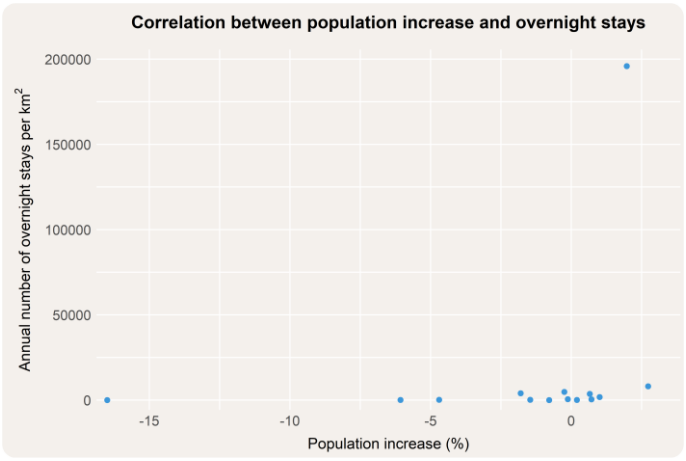


Figure 25: Scatterplot to show the correlation between population increase and annual number of overnight stays per square kilometres - r(12) = .67, p = .010.

7.2.3. Economy and (cultural) tourism

The Spearman's correlation coefficient was calculated for a number of economic indicators (Table 19). For share in tourism work - r(12) = .62, p = .020 – a significant positive correlation was found with the number of annual overnight stays per square kilometre.

Table 19: Computing the Spearman's correlation between the economic indicators (independent variables) and the annual number of overnight stays per square kilometres (dependent variable). Spearman's rank correlation, p-value and degrees of freedom is shown.

Indicator	Result in report section	Spearman's rank correlation	p-value	Degrees of freedom (N-2)
Minimum wage	4.3.1	0.30	0.325	11
Average monthly income	4.3.1	0.34	0.233	12
Unemployment rate	4.3.1	0.38	0.186	12
Share in salaried work	4.3.1	0.29	0.344	11
Share in tourism sector	4.3.2	0.62	0.020	12
Share in service sector	4.3.2	0.31	0.281	12
Contribution tourism to the economy	4.3.2	0.23	0.471	10

The data show a positive relationship between the share of the working population employed in the tourism sector and the annual number of overnight stays per square kilometre (Figure 27). Such a relationship was also expected, as having a higher number of tourists in an area increases job opportunities and therefore a larger share of the population will be employed in the tourism sector.

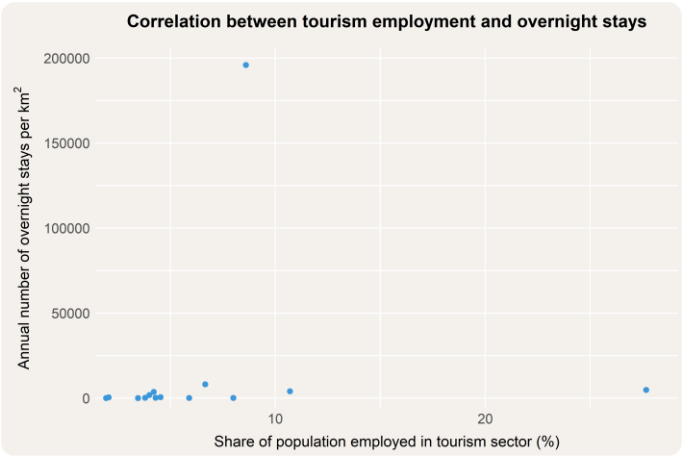


Figure 27: Scatterplot to show the correlation between the share of the working population employed in the tourism sector and annual number of overnight stays per square kilometres - r(12) = .62, p = .020.

No significant relationship was found however between annual overnight stays and contribution of tourism to the economy (as a percentage of GDP). It would be expected that a larger number of tourist in an area would lead to a larger contribution of tourism to the economy, however this was not found in this study. A likely explanation is that local data on the contribution of tourism to the economy was very hard to find, and data was therefore mostly national, therefore not representing the actual case studies.

7.2.4. Environmental and social-economic characteristics and their influence on (cultural) tourism

As shown in chapter 3 each case study is very unique. They differ largely in size, the biggest being Ida-Virumaa in Estonia and the Buzău Carpathians and Subcarpathians in Romania and the smallest being Piedmont Landscape and Literary Park in Italy. Some areas are very flat, such as Kinderdijk in The Netherlands, whereas others are mountainous: the Styrian Iron Route (Austria) and the Buzău Carpathians and Subcarpathians being two examples. The climate also differs among the case studies with some areas having clear dry periods during the summer (the Beit-She'an Valley in Israel and the Greek Cyclades), and others with the largest

amount of rainfall during the summer (the Styrian Iron Route, the Valley of Palaces and Gardens in Poland and the Buzău Carpathians and Subcarpathians). Temperature-wise, some case studies have warmer temperatures even in winter, such as the Beit-She'an Valley, the Cyclades and Barcelona (Spain). There are also case studies with average temperatures in the winter months reaching below zero: Ida-Virumaa, the Valley of Palaces and Gardens and the Styrian Iron Route. Likewise, the share of protected sites, such as Natura2000, differs greatly as well, ranging from 0% to almost 50% in the Leichhardt Land (Germany).

There are also very large differences in the number on inhabitants. Barcelona has by far the largest number of inhabitants and population density, with over 16,000 people per square kilometre. This is in great contrast with the Leichhardt Land, that only has a population density of 17 people per square kilometre. Some case studies surprisingly have a large surplus of women, the area with the largest surplus being Ida-Virumaa with 8.1% more women than men. The Beit-She'an Valley on the other hand has a surplus of men of 3.2%. Variance can also be found for the demographic age division, with the largest difference found in the Beit-She'an Valley with a much larger share of the population being younger than fifteen years old, and a much smaller share being older than 65. In some case studies, population is increasing, even up to 2.7% in Ljubljana (Slovenia), but in others it is decreasing. The largest decrease is found in the Buzău Carpathians and Subcarpathians, with over 16% decrease.

Economically, large differences are found between the case studies in minimum wage and average monthly income. Minimum wage is lowest in the Buzău Carpathians and Subcarpathians, Komárom/Komárno (Hungary/Slovakia) and Nitra (Slovakia). Lowest average incomes are found in the Buzău Carpathians and Subcarpathians, the Valley of Palaces and Gardens and Nitra. Likewise, large differences are found in unemployment rates. The cities of Komárom/Komárno and Nitra have the lowest rates, and inhabitants in the Cyclades and Piedmont Landscape and Literary Park are the most often unemployed. As such, the share of the population in salaried work ranges from 35 to over 85%.

When comparing the economy of tourism in the different case studies, again large differences can be found. In the Cyclades a large share of the working population is employed in the tourism sector, whereas in many others this share is only very small. More people in general are employed in the service sector, although again, differences are large among the case studies. This time, the largest share employed in services is in Barcelona. Likewise, the relative contribution of tourism to the destination’s economy also varies. The Cyclades depend greatly on tourism, with a value of over 20%. Economies in the case studies South Moravia (Czechia) and the Buzău Carpathians and Subcarpathians depend the least on tourism.

In this study it became clear that average summer temperatures and precipitation influence (cultural) tourism. Higher temperatures lead to a larger number of tourists, whereas the opposite was found for average summer precipitation: less precipitation leads to higher visitor numbers. For other environmental indicators no such relationship was found. A larger population density and population increase are seen to be positively correlated with tourists numbers, and therefore have a positive influence on (cultural) tourism. This is probably the result of urban areas attracting a larger number of tourists. In areas with higher visitor numbers, the share of the working population employed in the tourism sector is also higher. This is likely the result of increased job opportunities due to tourism.

7.3. The tourism sector and (cultural) tourism

7.3.1. Tourism offer and (cultural) tourism

The Spearman's correlation coefficient was calculated for a number of indicators about the tourism offer and services in the case study areas (Table 20). In the case of accommodations, correlation was computed for the total number of accommodations and the separate categories except for 5-star hotels (not enough data) and the category 'other'. In the case of the monthly average accommodation occupancy, correlation was calculated for the average occupancy during the summer months June, July and August. Correlation was only calculated for the total number of restaurants, as the categorization of the restaurants was not optimal (see section 5.3). In the case of transportation correlation was calculated for train stations and bus stops, as these were the most complete categories among the case study areas.

For the total number of accommodations – r(12) = .73, p = .003 – a significant positive correlation with the number of annual overnight stays per square kilometre was found. Other significant positive relationships were found between the number of restaurants and the number of annual overnight stays per square kilometre – r(12) = .84, p = .000 and the number of tourist agencies and overnight stays – r(11) = .53, p = 0.061.

Table 20: Computing the Spearman's correlation between the tourism offer and services indicators (independent variables) and the annual number of overnight stays per square kilometres (dependent variable). Spearman's rank correlation, p-value and degrees of freedom is shown.

Indicator	Result in report section	Spearman's rank correlation	p-value	Degrees of freedom (N-2)
Total number of accommodations	5.1.1	0.73	0.003	12
Proportion of AirBnB accommodations	5.1.1	0.34	0.231	12
Proportion of hostel accommodations	5.1.1	-0.03	0.911	12
Proportion of 2 star hotels	5.1.1	-0.21	0.478	11
Proportion of 3 star hotels	5.1.1	-0.28	0.325	12
Proportion of 4 star hotels	5.1.1	-0.12	0.675	12
Average accommodation occupancy in June, July, August	5.1.2	0.36	0.246	10
Yearly average accommodation occupancy	5.1.2	0.25	0.383	12
Number of restaurants	5.3	0.84	0.000	12
Number of train stations	5.3	0.01	0.970	12
Number of bus stops	5.3	0.48	0.101	11
Number of national tourist offices	5.3	0.30	0.304	12
Number of commercial tourist offices	5.3	0.24	0.415	12
Number of tourist agencies	5.3	0.53	0.061	11
Number of tourist websites	5.3	0.19	0.516	12

The data show a positive relationship between the total number of accommodations in the case study areas and tourist numbers (measured by the annual overnight stays per km^2), the correlation is shown in Figure 28. This is a logical relationship, the more accommodations there are, the more tourists can visit. However, the relationship does probably not work in this direction. The higher the tourist number visiting an area, the higher the demand of accommodations, and the more accommodations will be created. No further correlation was found between any of the types of accommodations specifically and visitor numbers

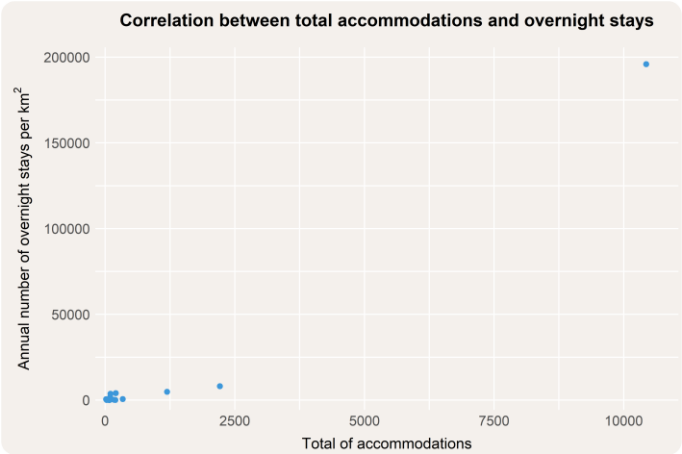


Figure 28: Scatterplot to show the correlation between the total number of accommodations and annual number of overnight stays per square kilometres - r(12) = .73, p = .003.

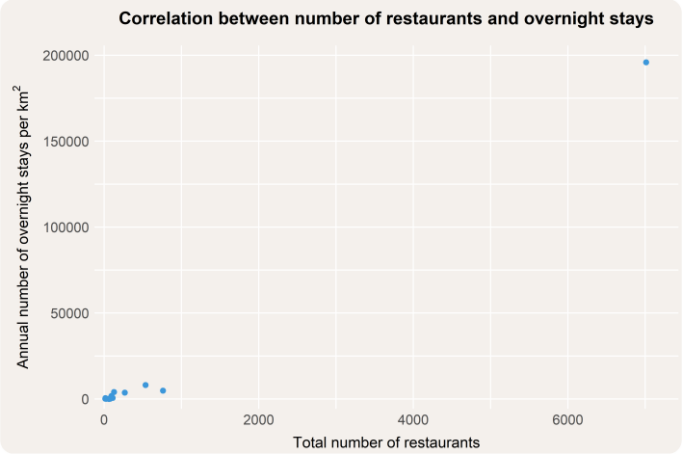


Figure 29: Scatterplot to show the correlation between the number of restaurants and annual number of overnight stays per square kilometres - r(12) = .84, p = .000.

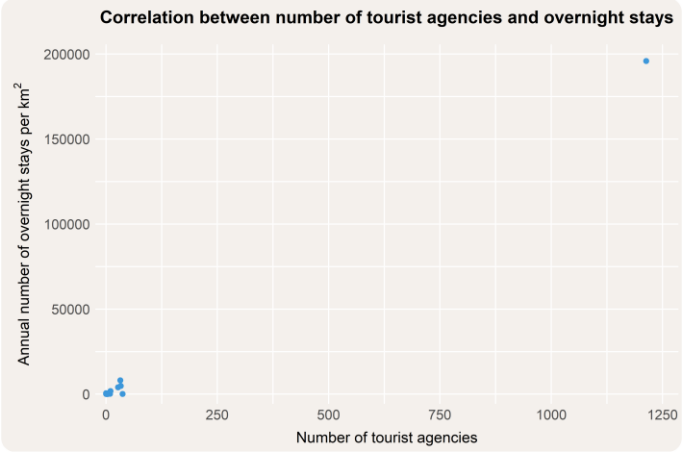


Figure 30: Scatterplot to show the correlation between the number of tourist agencies and annual number of overnight stays per square kilometres - r(11) = .53, p = .061.

A positive relationship is found between the number of restaurants and the annual number of overnight stays per square kilometres (Figure 29), in other words, the higher the number of restaurants, the higher the number of tourists. It is likely that a large number of restaurants make for an attractive destination for tourists, and are thus more likely to be visited. On the other hand, a large number of restaurants probably indicates a more urban area and as said before, an urban area attracts more tourists and has a larger carrying capacity for tourists. However, also in this case the relationship could very well be the opposite as well. More tourists increases the demand for restaurants. Therefore, it is likely that this relationship is co-dependent.

No significant relationship is found for the transportation indicators train stations and bus stops. It could be possible that a destination that is easier to reach and in which it is easier to move around (a higher number of stations and stops could be an indication of a destination in which it is easier to move around) attracts more tourists. However, such a relationship was not found in this study. Also no correlation was seen for the accommodation occupancy indicators, although also in this case it makes more sense to have the annual number of overnight stays as the independent variable and the accommodation occupancy as the dependent. This does not change correlation results however.

A positive correlation was found between the number of tourist agencies and the annual number of overnight stays per square kilometre (Figure 30). This indicates higher visitor numbers with a larger number of tourist agencies. Of course, likely the demand of tourist agencies increased with a larger number of tourists in an area. The same would be expected for the number of tourist offices (national or commercial) but no significant relationships were found in this study.

7.3.2. Tourists and (cultural) tourism

The Spearman's correlation coefficient was calculated for a number of tourist indicators (Table 21). A significant positive correlation was found for the proportion of foreign tourists and the number of annual overnight stays per square kilometre – r(12) = .71, p = .006 (Figure 31, left) as well as the proportion of EU tourists and annual overnight stays – r(11) = .51, p = .078 (Figure 31, right). In other words, the larger the proportion of foreign/EU tourists in the case studies, the higher the tourist numbers (measured by the annual overnight stays). Likely foreign tourist are more likely to visit destinations that are well-known, and (much) more visited in general. Consequently, these destinations have higher proportions of foreign visitors.

Table 21: Computing the Spearman's correlation between the tourist indicators (independent variables) and the annual number of overnight stays per square kilometres (dependent variable). Spearman's rank correlation, p-value and degrees of freedom is shown.

Indicator	Result in report section	Spearman's rank correlation	p-value	Degrees of freedom (N-2)
Proportion foreign tourists	5.2.1	0.71	0.006	12
Proportion EU tourists	5.2.1	0.51	0.078	11
Average number of nights spent	5.2.2	-0.27	0.357	12
Average daily expenditure	5.2.2	0.01	1	8
Cross-border tourism	5.2.2	0.34	0.273	10

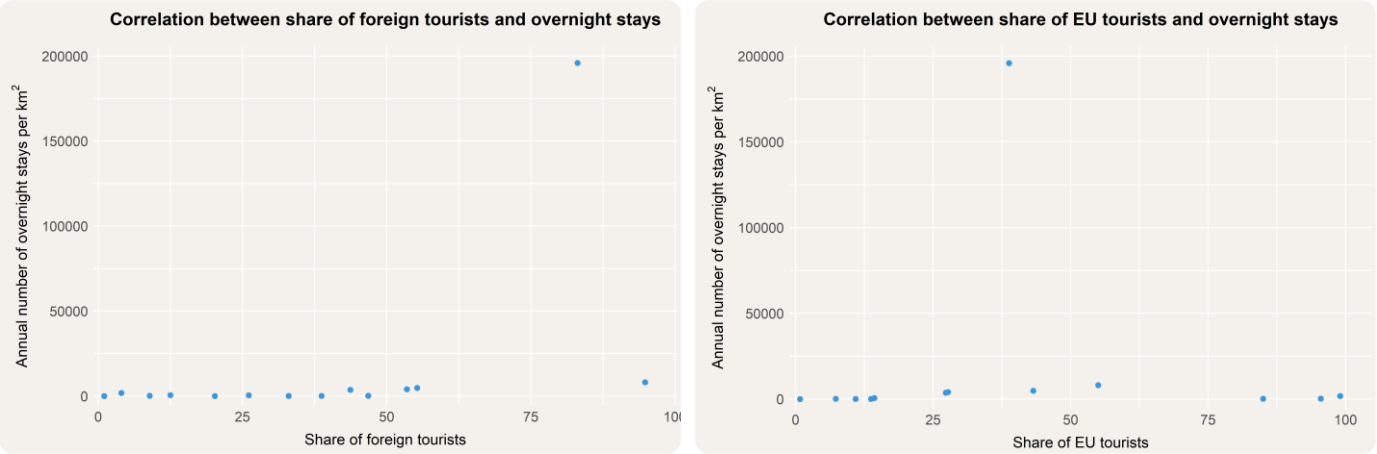


Figure 31: Scatterplots to show the correlations between the share of the foreign tourists and annual number of overnight stays per square kilometres - r(12) = .71, p = .006 (left) and the share of EU tourists and annual number of overnight stays per square kilometres - r(11) = .51, p = .078 (right).

For the other indicators no significant correlations were found, and are not always relevant. We do not expect a direct relationship between the average number of nights spent and average daily expenditure and the number of tourists visiting a destination. These indicators are probably more dependent on the type of tourism that can be enjoyed at the destination. The number of countries that can be visited relatively easily when visiting a certain destination could potentially have a positive effect on tourist numbers, but this is not shown in this research.

7.3.3. Characteristics of the tourism sector and its influence on (cultural) tourism

Characteristics of the tourism sector also vary greatly among the case study areas as seen in chapter 5. Barcelona (Spain) has by far the highest number of accommodations and beds, with over 10,000 accommodations. The case studies with the lowest number of accommodations were the Valley of Palaces and Gardens (Poland), Komárom/Komárno (Hungary/Slovakia) and the Beit-She'an Valley (Israel) with around 20 accommodations or fewer. Five star hotels were not common in the areas and AirBnB accommodations take up quite a large share of the total in most case studies. However, categorization of accommodations was incomplete and not always clear. In all case studies with sufficient data, accommodation occupancy is highest in the summer months. The size of the difference in occupancies between the winter and summer

varies. Occupancy is generally high throughout the year in Komárom/Komárno, Barcelona and Media tourism in Scotland (United Kingdom). Low occupancies are seen in the Styrian Iron Route (Austria) and the Buzău Carpathians and Subcarpathians (Romania).

The share of foreign tourists varies from 1% in the Buzău Carpathians and Subcarpathians to almost 95% in Ljubljana (Slovenia). In most case studies however, the share of foreign tourists is lower than 50%. Germany is the most common country of origin of tourists visiting the other case studies, along with the United Kingdom, France and Poland. Outside Europe the United States is a common country of origin. The most common months to travel are the summer months June, July and August, although there are individual differences among the case studies. In two case studies none of the summer months were the most occurring time of travel: the Beit-She'an Valley and Piedmont Landscape and Literary Park (Italy).

Barcelona has by far the largest number of annual overnight stays, with almost 20 million overnight stays in 2019. The lowest number of overnight stays is found in the Valley of Palaces and Gardens with fewer than 10,000 stays, not surprising considering the few accommodations that are found in the area. Differences in average duration of the stay also differ greatly among the case studies. Tourists tend to stay the longest in the case study Media tourism in Scotland with six nights on average. In most case studies, tourists stay on average two to three nights. On a daily basis tourists spend the most in the Styrian Iron Route (Austria) with over 150 euros per day, and the least in Kinderdijk (The Netherlands) with almost 35 euros per day. In other words, differences in average daily expenditure are large. However, this indicator was not defined sufficiently, which could have influenced the results. Some case studies are quite isolated (from other countries), such as the Greek Cyclades and the Buzău Carpathians and Subcarpathians, where no other countries can be visited within five hours driving. In other case studies, many different countries could be visited during a visit. For example, a tourist visiting Komárom/Komárno can visit thirteen other countries within five hours driving.

The offer of restaurants differs strongly between the case studies, the largest number again being in Barcelona. The Leichhardt Land and Komárom/Komárno have the lowest number of restaurants with 15 or fewer. Most restaurants were of good local level or basic level, and top level restaurants did not occur in most case studies. However, the chosen categorization of restaurants was not applicable in every case study. Considering transportation, most case studies have a large number of bus stops and have at least one train station. Not all types of transportation occur in every case study area.

A higher number of accommodations in the case study areas is accompanied by higher visitor numbers. Likely a larger number of tourists is a driver for the number of accommodations in an area. Also the number of restaurants is seen to have a positive influence on tourists numbers, or vice versa. This study did not find an influence of the other service related indicators, such as transportation and tourist offices, on tourist numbers. The share of foreign/EU tourists in the case study areas is positively correlated with tourist numbers. Probably foreign tourists are more likely to visit well-known destinations, in other words destinations with more (international) visitors in general.

7.4. Defining types of cultural tourism

7.4.1. Correlations and trends

The Spearman's correlation coefficient was calculated for a number of cultural indicators (Table 22). None of these indicators showed a significant correlation with the annual number of overnight stays per square kilometre. It is likely that a larger number of cultural objects (possibly also cultural routes or shows) attracts more tourists, and thus a positive relationship was expected. However, probably as a result of the low quality of the collected data and the ambiguity of the requested information, such correlations were not found in this study.

Table 22: Computing the Spearman's correlation between the cultural tourism indicators (independent variables) and the annual number of overnight stays per square kilometres (dependent variable). Spearman's rank correlation, p-value and degrees of freedom is shown.

Indicator	Result in report section	Spearman's rank correlation	p-value	Degrees of freedom (N-2)
Number of cultural routes	6	0.06	0.850	12
Total number of cultural objects	6	0.26	0.374	12
Number of companies offering shows	6	0.25	0.395	12

7.4.2. Types of cultural tourism in the case studies

It is complicated to define the 'type of cultural tourism' via a number of indicators, and therefore difficult to answer the research question on similarities and differences among the case studies. Statistical data on cultural tourism indicators is not readily available and consequently we do not have much data to analyse.

Not all case studies have cultural routes, as defined by the Council of Europe, crossing their areas. The Piedmont Landscape and Literary Park (Italy) has nine, which is the highest number of all. There are eight case studies, the majority, with one or zero routes. The number of cultural objects differs greatly among the case studies. However, the analysis of the data raised questions as to the reliability of the results. What is a 'cultural object' and what is not, is highly subjective, and a clear differentiation between types of 'objects' was not given during data collection. Therefore we expect the numbers to differ more because of this subjectivity, rather than due to the actual number of objects in the areas. However, when looking at the data in general, most cultural objects are in Ida-Virumaa (Estonia), Kinderdijk (The Netherlands) and Barcelona (Spain). Fewest objects are found in the Beit-She'an Valley (Israel) and Komárom/Komárno (Hungary/Slovakia). The proportion of the type of objects requested varies among the case studies. Barcelona has a high share of museums and art galleries, and the Greek Cyclades, Kinderdijk and Ljubljana (Slovenia) to a lesser extent as well, whereas most other case studies have a much lower proportion of these type of cultural objects. Eight of the case studies have at least one UNESCO world heritage site. Although religious sites and historical sites are very common in some areas, and much less in others, they are among the most important attractors, with historical sites being in the top three for ten case studies. This is followed by museums and religious sites.

On the whole, although the case studies vary a lot in what kinds of cultural objects they have to offer, the most important objects are very similar. Historical sites are considered very important in most case studies, even though the share of such historical sites is very low in some areas. Museums are also considered very important, and most case studies have a decent share of museums. The same goes for religious objects. From the tourist survey we know that museums and religious objects are often not the most important motivation to visit a certain area (see report on surveys D1.4), however researchers do feel that these are the most important attractors for their case studies.

7.5. Central research question

There are relationships between the characteristics of cultural tourism in the case studies and the economic, social and environmental development of the case study areas. However, it is hard to categorize case studies in terms of cities or rural areas, peripheral or centrally situated, or de-industrialized. The correlations show that every case study is unique and that the combinations of results make it impossible to generalize research findings to the independent variables which have been chosen earlier to select case studies. We can conclude that these independent variables are less important for the development of cultural tourism and the economic, social and environmental development than we previously expected.

8. Conclusions and recommendations

In this chapter we reflect on the quality of the results and answer our research questions. As far as possible we also give our recommendations for future research.

Our research questions were introduced in section 1.4. To recap, they are as follows.

Central question

Is there a relation between the characteristics of cultural tourism in the case studies and the economic, social and environmental development of the case study areas?

This central question can only be answered when the following three sub-questions have been answered:

1. What are the environmental and social-economic characteristics of the case studies and (how) can this influence (cultural) tourism?
2. What are the general characteristics of the tourism sector in the case study sites and (how) can this influence (cultural) tourism?
3. Which types of cultural tourism can be defined to characterize the similarities and differences in the case studies?

We used as an indicator for the number of tourists visiting the case study areas: the annual number of overnight stays per square kilometre. The main observations regarding annual overnight stays are described below.

- The annual overnights stays is the lowest in the rural areas of Ida-Virumaa (Estonia), the Valley of Palaces and Gardens (Poland) and the Buzău Carpathians and Subcarpathians (Romania): less than 100 annual overnight stays per km^2.
- In the Styrian Iron Route (Austria), the Leichhardt Land (Germany) and Media tourism in Scotland (United Kingdom) the annual overnight stays are also low: between 162 and 252 annual overnight stays per km^2.
- In South Moravia (Czechia) (588) and Komárom/Komárno (Hungary/Slovakia) the annual overnight stays per km^2 are 588 and 521 respectively.
- In Nitra (Slovakia) the number of annual overnight stays is 1,790 stays per km^2. For the Beit-She'an Valley (Israel) the data was not available.
- Overnight stays per km^2 are also high in the rural areas of the Greek Cyclades, the Piedmont Landscape and Literary Park (Italy) and Kinderdijk (The Netherlands): from almost 3,700 to over 4,800 stays. This is perhaps caused by the fact that these rural areas are surrounded by cities.
- The number of annual overnight stays per km^2 is the highest in Barcelona (Spain) with close to 200,000 stays, followed at a distance by Ljubljana (Slovenia), with over 8,000 stays.

We see a clear difference between overnight stays per square kilometre between cities, rural areas influenced by cities and more peripheral rural areas. This means that the geographical location matters.

8.1. Sub-question 1: environmental and socio-economic characteristics

What are the environmental and socio-economic characteristics of the case studies and (how) can this influence (cultural) tourism? To answer this question we first present the most important results.

Environment and (cultural) tourism

- The case studies differ largely in size.
- Some areas are very flat, whereas others are mountainous.
- The climate also differs among the case studies, with some areas having clear dry periods during the summer while others have the largest amount of rainfall during that season.
- Temperature-wise, some case studies have warmer temperatures even in winter. There are also

case studies with average temperatures in the winter months reaching below zero.
- The share of protected sites, such as Natura2000, differs greatly.
- There is a strong positive correlation between the average temperature in the summer months and the annual number of overnight stays per square kilometre. Case studies with warmer summers, have higher numbers of overnight stays. Tourists have a preference for having holidays in areas with warmer temperatures.
- There is a negative correlation between the average precipitation in the summer months and overnight stays. Tourists prefer areas with less rain. Also, less rain is often associated with higher temperatures.

Demography and (cultural) tourism

- There are very large differences in the number of inhabitants.
- Some case studies surprisingly have a large surplus of women.
- Variance can be found for the demographic age division.
- In some case studies, population is increasing, but in others it is decreasing.
- There is a strong and positive relationship between the population density and the number of overnight stays.
- A strong positive correlation was found between population increase and the number of overnight stays. In depopulating areas the number of inhabitants is decreasing and tourism is not succeeding (yet) in turning the tide.

Social and economic characteristics and (cultural) tourism

- Economically, large differences are found between the case studies in minimum wage and average monthly income.
- Large differences are found in unemployment rates.
- The economy of tourism in the different case studies show large differences.
- There is a positive relationship between the share of the working population employed in the tourism sector and the annual number of overnight stays per square kilometre.
- No significant relationship was found however between annual overnight stays and contribution of tourism to the economy (as a percentage of GDP).

Conclusions

Environmental and social-economic characteristics of the case studies have been found to influence tourist numbers. Case studies with warmer summers, have higher numbers of tourists. For demographic or social characteristics we can conclude that there is a strong positive correlation between population density and population increase and the number of tourists. Further, there is a positive relationship between the share of the working population employed in the tourism sector and the number of tourists.

Recommendations

EU policy to stimulate sustainable (cultural) tourism requires customization. We see that environmental, demographic and economic differences will require different approaches to stimulate (cultural) tourism. Tourism should be recognized as a relevant policy field on EU level where cultural tourism policy should be integrated into the territorial development policies. Cultural tourism has to be approached as part of regional policy, using a place-based approach and differences in knowledge levels on cultural tourism and heritage. Cultural tourism is a facilitator of several EU policies and therefore we should connect with these policies instead of creating a separate new policy. To achieve this, an integral approach is necessary (multi-level, different fields: economy, infrastructure, culture, etc., and multi-actor: governments, entrepreneurs, NGOs, and locals).

A balance should be sought between private and state actors, tourism throughout the year and between over- and under-tourism. Cultural tourism is a mechanism for (sustainable) local and regional development, but is specific for each area and season and should be developed in cooperation with the community using a bottom-up approach.

8.2. Sub-question 2: general characteristics of the tourism sector

What are the general characteristics of the tourism sector in the case study sites and (how) can this influence (cultural) tourism? To answer this question we first present the results of the tourism offer and the presence of foreign tourists.

Tourism offer and (cultural) tourism

- Accommodation occupancy is highest in the summer months.
- Five-star hotels are uncommon in the case studies and only found in some case studies with a flourishing tourism sector (Barcelona, the Cyclades and Ljubljana).
- Significant positive relationships were found between the number of accommodations and the number of annual overnight stays per square kilometre
- Significant positive relationships were found between the number of restaurants and the number of annual overnight stays per square kilometre
- Significant positive relationships were found between the number of tourist agencies and the number of overnight stays per square kilometre
- No significant relationship is found for the transportation indicators, train stations and bus stops.

Tourists and (cultural) tourism

A significant positive correlation was found for both the proportion of foreign tourists and the proportion of EU tourists and the number of annual overnight stays per square kilometre.

Conclusions

The general characteristics of the tourism sector in the case study sites that influence (cultural) tourism are the total number of accommodations, restaurants and tourist agencies. There was no significant relationship found for public transportation indicators, but the available data was too bad and have to be improved. The average occupancy was high during the summer months June, July and August. In case studies with high numbers of tourists the proportion of foreign tourists/EU tourists is higher. The presence of five-star hotels could be an indicator of the phase of tourism development in the case studies, as these were only found in three case studies with a (partly) developed tourism sector (Barcelona, the Cyclades and Ljubljana).

Recommendations

Tourist destinations seeking cultural tourism development should get support for services and infrastructure from national policy makers to access EU funds. Invest mostly into private services (accommodations, restaurants, agencies) and public services (public transport and infrastructure) by stimulating opening of new accommodations, restaurants and agencies in the case study areas. Investment should follow sustainability and demographic goals, starting from the public attitude as public services are important. Investments should be made in vocational training, entrepreneurship and funding.

Intangible cultural tourism can be a tool to attract tourists during the low season or as a driver to decentralise tourists from over-touristed places. Investments in intangible cultural heritage (such as festivals with music, dance and food) should therefore not only focus on the summer months, when occupancy is generally highest, but also on the remaining months to increase visits and ensure a more constant occupancy. The summer season can be prolonged, and for example school excursions can help filling the low season.

8.3. Sub-question 3: types of cultural tourism

Which types of cultural tourism can be defined to characterize the similarities and differences in the case studies?

Tangible cultural heritage

- The largest number of cultural objects are stated to be in Ida-Virumaa, followed by Kinderdijk and Barcelona. Fewest cultural objects are found in the Beit-She'an Valley, Komárom/Komárno and Media tourism in Scotland. The number of cultural objects is not predicted by the difference in cities and rural areas.
- The most important tourism attractor overall are historical sites. In ten of the case studies these were in the top three. All case studies have historical sites, the highest proportions being in Nitra and the Beit-She'an Valley with almost 50% or more. Relatively fewer historical sites are found in Komárom/Komárno and the Leichhardt Land.
- Museums are also an important attractor, being among the most important in nine case studies. In Barcelona, most of the objects are museums, whereas in the Valley of Palaces and Gardens no museums are found. Only a small proportion of cultural objects in Piedmont Landscape and Literary Park and Ida-Virumaa are museums.
- Religious sites are a main attractor in seven case studies. Religious sites occur in every case study, but the proportions vary. Five case studies have a proportion of almost 50% or larger: the Styrian Iron Route, South Moravia, the Cyclades, the Piedmont Landscape and Literary Park and Kinderdijk.
- Art galleries are mostly found in Barcelona, the Greek Cyclades, Kinderdijk and Ljubljana, with approximately 15% or more of the cultural objects.
- Although UNESCO World Heritage sites occur in seven case studies, they are only among the top attractors in two: Kinderdijk and Barcelona.
- Commemoration sites and war monuments can be found in most sites, but the highest proportions are found in Komárom/Komárno, Ida-Virumaa and the Valley of Palaces and Gardens.
- Archaeological sites are also found in every case study, except for Kinderdijk. Highest proportion of archaeological sites are in the Leichhardt Land, Ida-Virumaa and the Buzău Carpathians and Subcarpathians, ranging from approximately 28% in the Carpathians to over 60% in the Leichhardt Land.
- Cultural objects like old houses, households and mansions, landmark stone crosses and wineries were not statistically separated. Heritage walks, specific kinds of interactive museums and historical cellars are not included. The category ‘other’ often appears to be a most important attractor, this indicates that the previously defined categories missed a unknown number of undefined types of cultural tourism.

Intangible cultural heritage

Statistical data on intangible cultural heritage (like dance, music and theatre) is not easy to obtain. Dance shows are most common in Barcelona, as are theatre shows. Dance shows are also common in the Buzău Carpathians and Subcarpathians. In most case studies there are very few or no dance shows however (or data could not be found). Music shows are somewhat more common, although it was not always possible to find data for this indicator. As there is no differentiation possible between dance and music shows in the Buzău Carpathians and Subcarpathians, the number of shows is equal. Music shows are also common in the Styrian Iron Route, the Valley of Palaces and Gardens and Kinderdijk. In six case studies there are no music shows or data could not be found. Theatre shows are most common in Barcelona, followed at a large distance by Kinderdijk, Ljubljana and the Piedmont Landscape and Literary Park. In five case studies there are no theatre shows or data could not be found.

Conclusions

Historical sites, museums and religious site are the main three attractors of tangible cultural heritage in the case studies. The combination of main attractors often differs between the case studies, showing that every case study is unique in their cultural offer. Looking at intangible cultural heritage we see no differences between the geographical situations of case studies. It is striking that both a busy city like Barcelona and a peripheral rural area such as the Buzău Carpathians and Subcarpathians both stand out well for intangible

cultural heritage. Also other case studies with differing geographical and physical situations show us positive results for intangible cultural heritage. In other words, tangible and intangible cultural heritage are not dependent on the geographical situation (e.g. urban/rural).

Recommendations

More attention should be paid to collect statistical data on subcategories within cultural objects. Currently, several subcategories are a collection of numerous types of material cultural heritage. At the same time it was unclear for many objects in which category it should belong, ending up in the category 'other' (for example: old houses, landmark stone crosses and wineries). New categories could be introduced (for example: heritage walks, specific kinds of (interactive) museums and historical cellars). Also, more research is necessary to collect data on intangible cultural heritage (and how to collect such data), and the best way to quantify such heritage.

Uniqueness in cultural tourism seems to be determined by the nature of the historical areas, museums and religious areas, and the intangible activities. The combination of material cultural facilities and intangible cultural activities also give the case studies their uniqueness. In order to promote cultural tourism, the strategy can be aimed at promoting this uniqueness, where both material cultural facilities and intangible cultural activities could be further explored and expanded. This not only promotes uniqueness towards tourists, but also increases the sense of 'identity' of the local residents and businesses.

8.4. Main research question

Is there a relation between the characteristics of cultural tourism in the case studies and the economic, social and environmental development of the case study areas?

Weather conditions and, therefore, geographical position of case studies, are important. The number of tourists is associated with population increase and higher population density in case studies. We see also that higher numbers of tourists in case studies correspond with more work in the tourism sector. So, cities and rural areas surrounded by cities visited by many tourists, are more suited for the development of (cultural) tourism. Rural areas in peripheral conditions, with fewer tourists, are in a disadvantaged position. The tourism offer of accommodations, restaurants and tourist agencies is also higher in cities. Presence of tangible and intangible cultural heritage are – as we have seen above – not dependent on the geographical situation.

There are relationships between the characteristics of cultural tourism in the case studies and the economic, social and environmental development of the case study areas. However, it is hard to categorize case studies in terms of cities or rural areas, peripheral or centrally situated, or de-industrialized. The correlations show that every case study is unique and that the combinations of results make it impossible to generalize research findings to the independent variables which have been chosen earlier to select case studies. We can conclude that these independent variables are less important for the development of cultural tourism and the economic, social and environmental development than we previously expected.

To generate knowledge on (cultural) tourism in Europe, availability of good statistical data on all levels is very important, especially since each area is unique. During this research it became clear that such data is currently mostly not available, which makes a reliable comparison between different areas in Europe difficult. Therefore, we recommend that investments should be made in data collection on all levels, and that this data should be open. The data collection should be guided by EU directives. Furthermore, it should be done according to a common methodology, so that such statistical data can be easily compared and analysed across different levels.

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10. Appendix

Table 23: List of excluded indicators and the requested data units. If relevant, subdivision and unit of data is shown.

Indicator	Subdivision	Unit
Transport network density		Km/km²
Air quality index (AQI)		
Number of local NGOs		Number
Energy consumption		kWh/hh/year
Share energy consumption from renewable resources		%
Drinking water quality	Tapwater drinkable/Tapwater not drinkable	
Cost of water		€/m³
Water use		l/p/day
Volume of water treated		m³
Separate waste collection	Paper/plastic/organic/metal/glass/textile	
Collected waste		m³/hh/year
Recycled waste		m³/hh/year
Life expectancy	Men/women/overall	years
Average monthly income	Men/women	Euros
Unemployment rate	Men/women	Percentage
Share of population in salaried work	Men/women	Percentage
Women in management		Percentage
Local ownership		Percentage
Labour sectors	Agriculture/mining/construction/ manufacturing/services/industry/ retail/transportation/IT/finance/ hospitality/education/government/ other	Percentage
Share of working population in tourism	Men/women	Percentage
Share of working population in services	Men/women	
Price of Big Mac		Euros
Number of students (BSc, MSc)		Number
UN Education Index		
Gender Inequality Index		
Number of local health services		Number
Number of pharmaceutical services		Number
Distance to nearest hospital		Kilometres
Average price of commercial real estate		€/m²
Average price of private real estate		€/m²
Average monthly rent of commercial housing		€/m²
Average monthly rent of private housing		€/m²
Second homes		Number/100 homes
Ethnic minorities in the case study area		Percentage
Refugees in case study area		Percentage
Number of official tourist guides		Number
Presence of non-official tourism guiding	Yes/no	
World Bank tourist service infrastructure index		
Accommodations with free WiFi		Percentage
Public WiFi	Yes/no	
Coverage of mobile data	0-25%/25-50%/50-90%/90-100%	
Events focused of heritage		Percentage
Cultural heritage sites		Percentage
Schools and courses	Language/dance/music/theatre/cooking/ Sport/wine/handcraft/other	Number
Relative number of accommodations		Number/100 inhabitants

Indicator	Subdivision	Unit
Distance to transport hubs	Railway station/international railway station/local airport/international airport/port	Kilometres
Closeness to other sites of interest		Number
Percentage of organized group travel		Percentage
Annual number of same-day tourists		Number
Intensity of tourists in busiest month		Tourists/km^2
TripAdvisor satisfaction with visit		
Number of blogs about site		Number