Visiting the Margins.
INnovative **CUL**tural **T**o**U**ris**M** in European peripheries

This Project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement no. 101004552

Deliverable number: D3.3

Title: Findings Analysis Report

Due date: 31.10.2023 (M30)

Actual date of delivery to EC:

Project Coordinator:

Universidad de Granada

Professor José María Martín Civantos

MEMOLab. Laboratorio de Arqueología Biocultural

Email: civantos@go.ugr.es

Project website: www.incultum.eu

Context

Partner responsible for deliverable:	SDU
Deliverable authors:	**Maja U. Pedersen**
	Karol J. Borowiecki
	Shahedul Alam Khan
Deliverable version number	2.0
Document reviewed by:	Desidério Luis Sares Batista (University of Algarve)
	Marisa Cesário (University of Algarve)

History

Change log

Version	Date	Author(s)	Reason for change
1.0	03.11.2023	Maja U. Pedersen, Karol J. Borowiecki, Shahedul Alam Khan	First draft
2.0	13.10.2023	Maja U. Pedersen, Karol J. Borowiecki, Shahedul Alam Khan	Second draft

Release approval

Version	Date	Name & Organisation	Role
2.0	13.11.2023	Maria Teresa Bonet Garcia (UGR)	Project Manager

Contents

Executive Summary

The INCULTUM project aims to further sustainable social, cultural, and economic development in marginal and peripheral areas of Europe via cultural tourism. The main focus of the project is the implementation of innovative participatory approaches across ten diverse pilot cases. As part of the INCULTUM project these pilots have been monitored before, during, and after the interventions. The monitoring is aimed at obtaining information to assess outcomes on the pilot-level and to understand the conditions necessary for successful implementation. The analysis involves the use of quantitative and qualitative data from official statistics, as well as novel data collected through innovative data collection processes.

The aim of this deliverable (D3.3 *Findings analysis report*) is to present findings from after the pilot phases and compare destinations where innovative approaches are introduced to selected control destinations (the counterfactual). To achieve this, we start by showing urban and regional development in the INCULTUM pilot regions covering both the period before and after the innovative actions have been implemented. We visualise here also how the INCULTUM pilot regions have developed during the INCULTUM project with respect to national levels. We then present, analyse, and discuss the results of data collection of the pilot partners, including their findings from visitor surveys. Finally, we analyse in detail tourism trends in pilot regions and compare the results to the selected control regions. In doing this, we identify - as far as possible - and discuss the impact of the innovative actions of the INCULTUM project.

1 Introduction

The INCULTUM project aims to further sustainable social, cultural, and economic development in marginal and peripheral areas of Europe via cultural tourism. The main focus of the project is the implementation of innovative participatory approaches across ten diverse pilot cases. These pilots are monitored before, during, and after these interventions to assess outcomes on the pilot-level and to understand the conditions necessary for successful implementation. The analysis involves the use of quantitative and qualitative data from official statistics, as well as novel data collected through innovative data collection processes. This deliverable presents the the final findings of that data and statistical analysis. This deliverable is connected with deliverable D3.2 *Intermediate findings report*, as it departs from the findings presented in D3.2 and extends them by including more recent periods and the final results.

1.1 Role of the deliverable in the working package and in the project

The aim of this deliverable (D3.3 *Findings analysis report*) is to present findings from all the pilot phases for destinations where innovative approaches are introduced and for control destinations (the counterfactual). Furthermore the aim is also to elaborate on these findings to identify the effects of the pilot phases in the short- to medium-term. In order to achieve this deliverable, we have further built on Deliverable D3.2 *Intermediate findings report* including also the completion of Task T3.1.1 *Identifying measures* and Task T3.1.3 *Official statistics*. We have also completed Task T3.1.2 *Pilot study data* and the final round of data collection for Task T3.1.4 *Innovative data collection*. Finally, this deliverable also builds on the results of our work within Task T3.2 *Data analysis*, which has also been completed.

As part of the work done to achieve this deliverable, we gathered and analysed visitor surveys conducted by the pilot partners after the implementation of their innovative actions. Furthermore, the analysis outlined in this deliverable will provide insights for the work of other working packages. The work done to achieve this deliverable will also feed

into WP6 Deliverable D6.1 *INCULTUM training portal*, as this deliverable aims to provide resources on best practices for socioeconomic local development and impact evaluation and will include data resources and analysis produced by WP3. Finally, this deliverable is also relevant for WP7 Deliverable D7.3 *Updated plan for the impact, evaluation and exploitation of results*. Deliverable D3.3 helps to establish a baseline that could help WP7 to track the effectiveness of INCULTUM-related activities.

1.2 Objective of the document

This report provides an analysis of the pilot study areas from both before and after the pilot phases for destinations where innovative approaches are introduced, to determine the impact of the innovations. We focus on three key areas to asses the impact: trends in urban and regional development in pilot areas, surveys conducted by the pilot partners and tourism trends in pilot areas compared to control areas using a novel dataset.

More specifically, this deliverable presents an analysis of trends in urban and regional development and tourism (especially cultural tourism) in the pilot regions using official statistics, focusing on the both before and after the start of the pilot projects. This deliverable also presents an analysis survey data collected by the pilot partners after the start of the INCULTUM project.

In addition, this deliverable presents trends in tourism activity for these areas before and after INCULTUM to control areas. This comparison helps shedding light on the short- to medium-term effects of the pilot activities. The data used to show tourism trends is also validated through several visual and formal tests.

1.3 Structure of the document

The rest of this document is organised as follows. We start by outlining regional and urbn development in the INCULTUM pilot regions in Section 2. In Section 3 we present the results from on site visitor surveys conducted by the pilots. Section 4 describes different

ways to measure tourism, including a new and detailed dataset. Section 5 presents the results from several tests, to validate the new data. Section 6 presents trends in tourism activity in the INCULTUM pilot regions and compare with control regions to evaluate the impact of the pilot action. Finally, Section 7 provides some concluding remarks.

1.4 Acknowledgements

We would like to thank Anne Møller Madsen and Sofus Hesseldahl Laubel for their research assistance in collecting the Tripadvisor data, and Martin Hørlyk Kristensen for his research assistance in preparing the data for the analysis.

2 Urban and regional development in INCULTUM pilot regions

Before showing tourism activity in the INCULTUM pilot regions we present some baseline economic indicators and their development in these regions. In this section we present background knowledge of economic and cultural activity in the INCULTUM pilot regions covering the period before and after INCULTUM. We start by describing the data we collected to identify the key economic indicators of the regions, both related to demographics, labour markets and regional income. After having presented the key indicators, we present the results for each of the INCULTUM pilot regions and contrast these with the national and EU averages.

2.1 Data

We rely on statistics provided by the statistical office of the European Union, Eurostat, to obtain our selected key indicators. The variables of interest are analysed at the regional level, either NUTS2 or NUTS3, depending on data availability. We use the more disaggregated NUTS3 (where available) to get as close to the pilot study as possible. All INCULTUM pilot areas and their respective NUTS2 and NUTS3 region name and code are listed in Table A1 in Appendix A.

Even though in some cases official statistics on urban and regional development exist on a more localised level, we always use either the NUTS2 or NUTS3 level. The reason behind this is to use the most localised geographic level available for all pilots, to ensure consistency and comparability. We acknowledge that indicators at the NUTS2 and NUTS3 level are not perfect proxies for the urban and regional development of the pilot areas. There might be differences in terms of lower levels of urban and regional development than the available NUTS2 and NUTS3 levels. However, we believe that these data still provide an important overview of the surroundings, the type of region the pilot is located in, and the broader economic development potential.

The remaining part of this section will provide a description of the selected variables. Whenever possible we provide the 2018-2019 average and 2021-2022 average for the INCULTUM pilot regions and compare these to the national level for the same periods and the EU average over the entire period 2018-2022 (where available). In a few cases data for 2022 is not yet available, in which case we only provide information for 2021. We exclude the year 2020 from the analysis, as the trends during the COVID-19 pandemic are likely not reflective of longer-term regional development. We also acknowledge that the INCULTUM regions considered might have been disproportionately impacted by COVID-19.

2.1.1 Demographics

We start by giving an indication of the population structure in the INCULTUM pilot regions. To this end we make use of the median age of the population, which is provided by Eurostat as a population structure indicator. This measure is available at the NUTS3 regional level for the years 2018-2022. The indicator is also provided for the national level together with the NUTS3 regional level.

To measure urbanisation we use population density, which is defined as persons per km^2. This measure is also available on a NUTS3 regional level for the same years, i.e. 2018-2022. Together with the NUTS3 regional level, this measure is also provided at the national level and the EU27 average.

2.1.2 Labour markets

To illustrate the labour markets, we give an overview of educational attainments among INCULTUM pilot regions. We use the share of the population that successfully completed a tertiary education. The classification of educational activities is based on the International Standard Classification of Education (ISCED). Tertiary education covers ISCED 2011 level 5 (short-cycle tertiary education), 6 (Bachelor's or equivalent level), 7 (Master's or equivalent level), and 8 (Doctoral or equivalent level). Eurostat provides

this measure on a NUTS2 regional level together with the national level and the EU27 average for the years 2018-2022.

Also related to the labour markets is the share of the labour force employed in the cultural sector. This measure we use to illustrate the cultural labour capacity of the INCULTUM pilot region. Eurostat reports cultural employment on a NUTS2 regional level also together with the national level and the EU27 average. For this variable data is available only for the years 2018-2021, and hence for the period after INCULTUM we only make use of the year 2021.

Finally, we also provide an overview of the unemployment rates in INCULTUM pilot regions using unemployment rates among all persons in private households aged 20-64 by NUTS2 regions. This measure is also given at the national level and the EU27 average for the years 2018-2022.

2.1.3 Economic activity

To measure economic activity in the INCULTUM pilot regions, we use the Gross Domestic Product (GDP) per inhabitant (capita) measured in current market prices. Eurostat provides this measure on a NUTS3 regional level together with the national level and the EU27 average. This variable is only available for the years 2018-2021, and in several cases the observation for 2021 is missing. Therefore, we have used the average for the years 2020-2021 to cover the period after INCULTUM. We acknowledge that this is not perfect, since INCULTUM only started in 2021. However, a comparison of data for regions where the information is available for both 2020 and 2021, indicates that the levels are similar.

For a more comprehensive view on the economic development of INCULTUM pilot regions, we also move beyond GDP per capita and provide an overview of at-risk-of-poverty rates. The at-risk-of-poverty rate is defined as the share of people with an equivalised disposable income (after social transfers) below a threshold of 60% of the national median equivalised disposable income. Hence, it gives an overview of the share

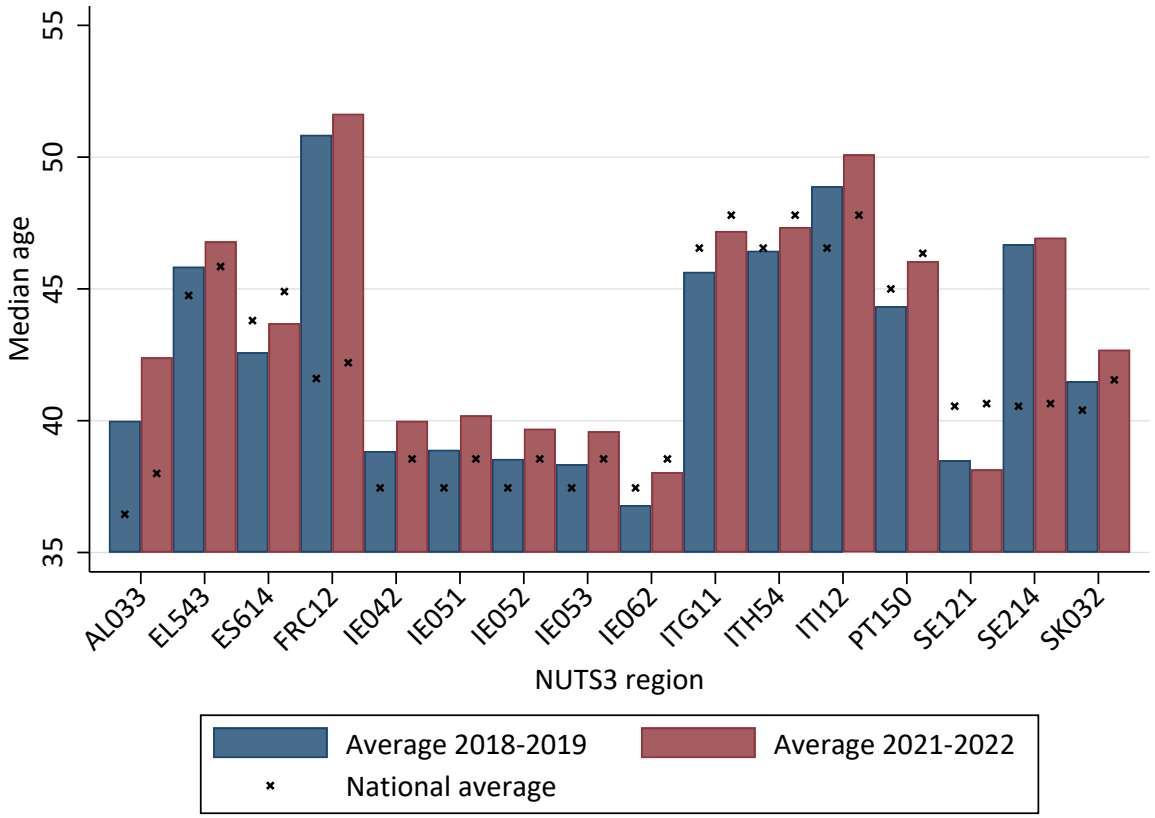
of low-income individuals in comparison to other residents of that country. The measure is available on a NUTS2 regional level together with the national level for the years 2018-2022.

2.2 Results for pilot regions

2.2.1 Demographics

Figure 2.1 illustrates the median age of INCULTUM pilot regions compared with the respective national levels before and after the beginning of INCULTUM. In general, the figure shows that INCULTUM pilot regions are more often older than the national average. Furthermore, Figure 2.1 also indicates, that the population is getting older over time given the higher median age in the second period.

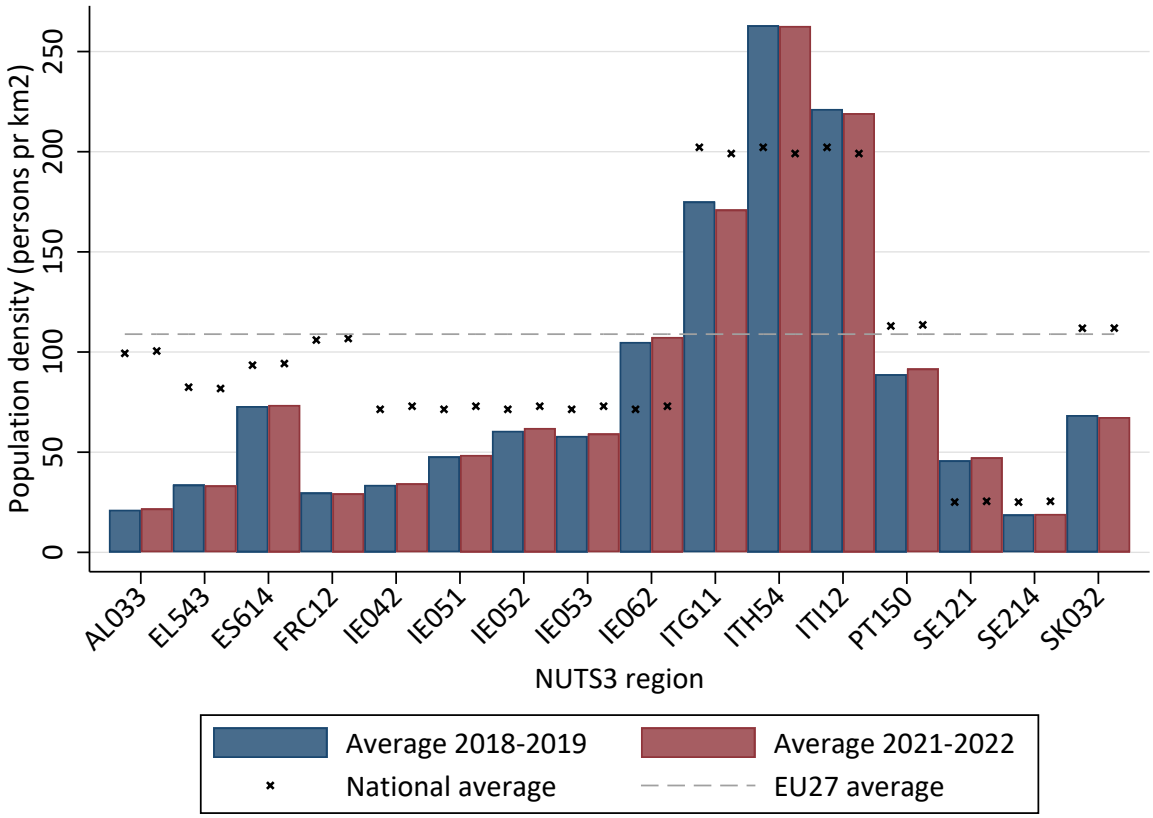
Figure 2.1: Median age of population in pilot regions



Notes: This figures shows the average of median age of the population for the two periods 2018-2019 and 2021-2022 for NUTS3 regions in which an INCULTUM pilot area is located. It also shows the national averages for the same two time periods. *Source:* Eurostat (2022f) online data file DEMO_R_PJANIND3.

The population density of INCULTUM pilot regions is illustrated in Figure 2.2. Compared to the EU27 average, it is evident that the majority of the regions are less densely populated. The only INCULTUM pilot regions that lie above the EU27 average are Italian regions, which is not surprising due to the high population density of the country. When comparing with national averages, a majority of the INCULTUM pilot regions tend to be less densely populated. The relatively low level of population density suggests that the pilot regions are more rural regions rather than metropolitan regions. This is in line with our expectations, since the INCULTUM pilot regions are considered to be peripheral. Finally, from Figure 2.2 it also appears that population density is quite stable over time.

Figure 2.2: Population density of pilot regions



Notes: This figures shows the average population density for the two periods 2018-2019 and 2021-2022 for NUTS3 regions in which an INCULTUM pilot area is located. It also shows the national averages for the same two time periods and the EU27 average for the years 2018, 2019, 2021 and 2022. *Source:* Eurostat (2022e) online data file DEMO_R_D3DENS.

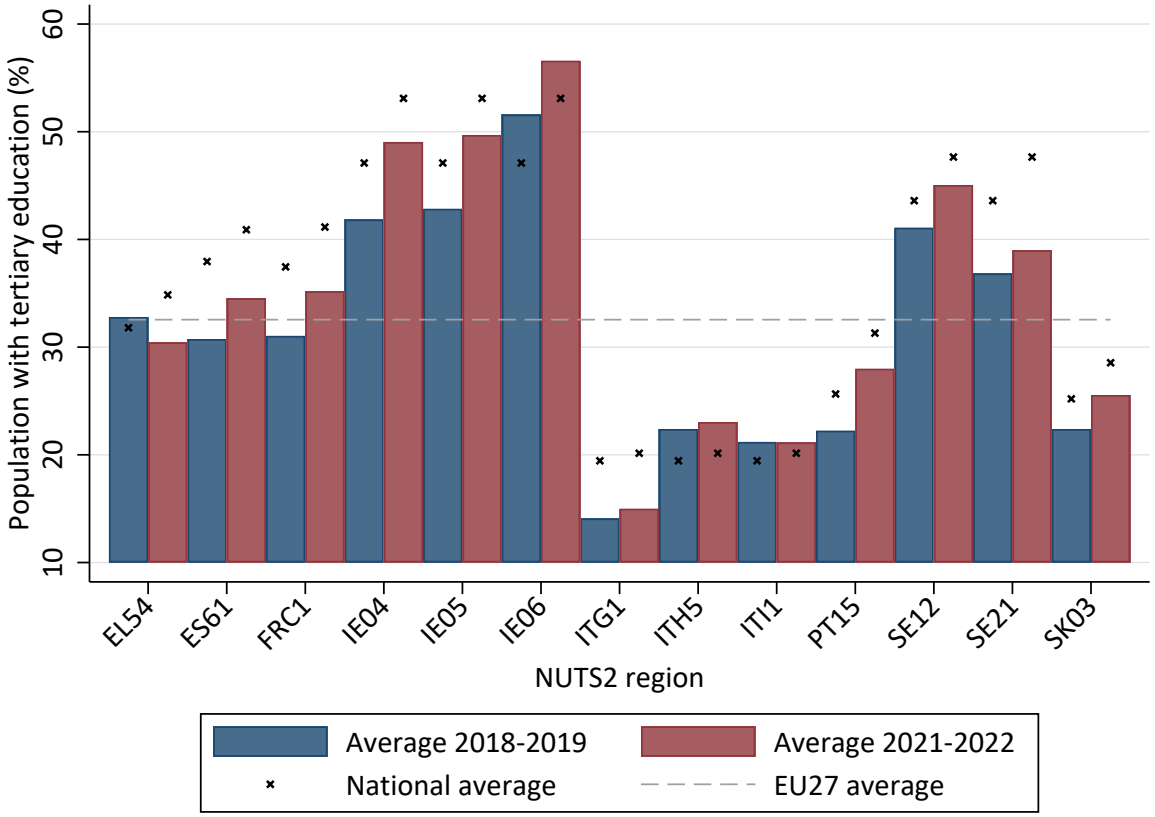
2.2.2 Labour markets

Next we turn our attention to the our selected labour market indicators. Education is an important determinant for economic development. Furthermore, educational attainments of the population are also important for the labour markets, since they determine, the supply of labour at different levels of income. Therefore, we provide an overview of the educational attainment level of INCULTUM pilot regions in Figure 2.3. Compared to the EU27 average, there are several regions (primarily from Southern Europe) where the share of the population with tertiary education is below the average. On the other hand, regions with a larger share of individuals that completed tertiary education are primarily from Northern Europe. When comparing with national averages, however, a different pattern emerges; most INCULTUM pilot regions tend to have a smaller share of individuals with completed tertiary education. Overall, it also appears that the share of individuals who completed tertiary education is increasing over time. However, this trend also appears at the national level.

Figure 2.4 shows the cultural employment of INCULTUM pilot regions and compares it with the EU27 countries' and national averages. As is evident from the figure, almost all INCULTUM pilot NUTS2 regions fall below the EU27 average in terms of cultural employment, especially in the period before INCULTUM started. Similarly, they also fall below their respective national average of cultural employment in most cases. This pattern suggests that the cultural labour capacity both before and after INCULTUM is lower in the vast majority of INCULTUM pilot NUTS2 regions when comparing with national and EU27 averages. This pattern may not be surprising due to the peripheral nature of the regions involved with INCULTUM. Comparing the levels from before and after INCULTUM, the results change from region to region. However, in seven of the regions, the share of cultural employment has increased, while it decreased in five of the regions. With respect to the changes in the national levels, the regional levels often goes in the opposite direction.

Finally, the unemployment rates of INCULTUM NUTS2 regions are illustrated in Figure

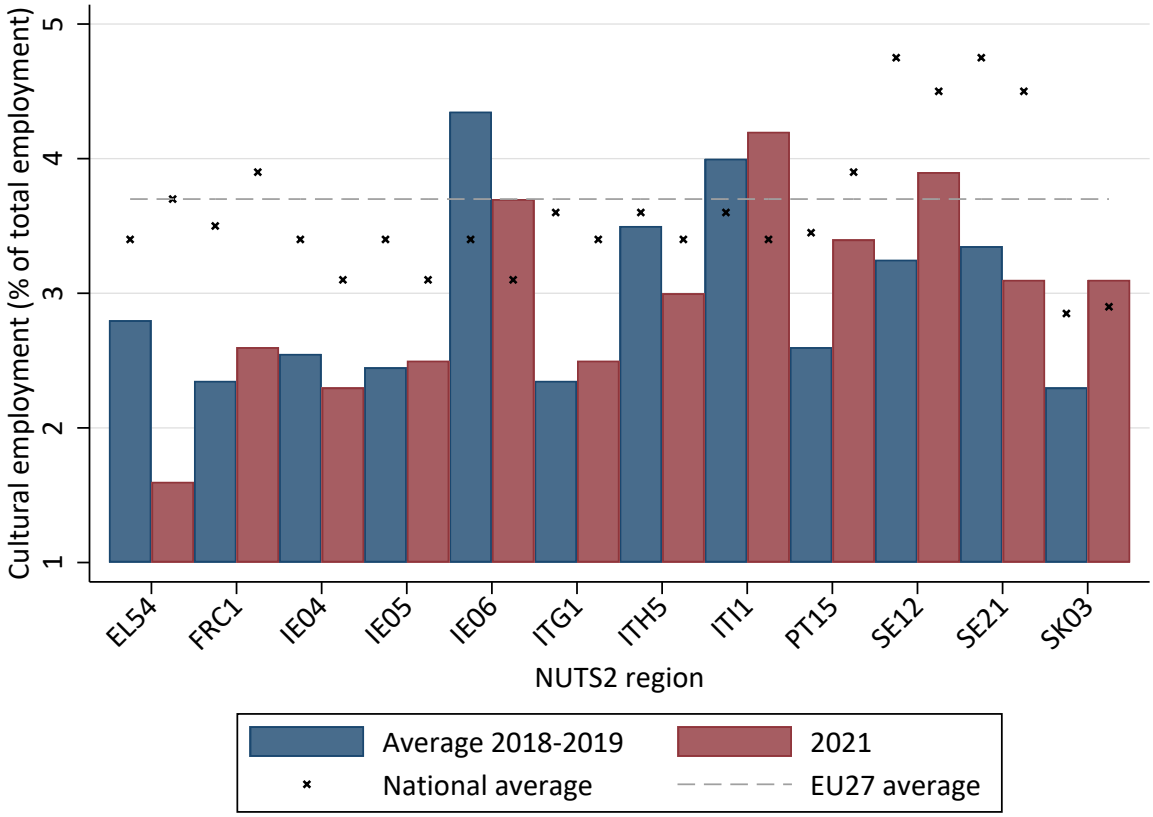
Figure 2.3: Percentage of population with tertiary education



Notes: This figures shows the share of population who completed a tertiary education for the two periods 2018-2019 and 2021-2022 for NUTS2 regions in which an INCULTUM pilot area is located. It also shows the national averages for the same two time periods and the EU27 average for the years 2018, 2019, 2021 and 2022. *Source:*Eurostat (2022d) online data file EDAT_LFSE_04.

2.5. The INCULTUM pilot regions in Northern Europe follow more or less their respective national unemployment average. But when considering Southern European countries, there seems to be substantial variability in unemployment across regions. For instance, Emilia-Romagna (ITH5) has a noticeable smaller unemployment rate than the average unemployment rate of Italy. On the other hand, Andalusia (ES61) and Sicily (ITG1) have unemployment rates that are far above their respective national average unemployment rate. Together with Epirus (EL54), these regions also have unemployment rates that are far above the EU27 average unemployment rate. Considering the change over time, there appear to be no substantial changes for most regions, given that the levels both before and after INCUTUM are similar for the majority of the regions.

Figure 2.4: Cultural employment of pilot regions

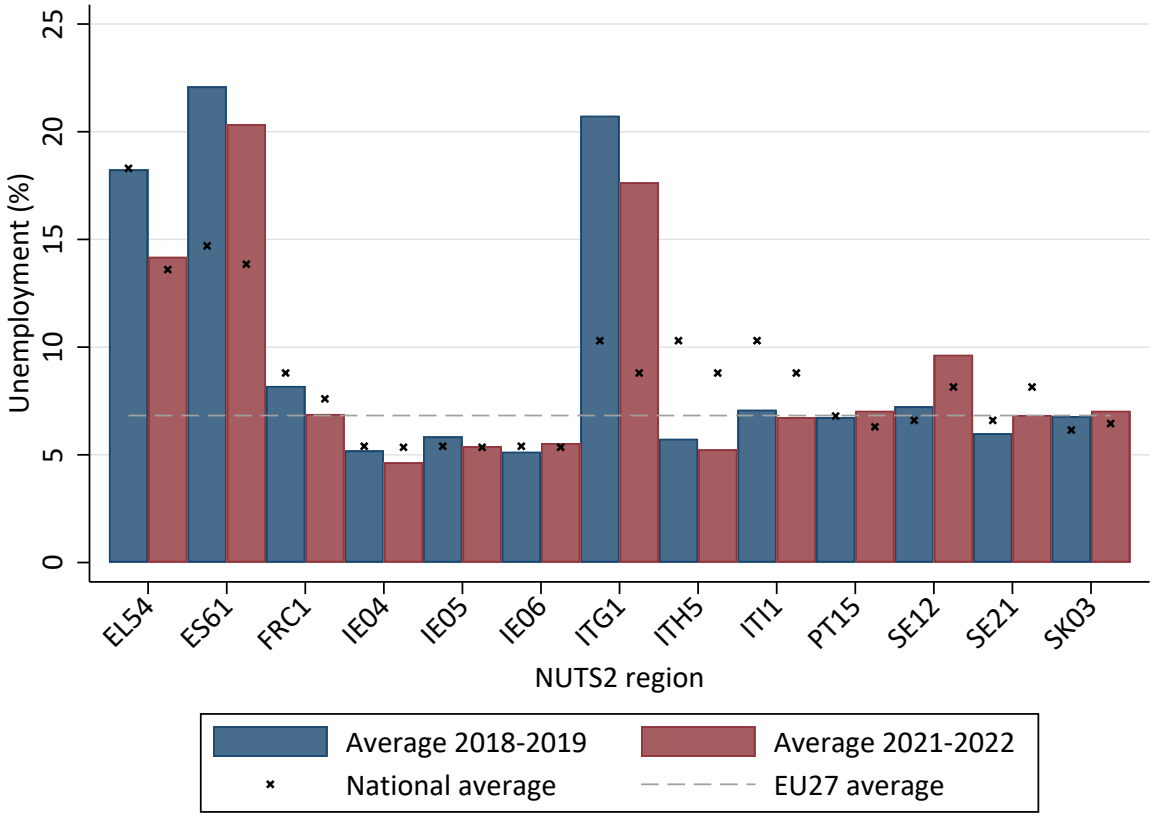


Notes: This figures shows the share of population employed in the cultural sector, for the two periods 2018-2019 and 2021 for NUTS2 regions in which an INCULTUM pilot area is located. It also shows the national averages for the same two time periods and the EU27 average for the years 2018, 2019 and 2021. *Source:* Eurostat (2022b) online data file CULT_EMP_REG.

2.2.3 Economic activity

Figure 2.6 illustrates the income levels of INCULTUM pilot NUTS3 regions. Considering the income levels of INCULTUM pilot NUTS3 regions, there once again seems to be a divide between Northern- and Southern European regions. Almost all Northern European regions have income levels that lie above the EU27 average level of GDP per capita, while the majority of Southern European INCULTUM pilot regions have income levels that lie below the EU27 average. When comparing with national averages, a majority of INCULTUM NUTS3 regions have lower income levels than their respective national income levels. Again, this result is not surprising due to the peripheral nature of the regions of interest. Considering income levels over time, there seems to be no substantial changes, considering that the levels are similar for the periods before and after INCULTUM.

Figure 2.5: Unemployment rates of pilot regions



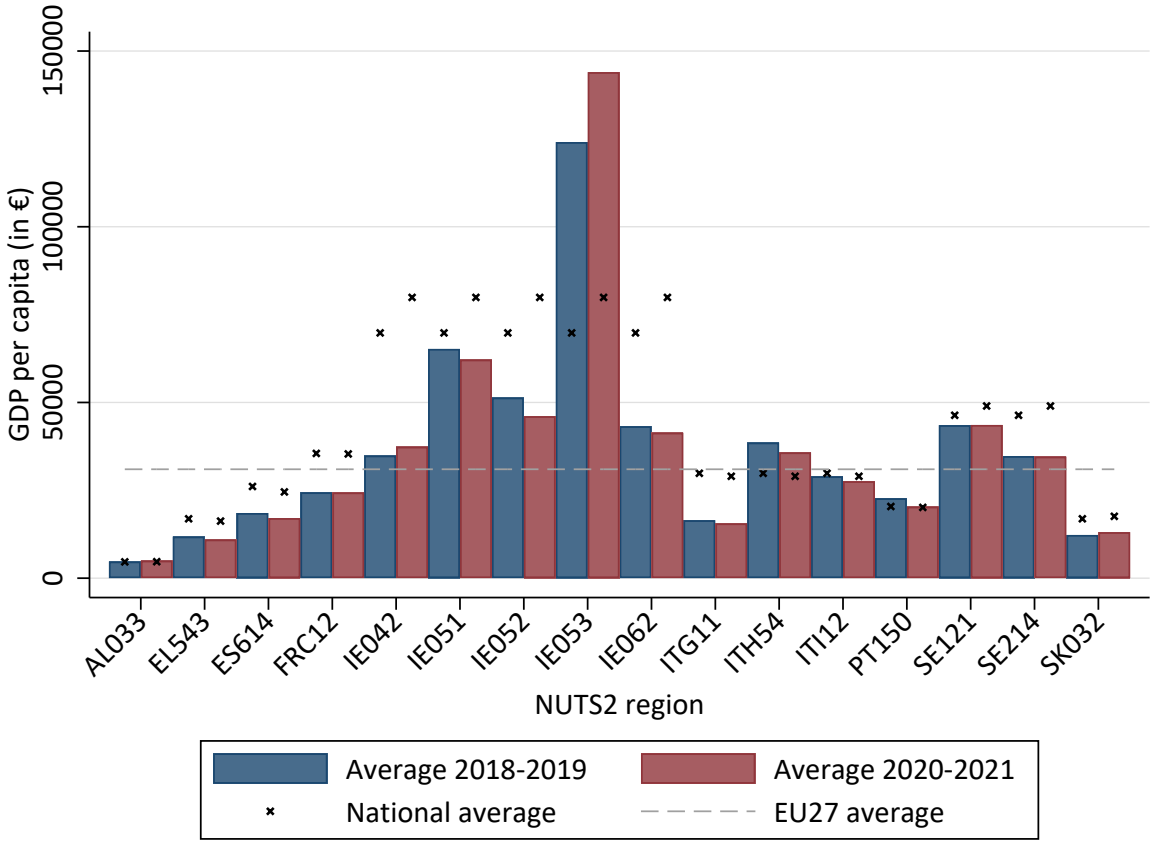
Notes: This figures shows the unemployment rates for the two periods 2018-2019 and 2021-2022 for NUTS2 regions in which an INCULTUM pilot area is located. It also shows the national averages for the same two time periods and the EU27 average for the years 2018, 2019, 2021 and 2022. *Source:* Eurostat (2022g) online data file LFST_R_LFU3RT.

The at-risk-of-poverty rates of pilot regions is illustrated in Figure 2.7. More often than not, INCULTUM pilot regions have at-risk-of-poverty rates that are at or above the respective national averages. This suggests that the majority of INCULTUM pilots have a larger share of low-income individuals compared with their national averages.

2.3 Section summary

Considering the period preceding INCULTUM, this section has showed that regions affected by INCULTUM, on average, are older than the respective national average, are less densely populated, and have a lower cultural labour capacity than the respective national average and the EU27 average. Pilot regions also tend to be less educated when comparing with the respective national average. Furthermore, we illustrate that a few

Figure 2.6: GDP per capita of pilot regions

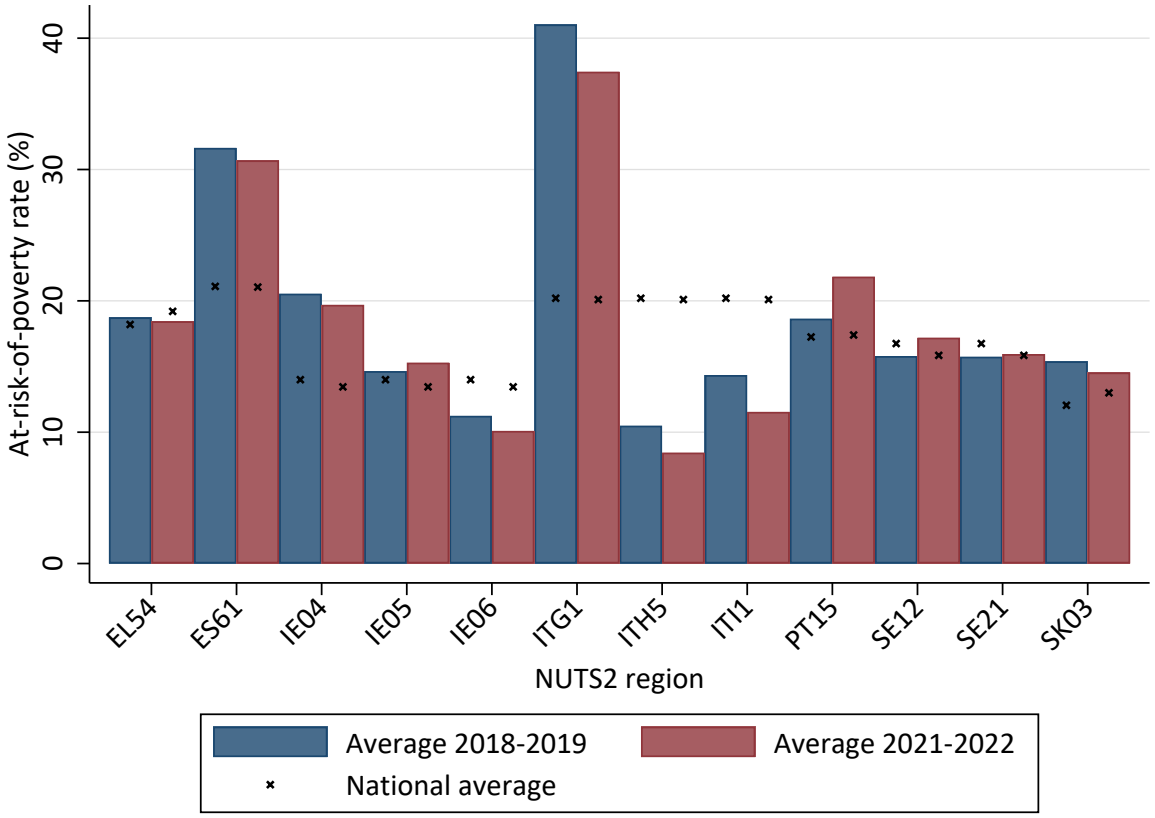


Notes: This figures shows GDP per capita for the two periods 2018-2019 and 2020-2021 for NUTS3 regions in which an INCULTUM pilot area is located. It also shows the national averages for the same two time periods and the EU27 average for the years 2018, 2019, 2020 and 2021. *Source:* Eurostat (2022c) online data file NAMA_10R_3GDP.

INCTULTUM regions have unemployment rates that are far beyond both their national and EU27 average. Considering changes over time, there are signs that the population is getting older and educational levels increase, both resonating national trends, while density remains stable.

In terms of income levels, the majority of INCULTUM regions have income levels that lie below the EU27 and their respective national average income level. Finally, we showed that, more often than not, pilot regions have at-risk-of-poverty rates that are above the respective national average at-risk-of-poverty rate.

Figure 2.7: At-risk-of-poverty rate



Notes: This figures shows at-risk-of-poverty rates for the periods 2018-2019 and 2021-2022 for NUTS2 regions in which an INCULTUM pilot area is located. It also shows the national averages for the same two time periods. *Source:* Eurostat (2022a) online data file ILC_LI41.

3 INCULTUM pilot data collection

In this section, we explore data obtained from the pilot initiatives carried out within the INCULTUM project's implementation phase. The pilots encompassed visitor surveys with the aim of offering a comprehensive overview of the visitors visiting the INCULTUM pilots and to compare the demographic characteristics of visitors across the various pilot projects. In this section we present a detailed analysis of these surveys, presenting descriptive findings.

3.1 INCULTUM pilot visitor surveys

As part of the INCULTUM project, the pilots were asked to conduct surveys of visitors during the implementation phase. Each pilot was asked to conduct two waves of surveys, the first during the winter 2022/2023 and the second during the summer 2023. The results of the winter surveys are illustrative of the low season, while the summer results represent the high season. In both cases the results illustrate the initial phases of the pilot action and are therefore representative of the very short-term results of the pilot action.

Given that some pilot projects have been taking a longer time to implement, not all pilots have had the possibility to conduct visitor surveys during the two waves. In the following we present the main results for the available survey data from each pilot. In the case of the Spanish pilot, the implementation of the pilot action was only starting during the winter 2023 and still in its initial phases during the summer. For this reason, there are no survey results presented from the Spanish pilot in this section. In two pilots, Ireland and and Slovakia, the survey data is complemented with web analytics from their websites. In these cases, the web sites are an important part of the INCULTUM pilot action, and therefore we also present some findings from these statistics.

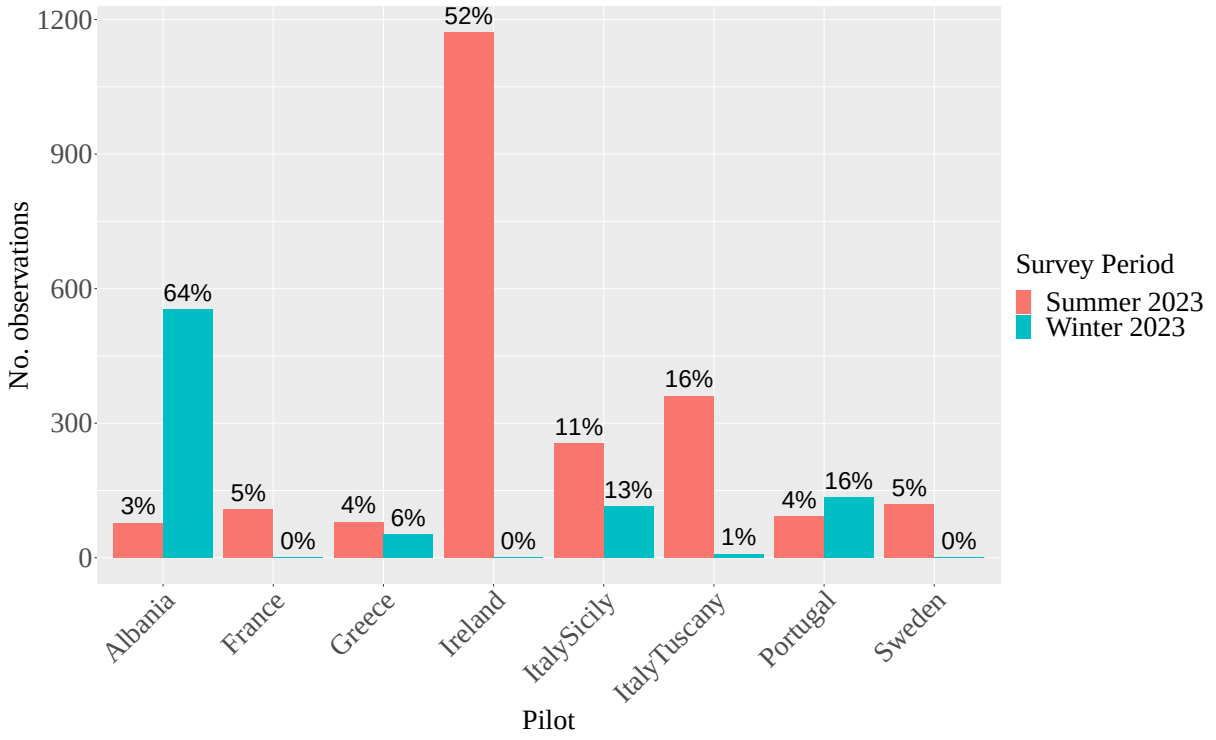
In Table 3.1 we illustrate an overview of the data collected by the pilots and included in this section while Figure 3.1 depicts the number of visitors surveyed in each of the pilots

and their proportions. From the ten pilots, a total of 3121 responses have been collected from the visitors in the two phases of surveys, of which 1171 of the total is from the Irish pilot Ireland. Additionally, 632 responses of the total survey have been collected from the Albania pilot, followed by the Italy (Sicily) pilot with 369 responses, and the Italy (Tuscany-Emilia) pilot with 369 responses of the surveys. Sweden, Greece, and Portugal have surveyed 119, 132 and 134 visitors respectively and France surveyed 108 visitors. In the first wave of visitor surveys from the winter 2023, the Albania pilot collected 64%, Greece 6%, Italy (Sicily) 13%, Italy (Tuscany-Emilia) around 1% and Portugal aorund 16%. On the other hand, during the summer 2023, Ireland collected 52%, followed by Italy (Tuscany-Emilia) with 16%, Italy (Sicily) with 12%, Portugal with 4%, and Sweden and France with 5%. Albania collected 3% and Greece 4% of the survey responses during the summer 2023.

Table 3.1: Overview of pilot surveys

#	Pilot	Winter 22/23	Summer 23	Note
1	Spain			Pilot action only implemented very recently and could not collect data.
2	Portugal	x	x	Visitor suverys conducted in both waves.
3	Slovakia		x	Statistics regaring toursim for different districts in the winter. Web analytics covering winter/summer 2023.
4	Italy (Sicily)	x	x	Visitor suverys conducted in both waves.
5	Italy (Tuscany-Emilia)	x	x	Visitor suverys conducted in both waves.
6	France	x	x	In first round visitor surveys with comparison 2018 and 2022. Second round small syrvey of hikers.
7	Greece	x	x	Visitor suverys conducted in both waves.
8	Albania	x	x	In first round official surveys from tourist office of Permet and second local from pilot site.
9	Ireland	x	x	Web analytics for both periods and a visitor survey in the summer 2023.
10	Sweden		x	No tourists during winter, hence no survey possible. Visitor survey conducted in the summer 2023.

Figure 3.1: Number and share of visitors surveyed among the INCULTUM pilots



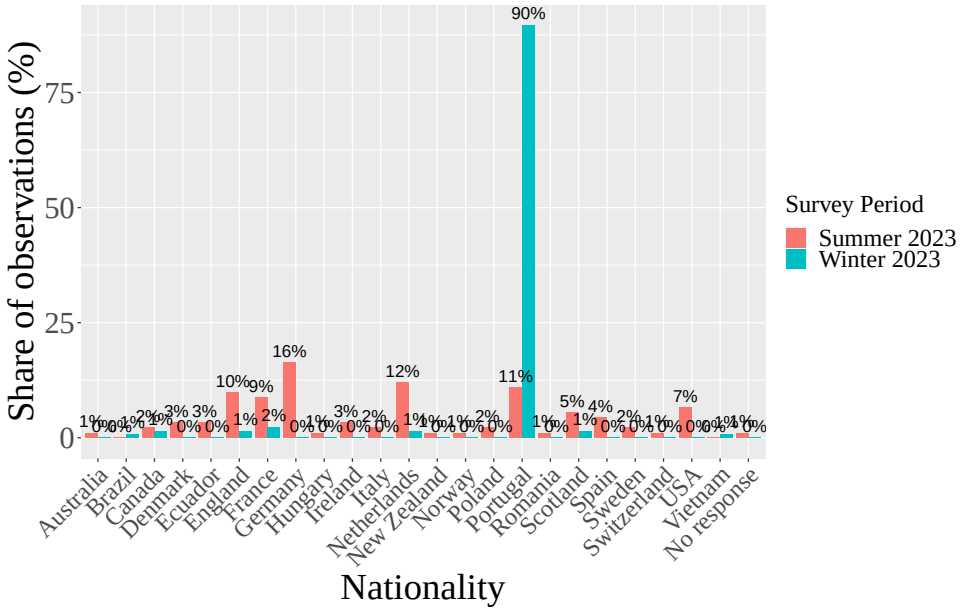
Notes: This figure shows the number of respondents of surveys conducted by the INCULTUM pilots.
Source: Surveys conducted by INCULTUM pilot partners.

3.1.1 Pilot 2: Portugal

The Portuguese pilot surveyed 134 visitors about their demographics and preferences in the winter while they surveyed 92 visitors in the summer. The second survey had a specific focus on tourists' familiarity with and comprehension of the name Campina de Faro, which is part of the pilot site, but also included more generic questions about demographics. As shown in Figure 3.2, in the winter survey, 90% of the respondents were local and the remaining 10% were foreigners. Foreign tourists came from Brazil, Canada, England, Netherlands, Scotland, and Vietnam. In the summer survey, more visitors came from outside of Portugal, with German visitors dominating with 16% followed by the Netherlands and England.

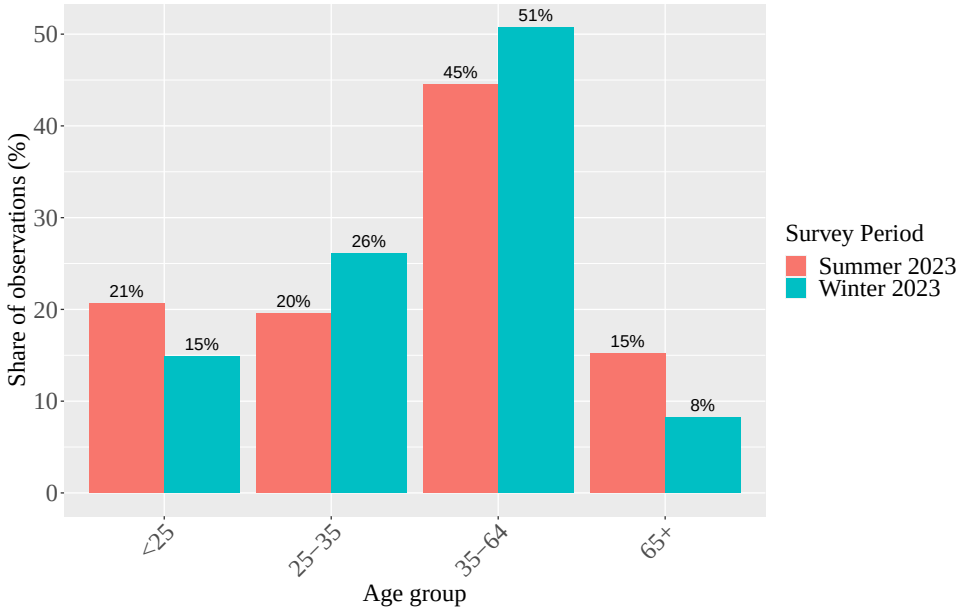
In Portugal, as illustrated in Figure 3.3, the largest share of visitors were between 35 and 64 years of age, with the second largest group between 25 and 35. 15% of visitors were more than 65 in the summer and 8% in the winther.

Figure 3.2: Number and share of visitors' nationality in Portugal



Notes: This figure shows the nationality of visitors of the Portuguese pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

Figure 3.3: Number and share of visitors within different age intervals in Portugal

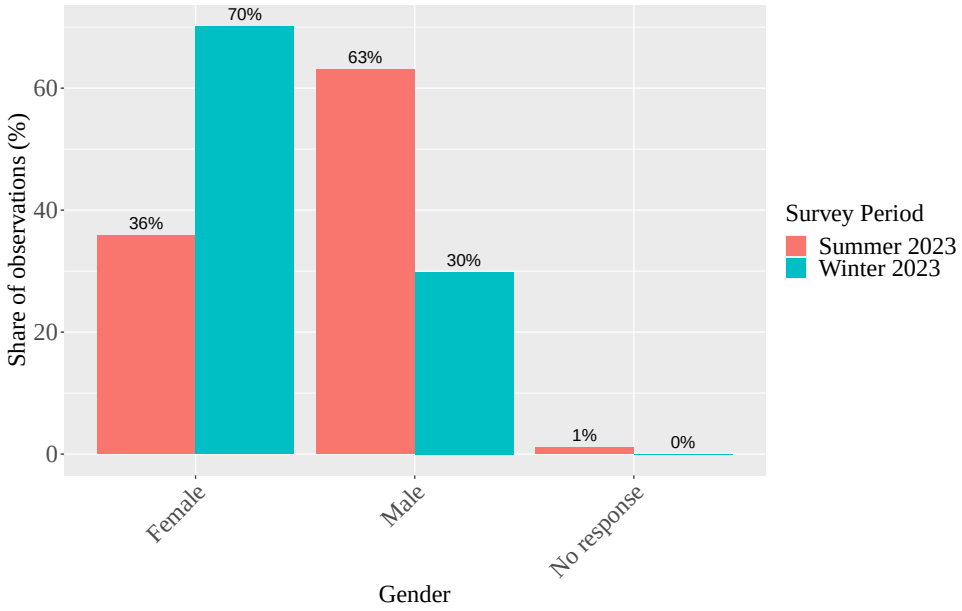


Notes: This figure shows the age intervals of visitors of the Portuguese pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

The gender distribution of this pilot is shown in Figure 3.4. In the winter survey a wast majority of visitors were female, 70%, while in the summer survey 63% of visitors were male.

The visitors in this pilot can be categorised into several groups as illustrated in Figure

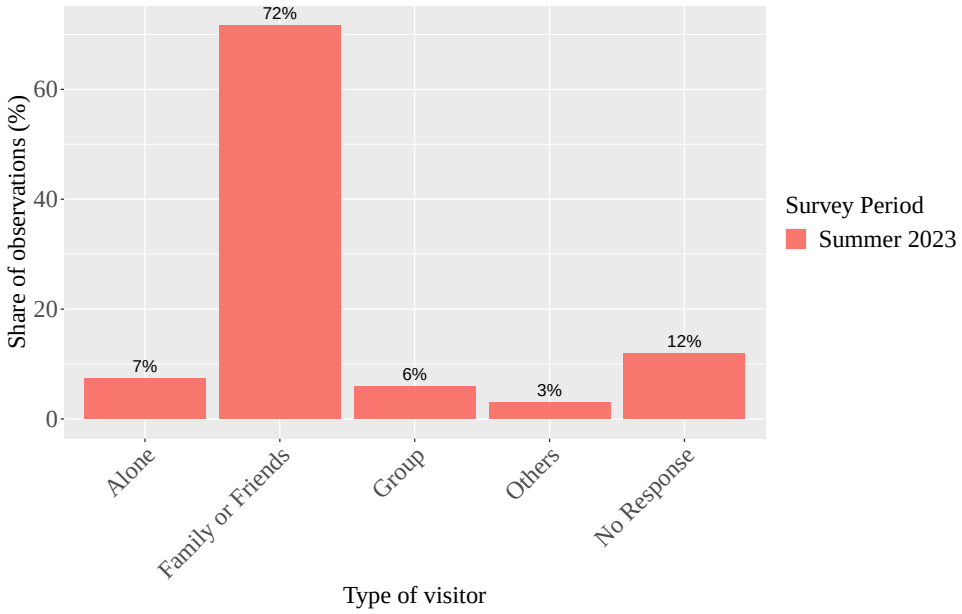
Figure 3.4: Gender distribution of visitors in the Portuguese pilot



Notes: This figure shows the gender of visitors of the Portuguese pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

3.5. 72% of the visitors in the Portuguese pilot came either with family or friends, while 7% came alone and 6% came with a group. However, 3% of them belong to other groups and 12% of the respondents did not give any opinion.

Figure 3.5: Visitors types in the Portuguese pilot

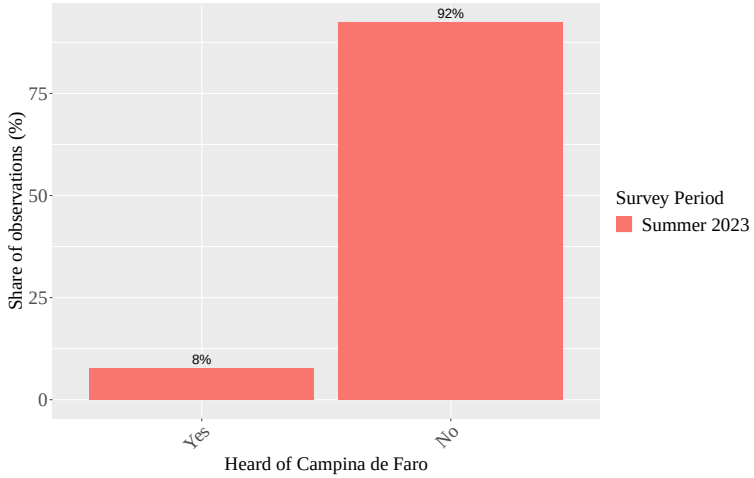


Notes: This figure shows the type of visitors of the Portuguese pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

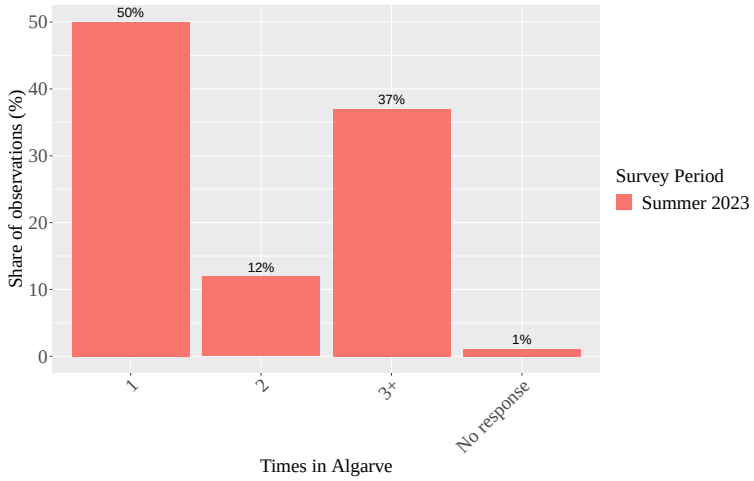
In the summer survey, others questions were asked as well, such as how many times they

had visited the location and if they already knew the place. The results from this part can be seen in Figure 3.6b. 92% of the visitors surveyed has never heard about Campina de Faro, while 50% of the visitors had visited the Algarve region only once followed by 37% of visiotrs visiting three or more times.

Figure 3.6: Knowledge about pilot site - Portugal



(a) Heard about location



(b) Number of visits

Notes: This Figure shows answers to the questions 1) Did you know about Campina de Faro and 2) How many times have you visited Algarve. *Source:* Surveys conducted by INCULTUM pilot partners.

In conclusion, this pilot surveyed 134 visitors, revealing that 90% were local and 10% were foreigners from various countries. The age groups were diverse, with significant representation from ages 26 to 55. In terms of gender, 70% of visitors were female and 30% were male. The majority (72%) of visitors came with family or friends, while 7% travelled alone. These findings emphasise the importance of understanding diverse

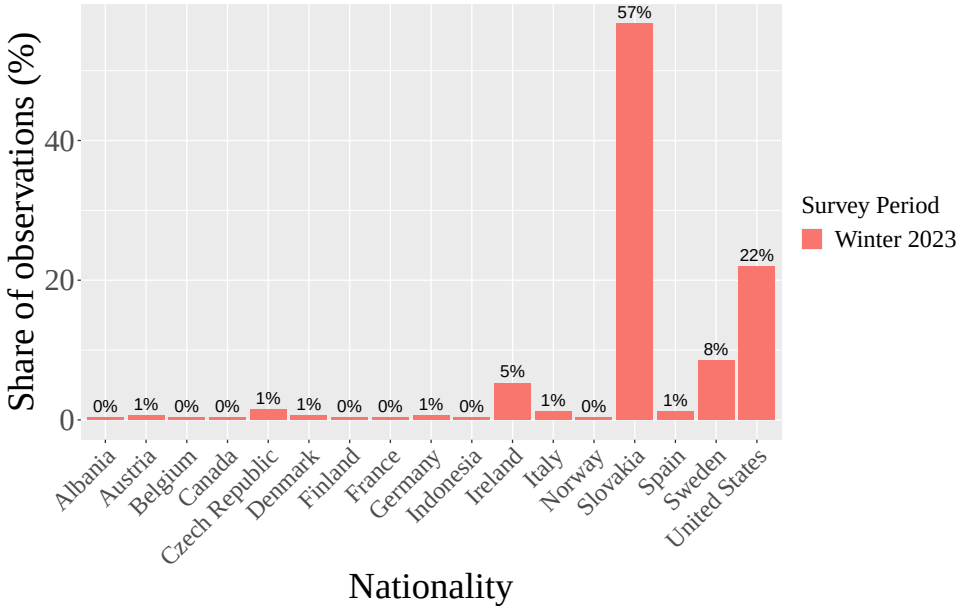
demographics for tailored tourism strategies.

3.1.2 Pilot 3: Slovakia

The pilot in Slovakia provided web analytic information that contains the number of users per day, number of new users per day, average engagement time of the users, and nationality of their website users.

Figure 3.7 shows the distribution of the users' nationality. As illustrated in the figure, around 57% of the users were local and 43% were foreigners. Users from United States dominated as international users of the website with 22% of the total users, followed by Sweden with 8%, and Ireland with 5%. Apart from these countries, users from Albania, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Indonesia, Italy, Norway, Spain also visited the website.

Figure 3.7: Number and share of visitors' nationality in Slovakia (web analytics)

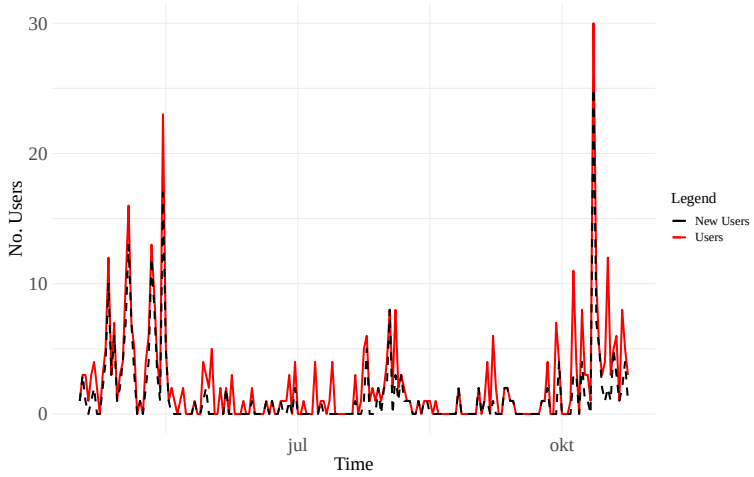


Notes: This Figure shows the nationality of visitors of the Slovakian web analytics. *Source:* Surveys conducted by INCULTUM pilot partners.

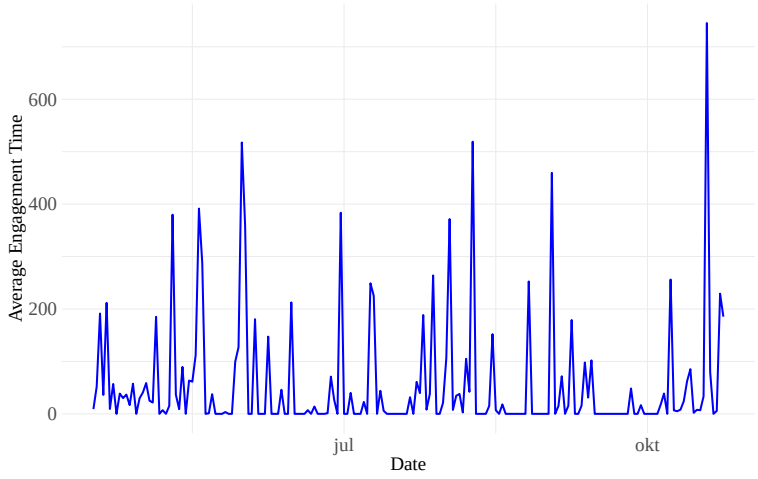
The number of users and new user is illustrated in Figure 3.8a, containing data from April 16, 2023 to October 24, 2023. The number users and new user were higher during April, May, and October, where maximum the website hosted 30 users and 25 new users per day. The trends in the number of users and new users follows almost a similar pattern.

The average engagement time of the website users are shown in Figure 3.8b, it shows the average time spend by the users in a day and contains data from April 16, 2023 to October 24, 2023. The Graph shows the website's ability to engage user was unstable throughout the time, where on some days users were highly engaged, spending on an average 100 to 745 units of time. On contrary, some days the users spent on an average 0 to 100 units of time.

Figure 3.8: Web analytics - Slovakia



(a) Users visiting and new users



(b) Engagement time

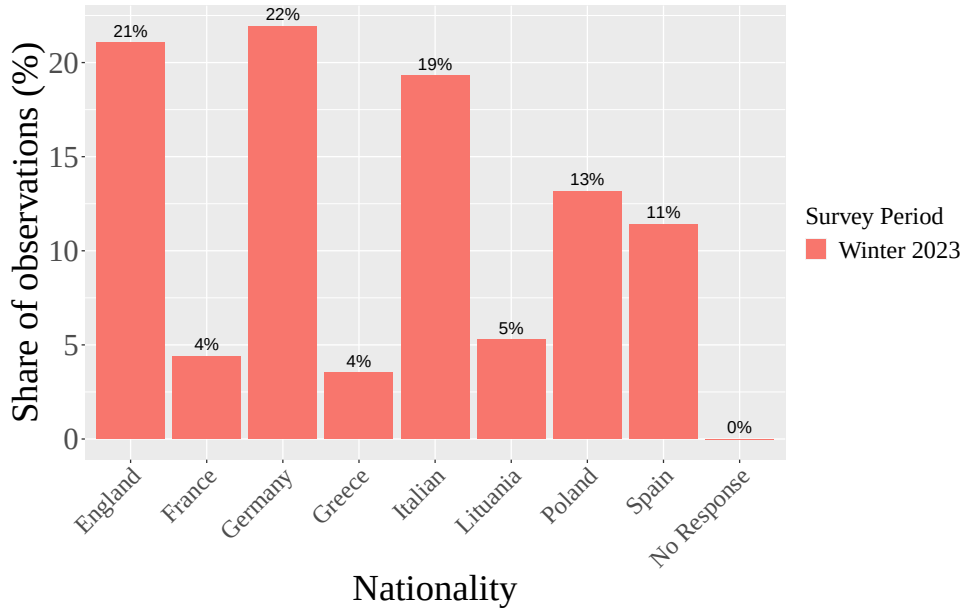
Notes: This Figure shows number of users visiting and the number of new users of the web page of Mining treasures. *Source:* Surveys conducted by INCULTUM pilot partners.

3.1.3 Pilot 4: Italy (Sicily)

The pilot in Italy (Sicily) surveyed 369 tourists, of which 255 were collected in the second phase. Apart from demographics, they have collected tourists' knowledge, preferences, and satisfaction related to the site. However, in the second phase survey, only age can be incorporated in this report as other demographic features are not available.

As shown in Figure 3.9, 19% or 22 respondents were local, and the rest of the visitors were foreigners. Among them, Germany represented 22% with 25 respondents, England represented 21% with 24 respondents, Poland accounted for 13% with 15 visitors, and Spain accounted for 11% with 13 respondents. Apart from this, an insignificant portion of visitors were from Lithuania, Greece, and France. Respondents nationality data were not available from the second phase of survey.

Figure 3.9: Number and share of visitors' nationality in Italy (Sicily)

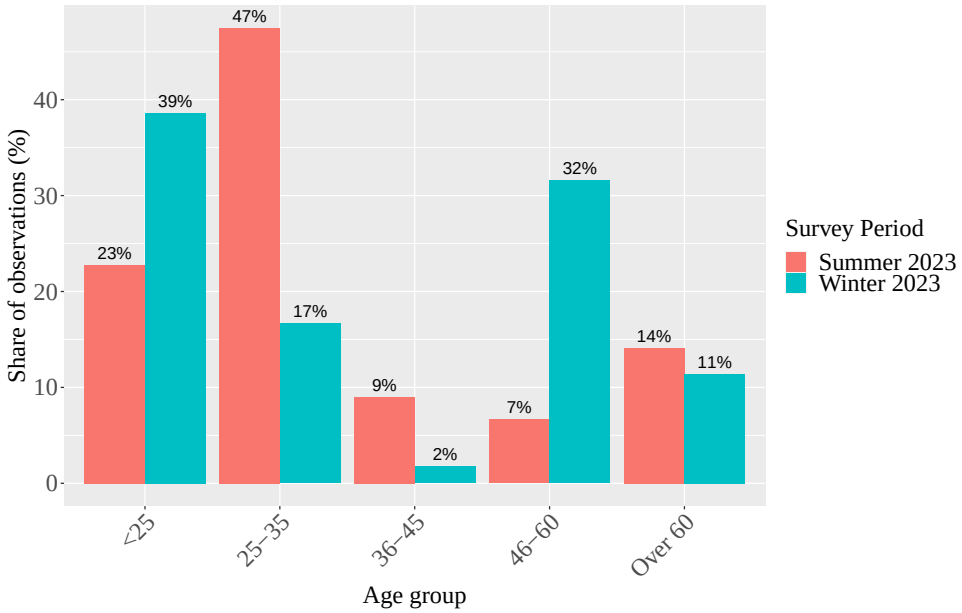


Notes: This figure shows the nationality of visitors of the Italy (Sicily) pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

In total 369 tourists' data regarding age is available from two surveys. As shown in Figure 3.10, 39% of the respondents from the winter 2023 survey for this pilot were below 25 years of age. Among the rest of the visitors, 17% of respondents were 25 to 35 years of age, 32% of respondents were 46 to 60 years of age, 11% were over 60 years old, and 2% belonged to the 36 to 45 age group. In the summer 2023 survey, 47% of the

respondents were 25 to 35 years old, followed by, below 25 with 23%, 46 to60 with 32% , 25 to 35 with 17%, over 60 with 11% and 36 to 45 with 2%.

Figure 3.10: Number and share of visitors within different age intervals in Italy (Sicily)



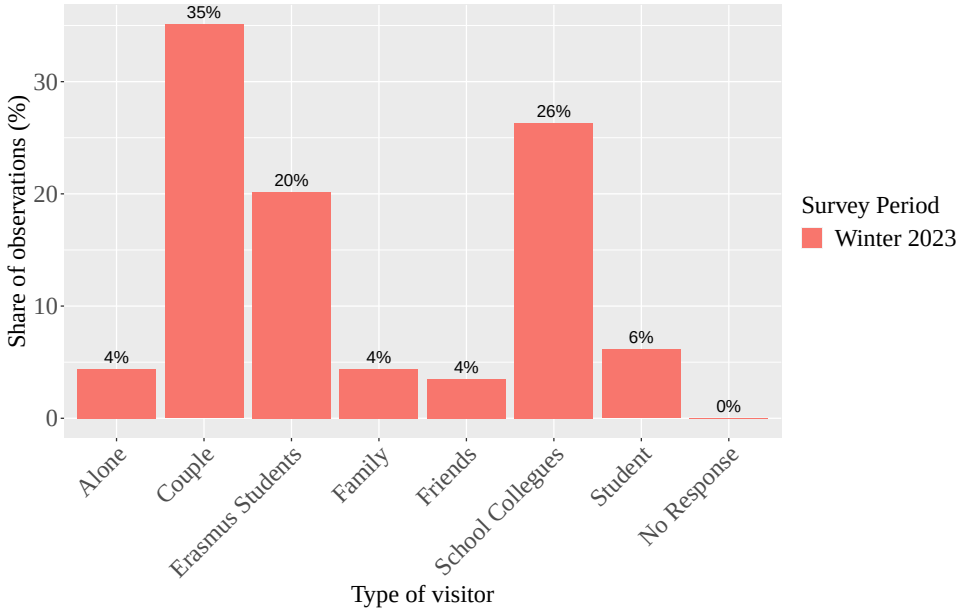
Notes: This figure shows the age intervals of visitors of the Italy (Sicily) pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

In Figure 3.11, the visitors of this pilot during the first phase of survey can be divided into several categories. Among the respondents, 35% of them came with their partner, 30% were Students, 26% were school colleagues, visitors who came alone, and with family and friends accounts for 4% each.

Figure 3.12 indicates the tourists used three types of transportation here during the winter 2023. 86% of the visitors in Italy (Sicily) used Pullman, whereas only 8 and 6 percent of the tourists used rented and private vehicles respectively. Information about transportation was not available in the second phase of survey.

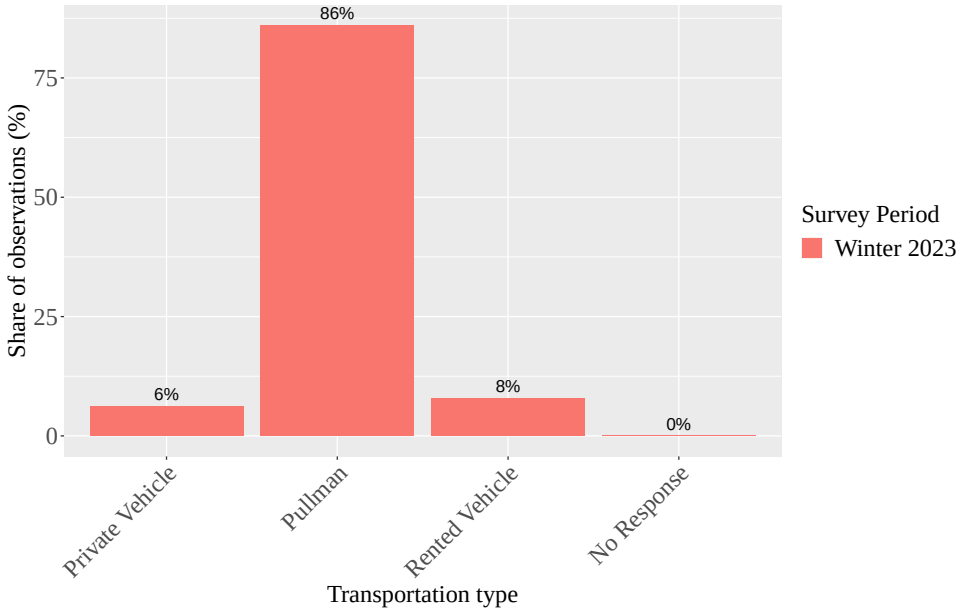
In summary, the Italy (Sicily) pilot survey, focusing on Sicilian inland-Monti di Trapani, captured valuable insights from 369 tourists. The data, though limited to age due to the second phase, provided significant findings. The nationality distribution showcased a diverse visitor landscape, with Germans constituting a significant proportion, followed closely by English tourists, a significant portion fell within the 25-35 age group, reflecting the pilot's appeal to younger travellers. Visitor categories varied, arriving with partners

Figure 3.11: Visitors types in the Italy (Sicily) pilot



Notes: This figure shows the type of visitors of the Italy (Sicily) pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

Figure 3.12: Type of transportation of visitors in Italy (Sicily)



Notes: This figure shows the type of transportation of visitors of the Italy (Sicily) pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

and being students, highlighting the diverse visitor profiles. Additionally, transportation preferences indicated a significant preference for Pullman services, emphasising the importance of accessible public transportation in this region. These insights are crucial for tailoring future tourism strategies, ensuring a satisfying and inclusive experience for all

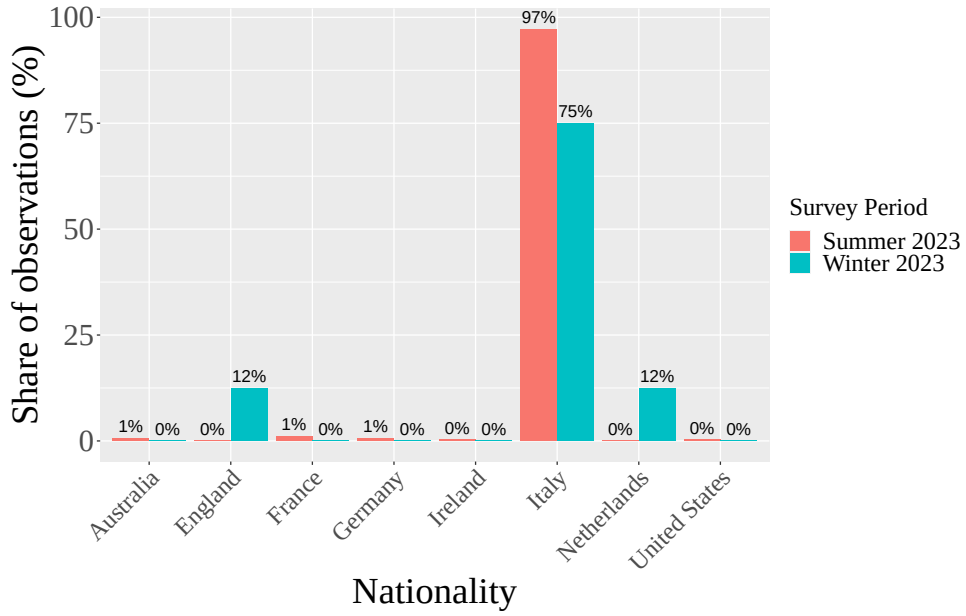
visitors.

3.1.4 Pilot 5: Italy (Tuscany-Emilia)

The Italy (Tuscany-Emilia) pilot surveyed 369 visitors, 5 operators, and 17 students. In the case of visitors and operators, they have collected visitor demographics, preferences, and satisfaction. In the case of students, they have collected information about their preferences about the site. The following analyses the visitors' demographics.

In the Tuscany-Emilia pilot, as shown in Figure 3.13, the dominant portions of the tourists belong to locals, with 97% of the respondents during summer and 75% during winter. The pilot also hosts the rest of the 7% and 25% of tourists of the two seasons from Australia, England, France, Germany, Ireland, the US, and the Netherlands.

Figure 3.13: Number and share of visitors' nationality in Italy (Tuscany-Emilia)

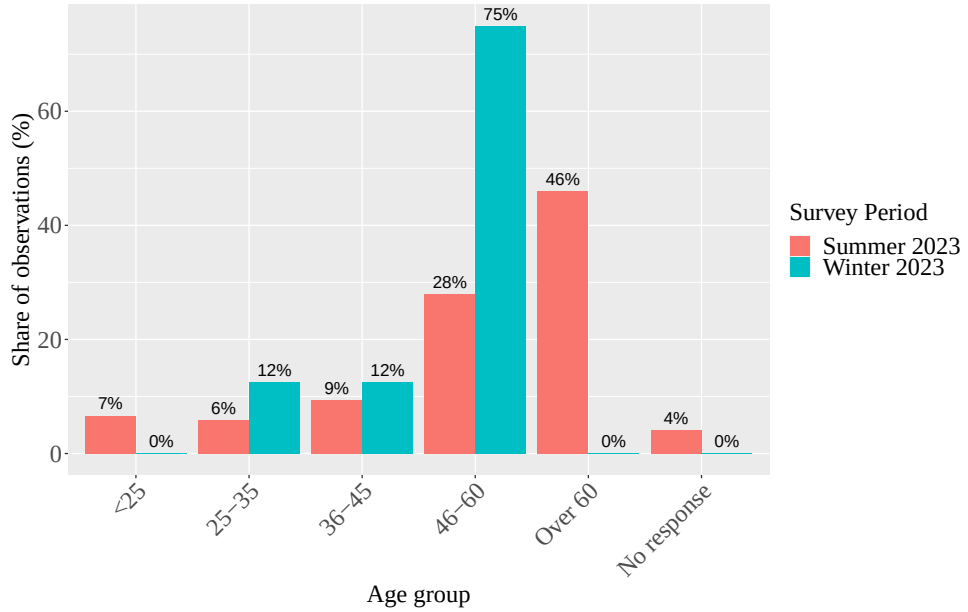


Notes: This figure shows the nationality of visitors of the Italy (Tuscany-Emilia) pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

The age distribution of the visitors is shown in Figure 3.14. In terms of age in Italy (Tuscany-Emilia), during summer 46% of the tourists were over 60 years old, 28% were between 46 to 60 years old, 9% of the respondents belong to 36 to 45, 7% belong to less than 25, and 6% belong to 25 to 35 years old. On the other hand, 75% tourist in the winter season were 46 to 60 years of age, followed by 36 to 45 and 25 to 35 years

accounting 12% each.

Figure 3.14: Number and share of visitors within different age intervals in Italy (Tuscany-Emilia)



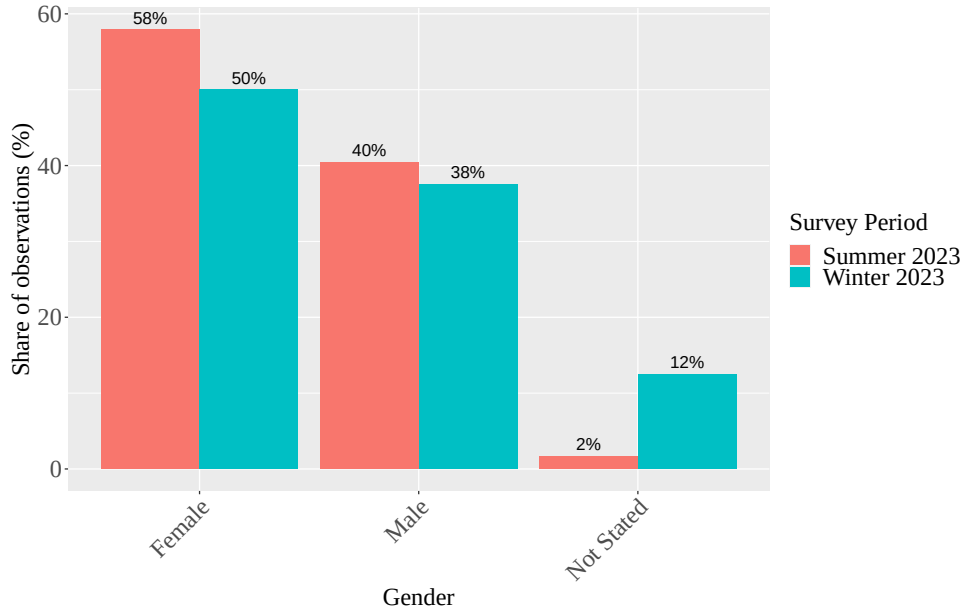
Notes: This figure shows the age intervals of visitors of the Italy (Tuscany-Emilia) pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

In Figure 3.15, the gender distribution of the respondents during the two seasons were quite similar. 58% of the surveyed visitors in summer were female, on the other hand, 40% were male and the rest of the 2% did not respond. Similarly, 50% of tourists in winter were female, whereas, 38% were male and 12% did not respond.

Figure 3.16 shows the categories of visitors surveyed in this pilot. During summer, 37% of the tourists surveyed on this pilot came with their family and another 37% came with their partners, 19% came with their friends, 3% came alone and others came with school groups and with organised tourism groups. In contrast, during winter 38% came with friends, 25% came with partner, 25% came alone, 12% of them came with family,

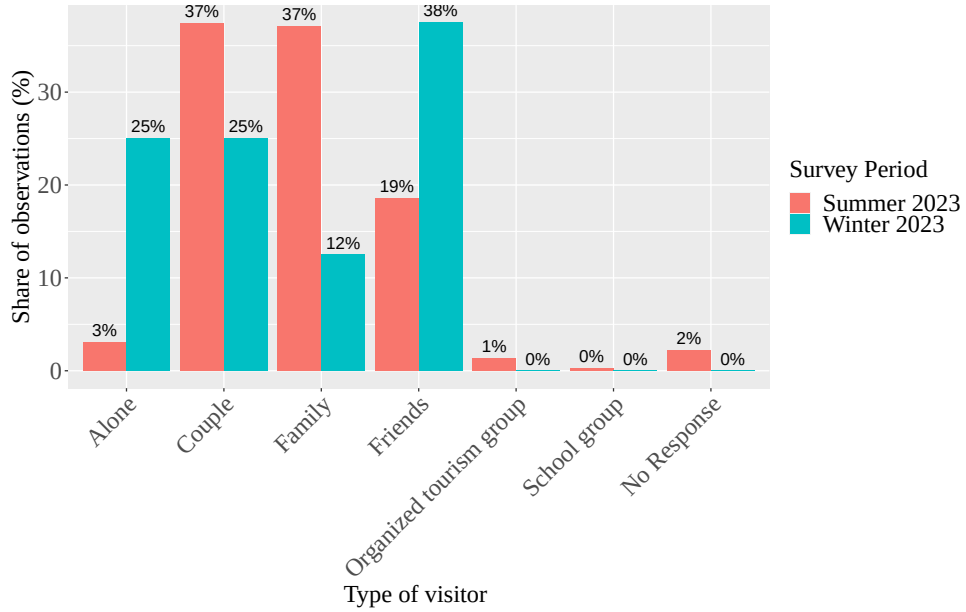
In terms of transportation as shown in Figure 3.17, during summer season 95% of the people surveyed used private transportation and the remaining used rented transportation, public transportation, and bicycle, besides, some travelled on foot to visit the place. Similarly, in winter, 88% used private and 12% used rented vehicles indicating absence of public transport facility in the area.

Figure 3.15: Gender distribution of visitors in the Italy (Tuscany-Emilia) pilot



Notes: This figure shows the gender of visitors of the Italy (Tuscany-Emilia) pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

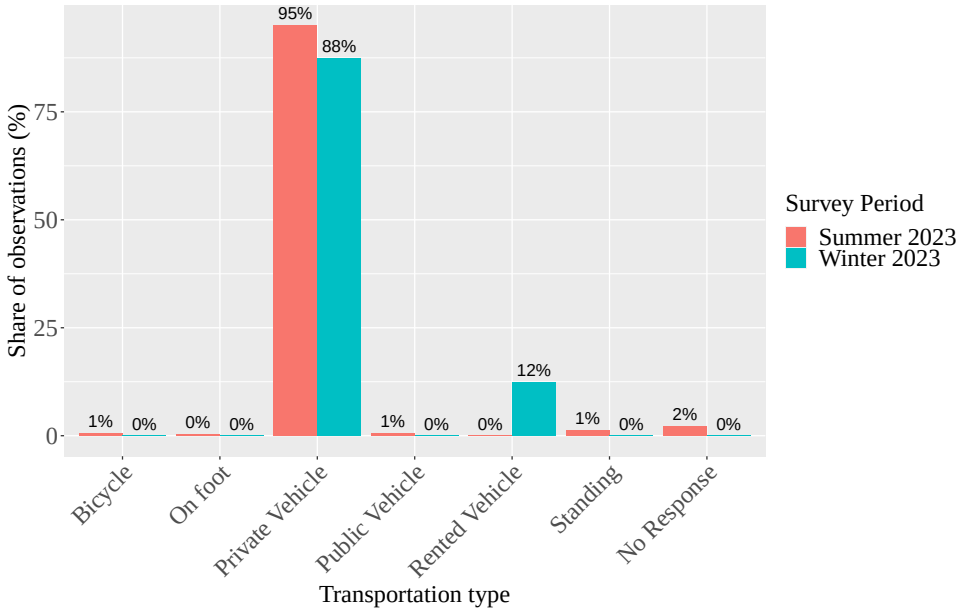
Figure 3.16: Visitors types in the Italy (Tuscany-Emilia) pilot



Notes: This figure shows the type of visitors of the Italy (Tuscany-Emilia) pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

In the first wave of visitor surveys the Italy (Tuscany-Emilia) pilot also asked questions about visitors knowledge about the location. In Figure 3.18 we show the answers to the questions 1) Did you know about the location, 2) Where did you hear about the location and 3) What is the motivation of the trip. From Figure 3.18a 50% of visitors already

Figure 3.17: Type of transportation of visitors in Italy (Tuscany-Emilia)



Notes: This figure shows the type of transportation of visitors of the Italy (Tuscany-Emilia) pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

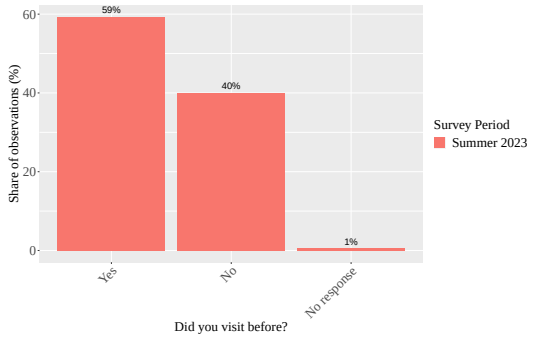
knew about the location. In Figure 3.18b the most common information vector is "word of mouth" with 52%, while 29% were locals living close to the location. Less common but present are "tour operators", "online research" and "social media". The most important motivation for the visit, according to Figure 3.18c was culture/history with 43% of the answers, followed by nature/trekking with 33% and religious with 6%.

In conclusion, this pilot surveyed 369 visitors, providing essential insights into visitor demographics and preferences. Notably, Most of tourists were locals, with a diverse representation of international visitors from various countries. The pilot attracted an older demographic, with 46% of visitors over 60 years old. Gender distribution was relatively balanced, with 58% female and 40% male visitors. Transportation preferences indicated a strong reliance on private vehicles, emphasising the need for convenient private transport options in the region.

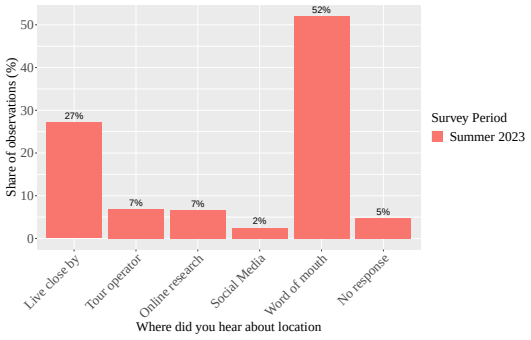
3.1.5 Pilot 6: France

The pilot in France collected visitor's data covering the years 2018 and 2022. In the summer 2023, they provided the data collected from a smaller survey related to a hik-

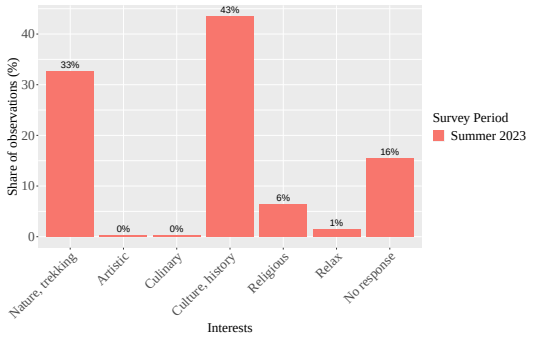
Figure 3.18: Knowledge about pilot site - Italy (Tuscany-Emilia)



(a) Knowledge of location



(b) First visit



(c) Motivation of trip

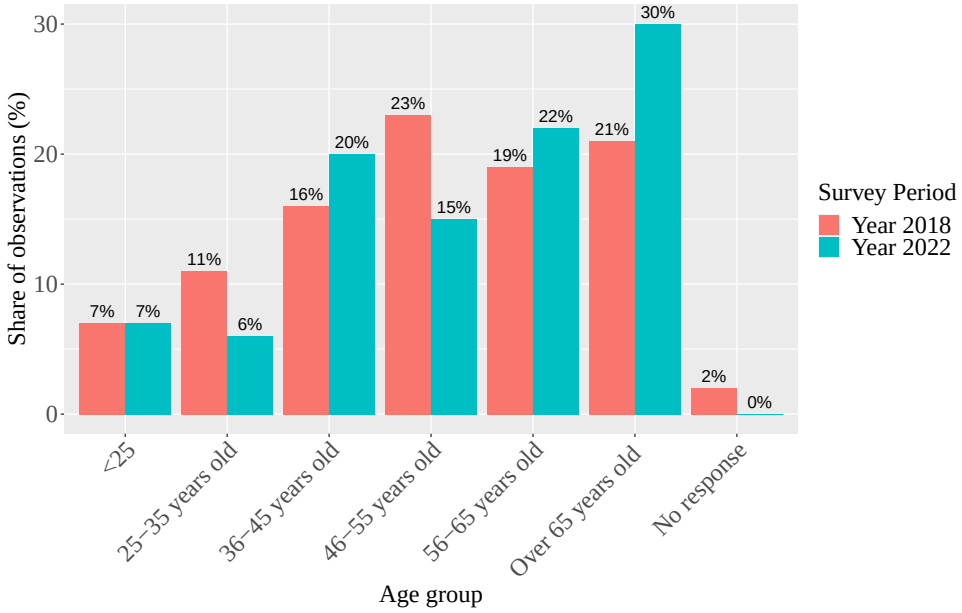
Notes: This Figure shows answers to the questions 1) Did you know about the location, 2) Where did you hear about the location and 3) What is the motivation of the visit. *Source:* Surveys conducted by INCULTUM pilot partners.

ing route, containing 96 responses from visitors. In the following we will refer to the first survey as winter and the second smaller survey as summer. Information ranging from demographics, motivation, booking methods, stays, transportation, and nationality are collected from this surveys. We also present some results from the winter survey regarding the visitors' knowledge about Bibracte.

Figure 3.19 shows the distribution of age group of the visitors from 2018 and 2022 surveys by the pilot. The graph indicates the preference of old people in visiting the sites of the pilot. Visitors over 65 years old constituted 30% of surveyed visitors in 2022 and 21% in 2018. People aged 56 to 65 years were 22% in 2022 and 19% in 2018. Regarding visitors aged 46 to 55 years old, in 2022 they were 15% of the respondents and 23% in 2018. In case of age group 36 to 45 years, the proportions were 20% in 2022 and 16% in 2018. 11% and 6% of the respondent were among the 25 to 35 years old in

2018 and 2022 respectively. Respondents below 25 years of age constituted 7% of the surveyed visitors in both 2018 and 2022. Similar pattern of older people's preference to visit the site is visible in data from 2023 as shown in Figure 3.20. People aged over 65 represented 26% of the responses and the proportion reduced with younger age group, where below 25 years old constituted only 6% of the response.

Figure 3.19: Number and share of visitors within different age intervals in France - Winter

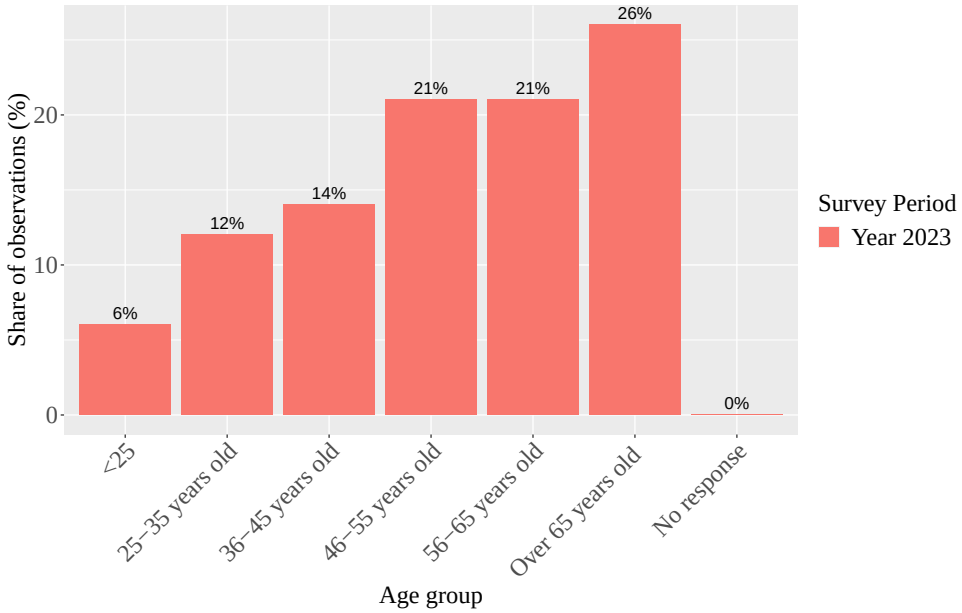


Notes: This figure shows the age intervals of visitors of the France pilot in Winter. *Source:* Surveys conducted by INCULTUM pilot partners.

Figure 3.21 shows the proportion of nationality of the surveyed visitors in 2018 and 2023. In both years, local hold a significant portion the visitors with 77% in 2018 and 91% in 2022. Among the international visitors, people from Netherlands with 10% in 2018 and 35% in 2022, and Belgium with 5% in 2018 and 41% in 2022 were significant international tourist for the pilot. the pilot also hosted guests from Germany, Great Britain and Switzerland during these years. However, in 2023, the pilot hosted 97% of the visitors from their own nation. As show in Figure 3.22, the rest of the people were from Netherlands, Belgium and other nations.

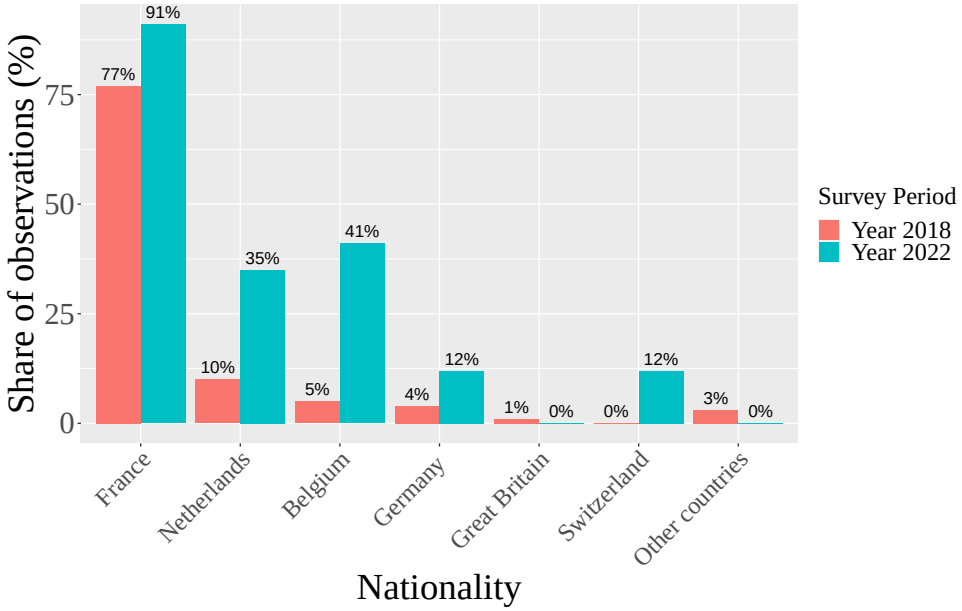
In this pilot, People used a varieties of transportation with a significant dependence on private car as illustrated in Figure 3.23 and in some instance people used multiple mode of transportation as the sum of percentage were more than 100. In year 2018 and 2023,

Figure 3.20: Number and share of visitors within different age intervals in France - Summer



Notes: This figure shows the age intervals of visitors of the France pilot in Summer. *Source:* Surveys conducted by INCULTUM pilot partners.

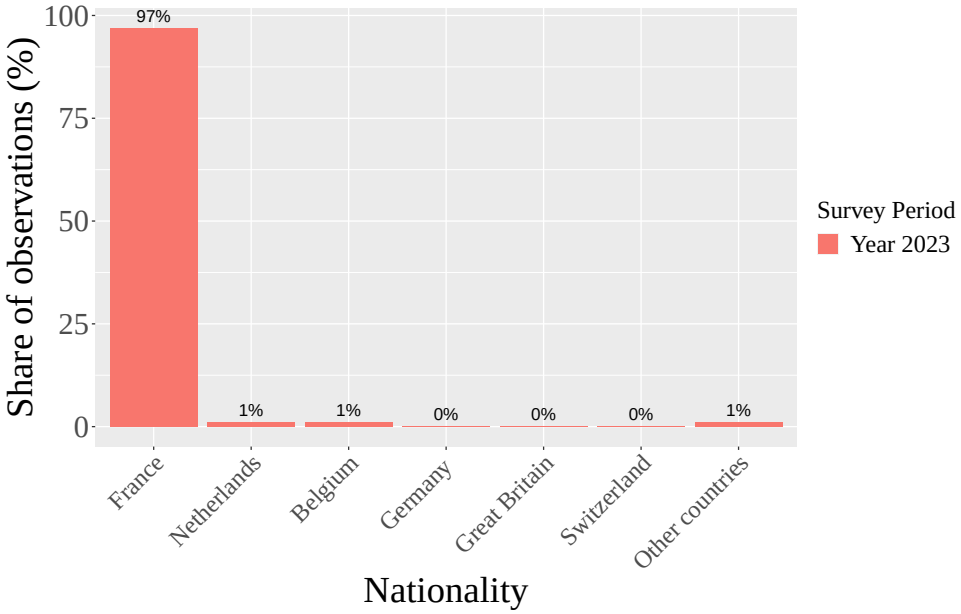
Figure 3.21: Number and share of visitors' nationality in France - Winter



Notes: This figure shows the nationality of visitors of the France pilot in Winter. *Source:* Surveys conducted by INCULTUM pilot partners.

respectively 90% and 80% of the people used private car for their trip to the sites. Apart from it, they used camper van, train, bicycle, bus or coach, car pooling, motorcycle, rented car and some visited the sites on foot. Similar pattern with a less dependence on private car is visible in 2023 compared to earlier surveys, as shown in Figure 3.24. It indicates

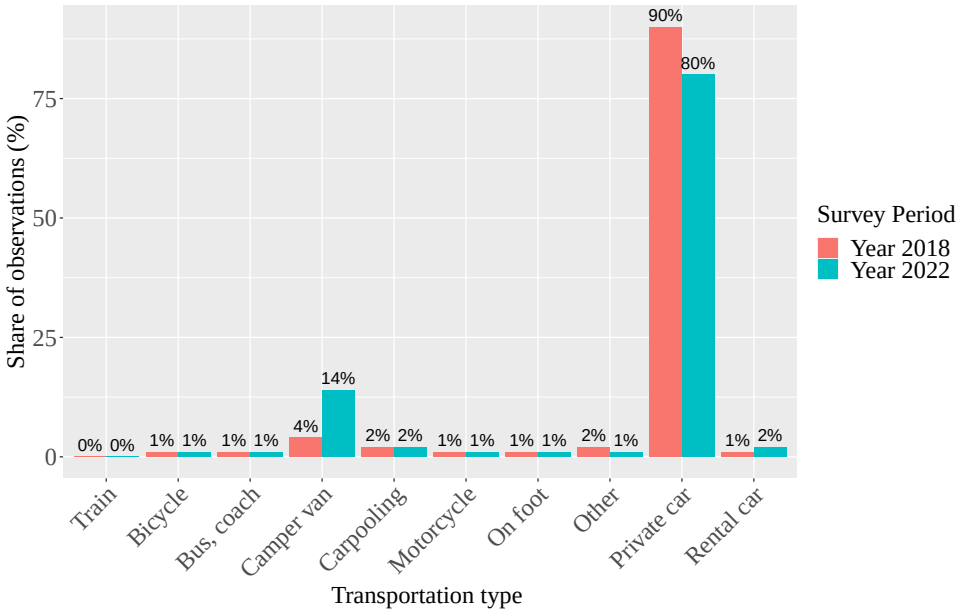
Figure 3.22: Number and share of visitors' nationality in France - Summer



Notes: This figure shows the nationality of visitors of the France pilot in summer. *Source:* Surveys conducted by INCULTUM pilot partners.

that the highest 68% of the visitors used private car. 21% visited on foot, 15% used carpooling, 8% used train, 6% used bus or coach. Tourists also used bicycle, camper van motorcycle, and rented car to travel the site.

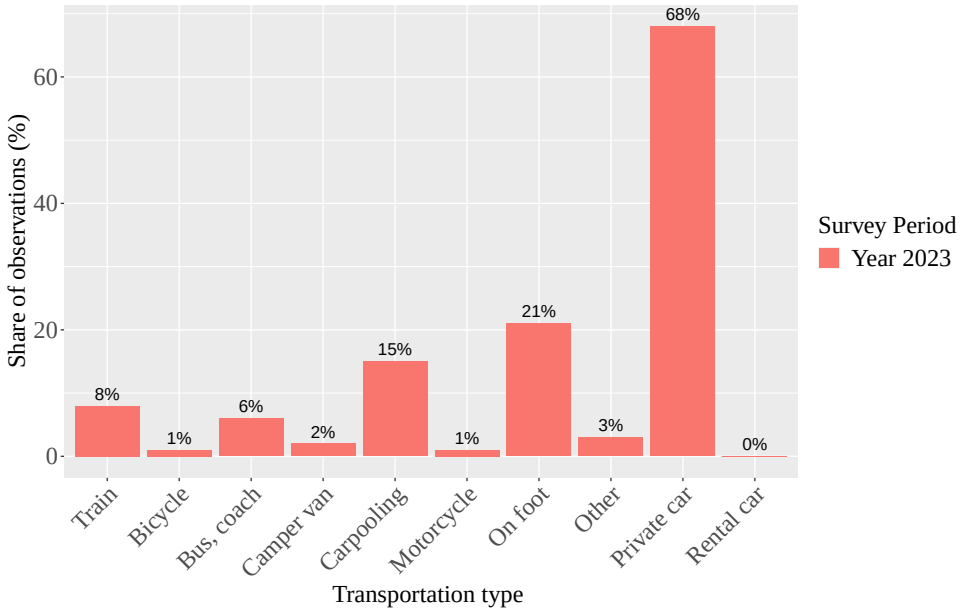
Figure 3.23: Type of transportation of visitors in France - Winter



Notes: This figure shows the type of transportation of visitors of the France pilot in winter. *Source:* Surveys conducted by INCULTUM pilot partners.

Figure 3.25 depicted the type of visitor of this pilot in 2018 and 2022 surveys. Most

Figure 3.24: Type of transportation of visitors in France - Summer

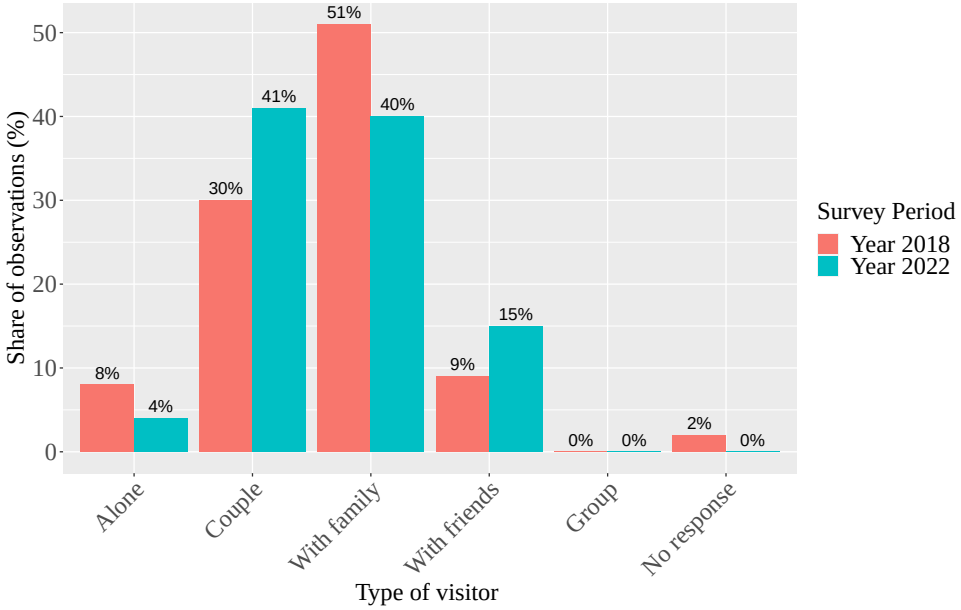


Notes: This figure shows the type of transportation of visitors of the France pilot in summer. *Source:* Surveys conducted by INCULTUM pilot partners.

of the visitors during 2018 and 2022 came with their family accounting 51% in 2018 and 40% in 20222 and partner accounting 30% in 2018 and 41% in 2022. An insignificant proportion of visitor came alone and with friend during the period. On contrary, as shown in Figure 3.26, in 2023 around 92% of the surveyed visitor came alone to visit the site and 8% came with a group.

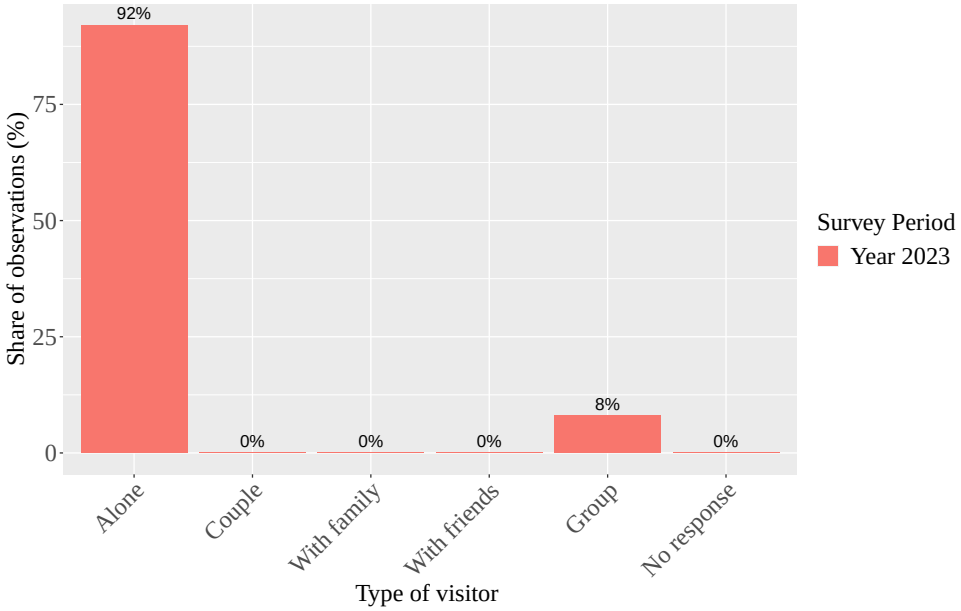
In Figure 3.27 we show the results from the visitors' knowledge about the location. In Figure 3.27a, about 71% of the visitors in 2022 already knew about the place while 20% had never heard about Bibracte. There are no significant changes between the two periods in terms of knowledge of the location. In Figure 3.27b it is clear that a mojaority of visitors are first time visitors, 79% in 2022 and 65% in 2018. Finally in 3.27c, it it possible to see the motivation of the visit. Clearly, culture and nature are the main drivers of the location with about 88% of visitors stating one or both of these as their main motivation.

Figure 3.25: Visitors types in France - Winter



Notes: This figure shows the type of visitors of the France pilot in winter. *Source:* Surveys conducted by INCULTUM pilot partners.

Figure 3.26: Visitors types in France - Summer

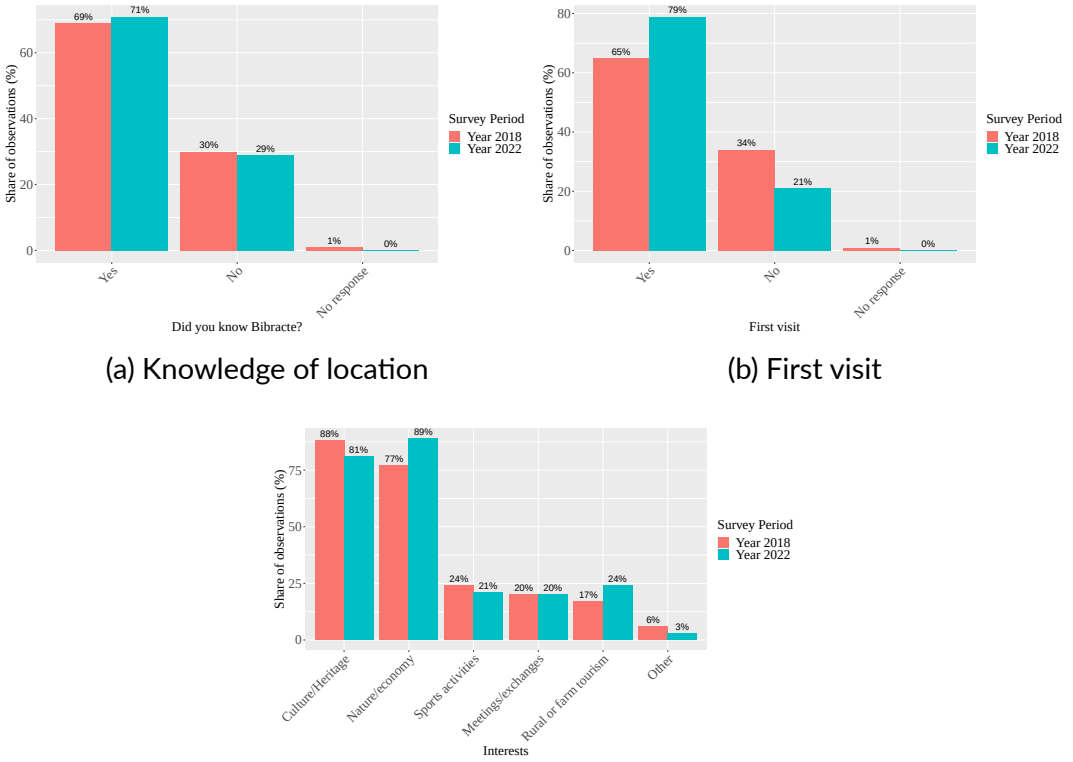


Notes: This figure shows the type of visitors of the France pilot in summer. *Source:* Surveys conducted by INCULTUM pilot partners.

3.1.6 Pilot 7: Greece

The pilot in Greece, conducted an in-detail survey of 132 visitors, collecting demographic statistics, information regarding stays, places visited, and their preferences and satisfaction with the places.

Figure 3.27: Knowledge about pilot site - France



(a) Knowledge of location

(b) First visit

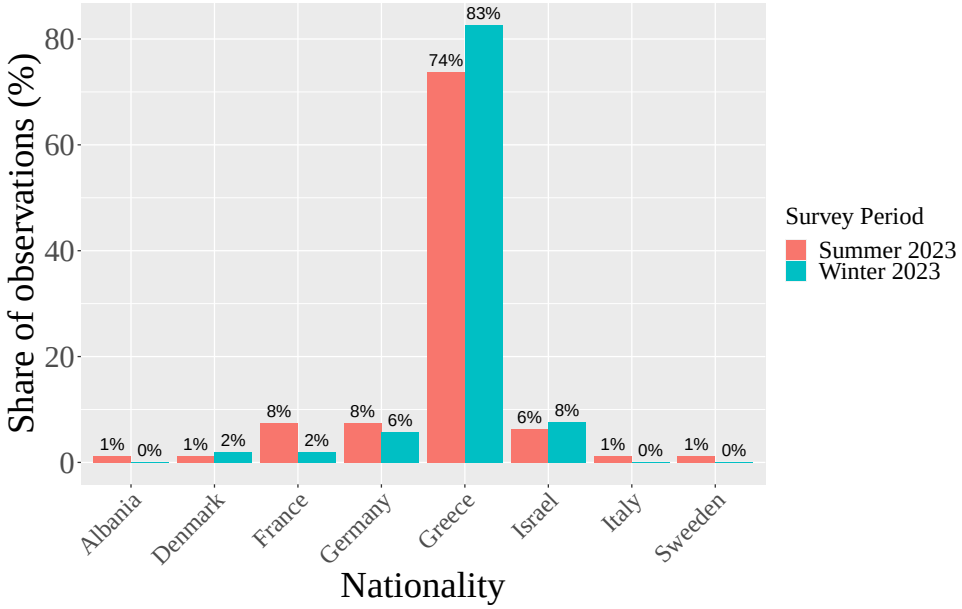
(c) Motivation of trip

Notes: This Figure shows answers to the questions 1) Did you know Bibracte, 2) Is this your first visit and 3) What is the motivation of the visit. *Source:* Surveys conducted by INCULTUM pilot partners.

In the Greece Pilot as shown in Figure 3.28, most of the visitor respondents were local Greek tourists accounting for 74% and 83% of the surveyed visitors during summer and winter respectively. The remaining 26% and 17% of the visitors were from abroad. In the winter, 8% were from Israel, 6% from Germany, 2% from France, and 2% from Denmark. They also hosted visitors from Albania, Italy, and Sweden during this season. On contrary, during summer 6% were from Israel, 8% from Germany, 8% from France, and 1% from Denmark.

Figure 3.29 illustrates the information about the age distribution of the respondents. Regarding age in summer, 36%respondents in the Greece pilot were among the 25 to 35 age group, followed by 30% respondents in age group 36 to 45, 29% respondents in the age group 46 to 60, 2% respondents in the age group over 60 and 2% respondents in age group less than 25. On the other hand, during winter, 37% tourists were among the 25 to 35 age, followed by 33% respondents in age group 36 to 45, 25% respondents in

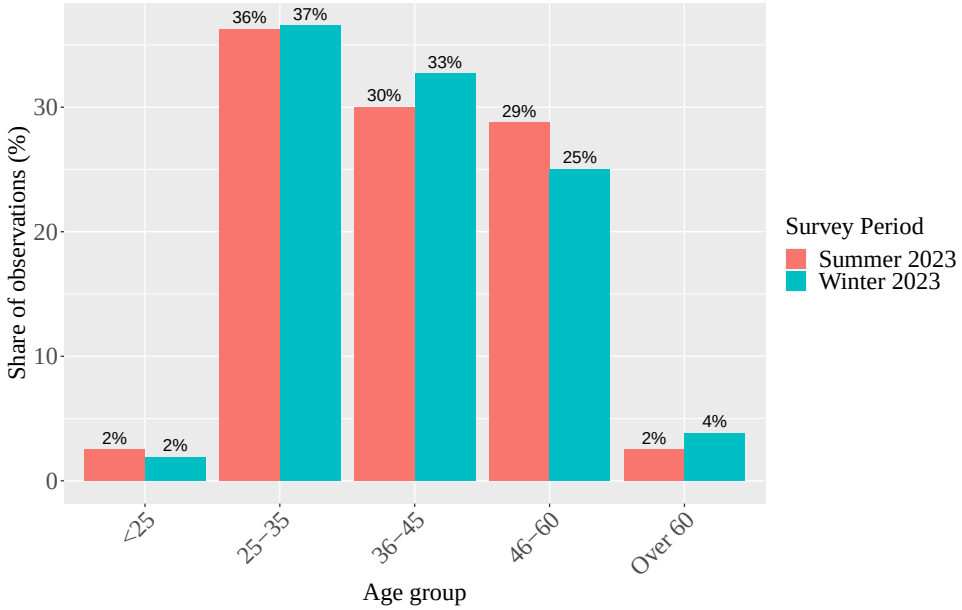
Figure 3.28: Number and share of visitors' nationality in Greece



Notes: This figure shows the nationality of visitors of the Greek pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

the age group 46 to 60, 4% respondents in the age group over 60 and 2% respondents in age group less than 25.

Figure 3.29: Number and share of visitors within different age intervals in Greece

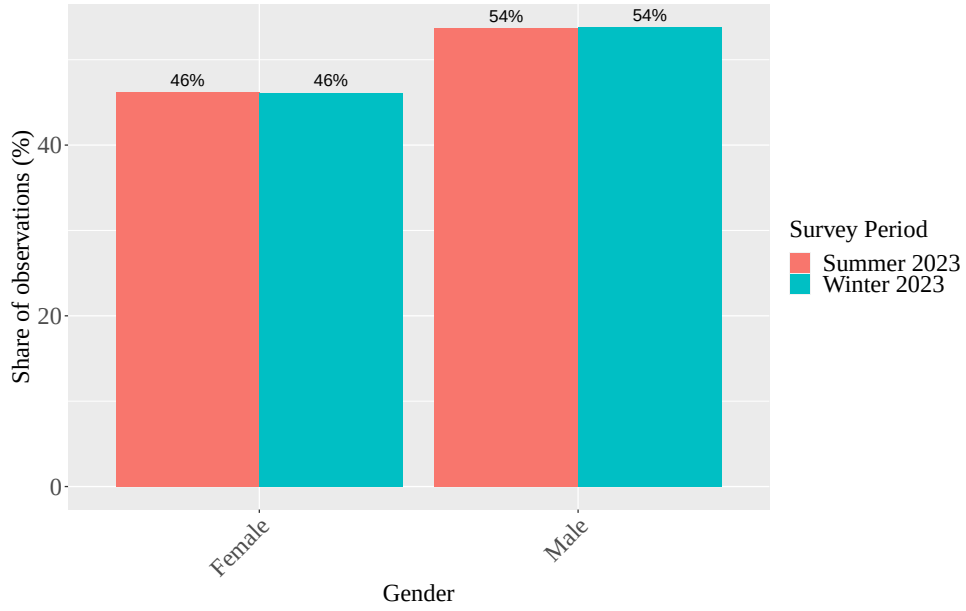


Notes: This figure shows the age intervals of visitors of the Greek pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

In terms of gender in Greece as shown in Figure 3.30, 54% respondents were male and the remaining 46% respondents were female during the summer. During the winter

similarly, male were dominant with 54% of the visitor and the remaining of the 46% were female.

Figure 3.30: Gender distribution of visitors in the Greek pilot



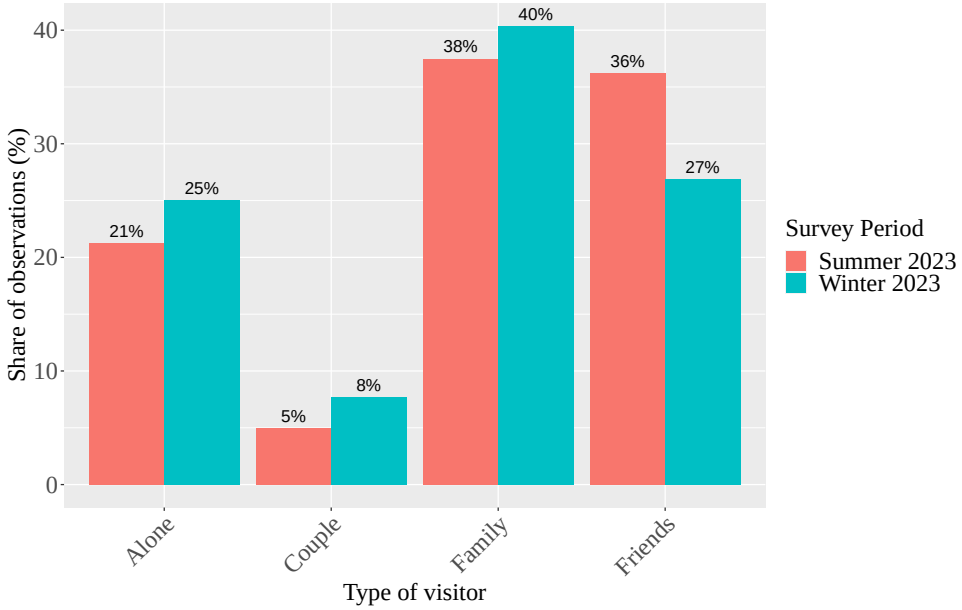
Notes: This figure shows the gender of visitors of the Greek pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

In the Greece pilot, as depicted in Figure 3.31, 40% respondents came with family, 27% respondents were with their friends, 25% visitors came alone, and 8% came as couples during the winter season. Similarly, during summer, 38% came with family, 36% with friends, 21% came alone and 5% with partners.

In the case of transportation shown in Figure 3.32, the lion's share of the visitors used private vehicles with 73% respondents in both of the seasons. Rented transportation are used by 18% and 13% respectively in summer and winter. Public transportation was used by 9% and 12% of them respectively in summer and winter. 2% of the respondents used the bicycle as a means of transportation during winter.

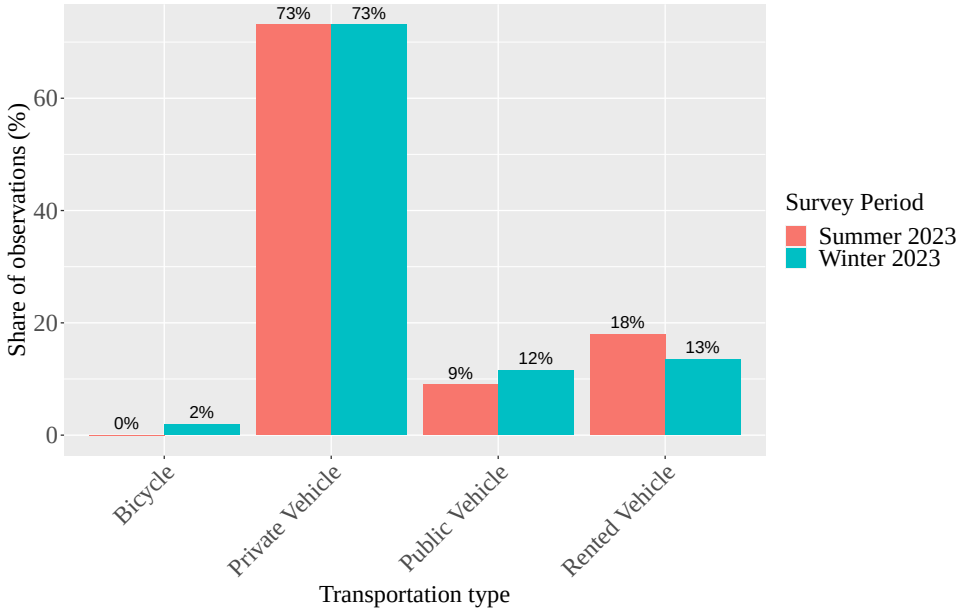
The Greece pilot surveyed 132 visitors, with majority being local Greek tourists and a small proportion were international visitors. The age demographics indicated a diverse range of travellers, with a significant appeal to the younger and middle-aged audience. Visitor categories highlighted preferences for family and friend-based travel, with around 80% arriving with family or friends. Transportation preferences showed a reliance on

Figure 3.31: Visitors types in the Greek pilot



Notes: fhis Figure shows the type of visitors of the Greek pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

Figure 3.32: Type of transportation of visitors in Greece



Notes: This figure shows the type of transportation of visitors of the Greek pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

private vehicles, emphasising the need for enhanced road infrastructure. These insights are vital for tailored tourism strategies, ensuring accessibility and enriching visitor experiences.

3.1.7 Pilot 8: Albania

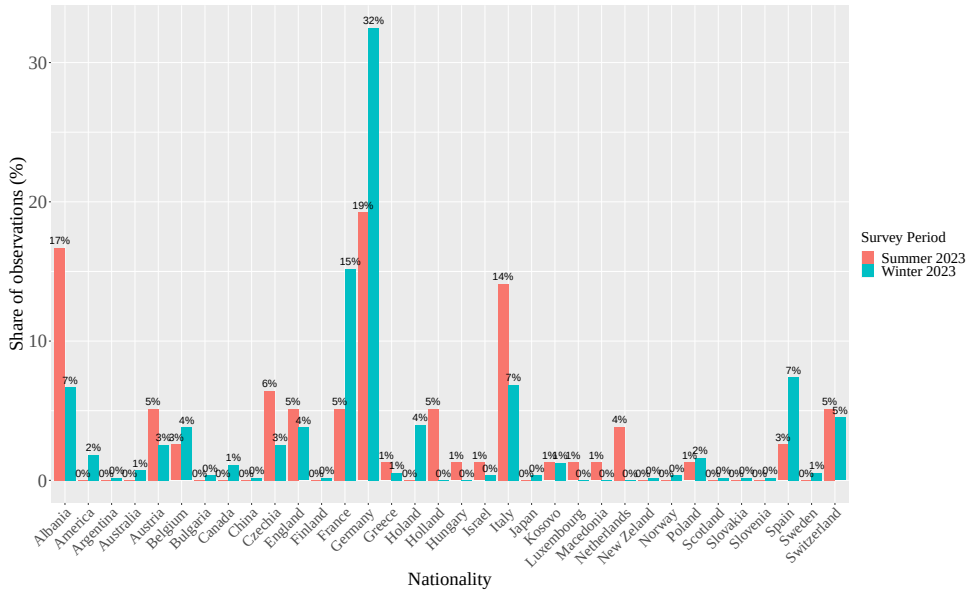
The Albania pilot conducted a survey on the visitors, collecting their demographic information, activities they were involved in on the site, and the type of tourism they were interested in within this pilot. In total, 632 tourists were surveyed in this pilot. The following sections analyse comparable statistics for the pilots.

Albania pilot has the experience of hosting tourists from diversified nations as shown in Figure 3.33. 93% of the respondents during the winter and 83% during the summer were foreign visitors and the rest of them were local Albanian visitors. In this pilot, out of 632 surveyed visitors during the two seasons, 31% and 19% were from Germany respectively during winter and summer. It became a significant source of inward tourists for the pilot in Albania. Apart from Germany, most of the foreign tourists came from France, Italy, and Spain with 15%, 7%, and 7% respectively in winter. On the other hand, during the summer, this pilot had a significant amount of tourists from Italy, Switzerland, and France with 14%,5%, and 5% respectively. In addition, tourists from the US, Argentina, Austria, Belgium, Bulgaria, Canada, China, Czech Republic, England, Finland, Greece, Holand, Israel, Japan, Kosovo, New Zealand, Norway, Poland, Scotland, Slovakia, Slovenia, and Sweden were among the surveyed tourists.

Figure 3.34 shows the frequency distribution and proportion of age groups in Albania pilot. Among the visitors in the Albania around 92% in winter and 90% in summer were between 25 to 60 years of age. 40% respondents in winter and 37% in summer were belonged to the 46 to 60 age group, which were the highest among the surveyed population, followed by 25 to 35 with 30% respondents in winter and 35% in summer, 36 to 45 age group with 22% of the people in winter and 18% in summer. Respondents above 60 years of age accounted for 3% and 4% respectively during winter and summer season. However, respondents below 25 years of age were around 4% only during the winter season.

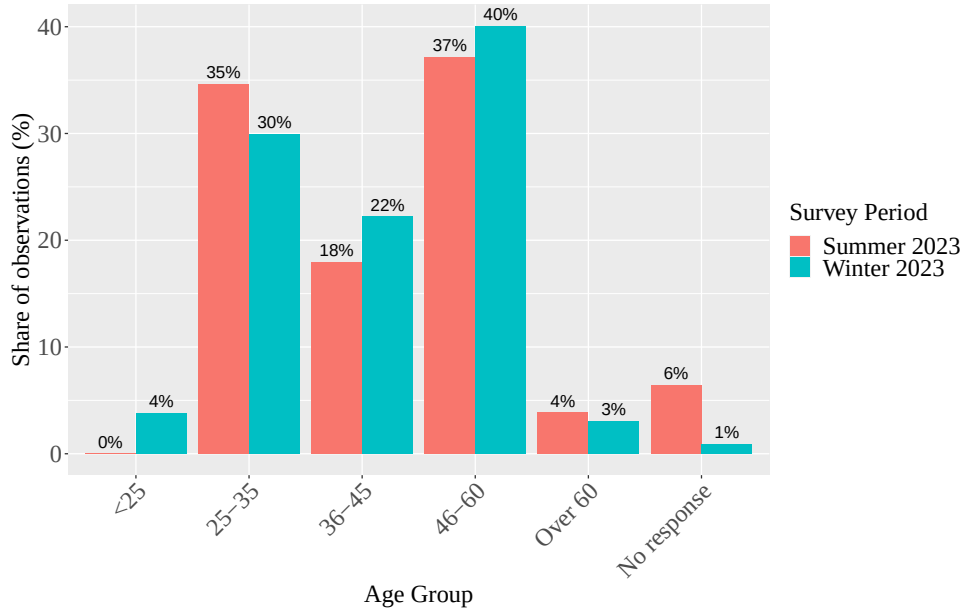
In terms of gender, as shown in Figure 3.36, during the winter 61% of the respondents

Figure 3.33: Number and share of visitors' nationality in Albania



Notes: This figure shows the nationality of visitors of the Albanian pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

Figure 3.34: Number and share of visitors within different age intervals in Albania

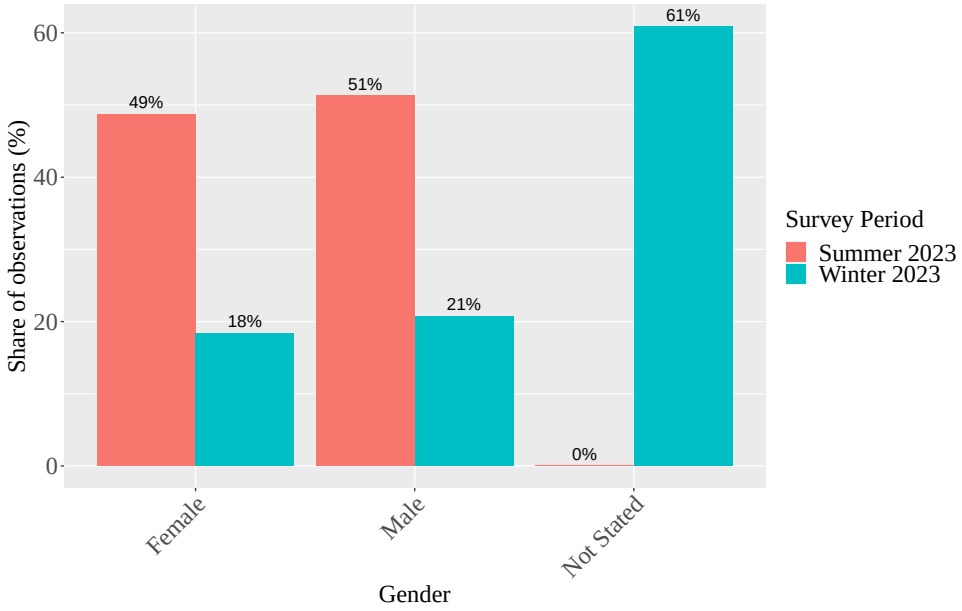


Notes: This figure shows the age intervals of visitors of the Albanian pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

did not specifically identify their gender. The rest of 21% were male and 18% were female. However, during summer 51% were male and 49% were female.

The surveyed visitors can be divided based on the nature of the group they tour. In Figure 3.36, it can be observed that a significant number of the respondents visited the

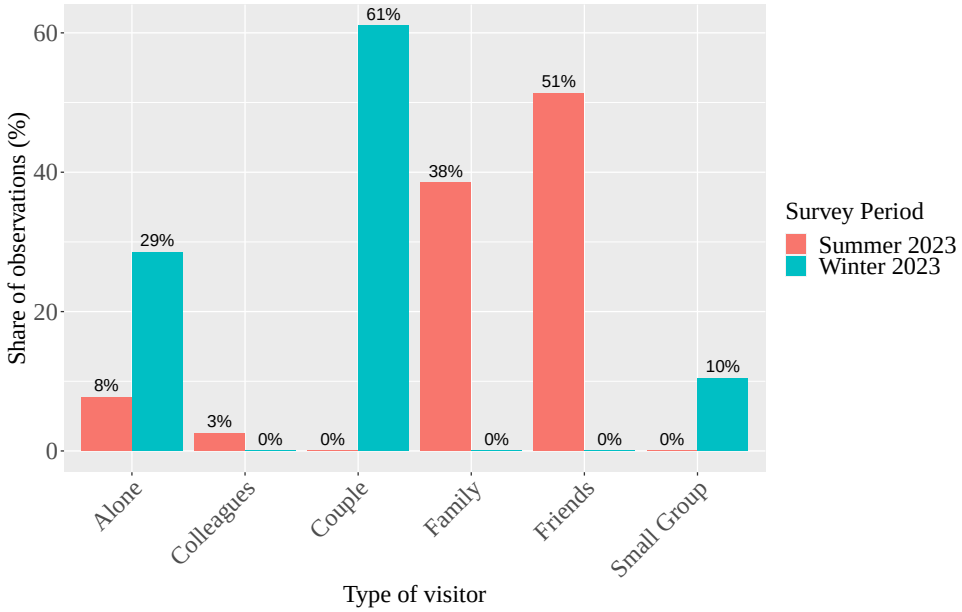
Figure 3.35: Gender distribution of visitors in the Albanian pilot



Notes: This figure shows the gender of visitors of the Albanian pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

place with their partners during winter, which accounts for 61% of the total surveyed tourists. On the other hand, 29% respondents visited alone, and 10% tourists came with small tourist groups. During summer, 51% came with friends, 38% came with family, 8% came alone, and around 3% with colleagues.

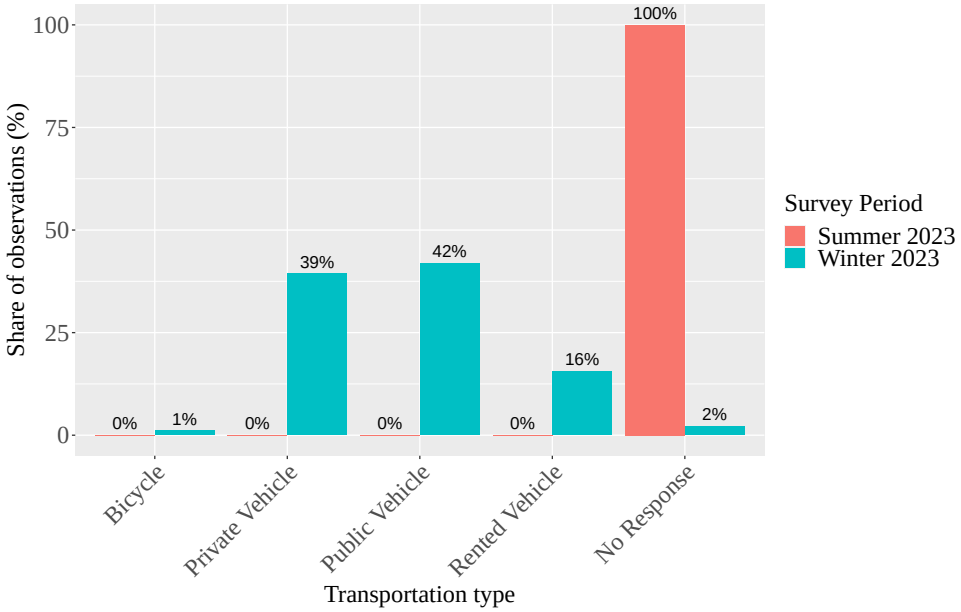
Figure 3.36: Visitors types in the Albanian pilot



Notes: This figure shows the type of visitors of the Albanian pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

Tourists largely used private and public transport to visit the spot. As depicted in Figure 3.37, 42%visitors used public transport, 39%visitors used private transport, 16% used rented transport and 1% used bicycle to tour around the destination during winter season. However, transportation related information were not available for the summer season.

Figure 3.37: Type of transportation of visitors in Albania



Notes: This figure shows the type of transportation of visitors of the Albanian pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

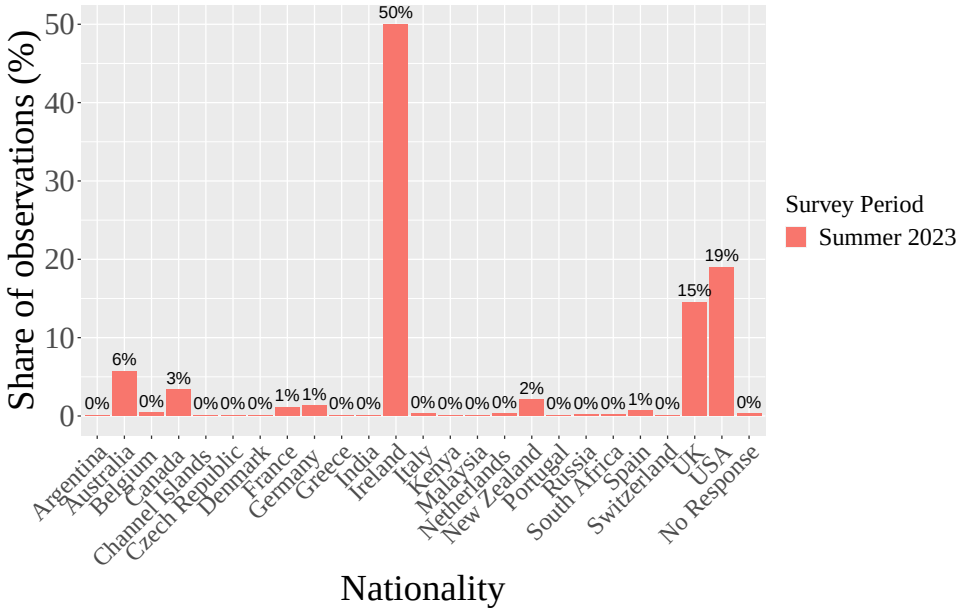
The Albania pilot survey revealed a diverse international audience, with majority being foreign visitors, primarily from Germany, France , Italy , and Spain . Most visitors fell within the 46 to 60 age group, and the survey showed a balanced gender representation. Visitor categories varied, with around half of them arriving with partners, and transportation preferences leaning towards public transport and private vehicles. These findings emphasise the importance of tailored strategies to cater to the preferences of a diverse visitor base in the Albania region.

3.1.8 Pilot 9: Ireland

The Ireland pilot has conducted an on-site survey during summer season. In total 1171 visitors were surveyed in this pilot.

Figure 3.38 shows the distribution of the respondents in terms of nationality. In this pilot, half of the surveyed tourists are locals from Ireland and the rest of the 50% are foreigners. A significant portion of them is from the USA with 19%, UK with 15%, Australia with 6%, Canada with 3% and New Zealand with 2% of the tourists. Apart from these, tourists from Argentina, Belgium, Channel Island, Czech Republic, Denmark, Greece, India, Italy, Kenya, Malaysia, Netherlands, Portugal, Russia, South Africa, Spain, and Switzerland visited the sites of this pilot.

Figure 3.38: Number and share of visitors' nationality in Ireland



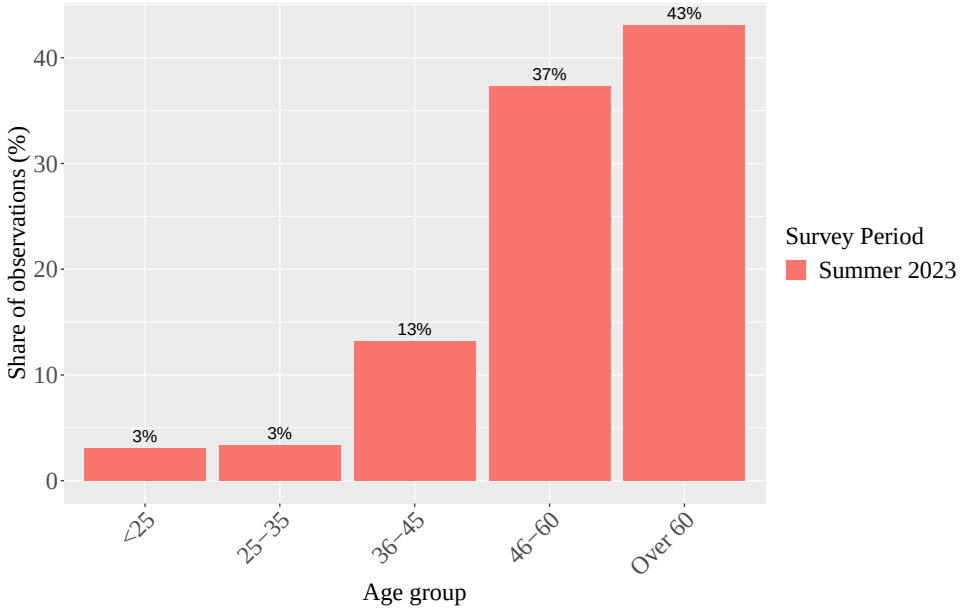
Notes: This figure shows the nationality of visitors of the Irish pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

Figure 3.39 depicts the age frequency distribution of the respondents of the visitors to the sites. A significant portion of the respondents are over 60 years old, accounting for 43% of the respondents. 37% of them are between 46 to 60 years old, indicating a dominance of aged people in visiting the sites. Among others, 13% of respondents are 36 to 45 years old, 3% are 25 to 35 years old, and less than 25 years old.

As shown in Figure 3.40, 52% of the respondents of the pilot are female and 47% are male, indicating a partial dominance of females in visiting the sites of this pilot.

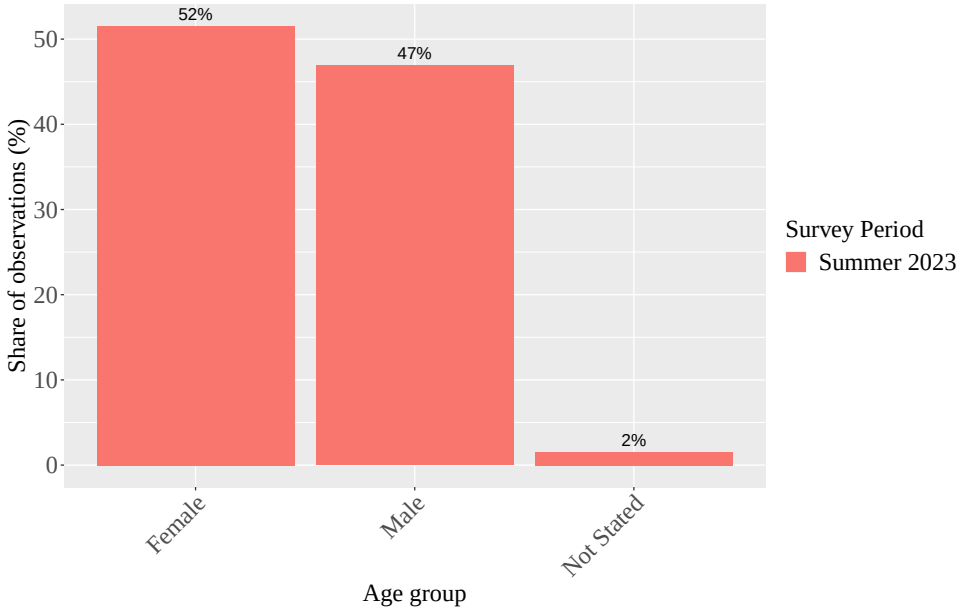
The pilot in Ireland surveyed 1171 visitors, with half being locals and the rest international tourists. The sites attracted a diverse crowd, including visitors from the USA, UK,

Figure 3.39: Number and share of visitors within different age intervals in Ireland



Notes: This figure shows the age intervals of visitors of the Irish pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

Figure 3.40: Gender distribution of visitors in the Irish pilot



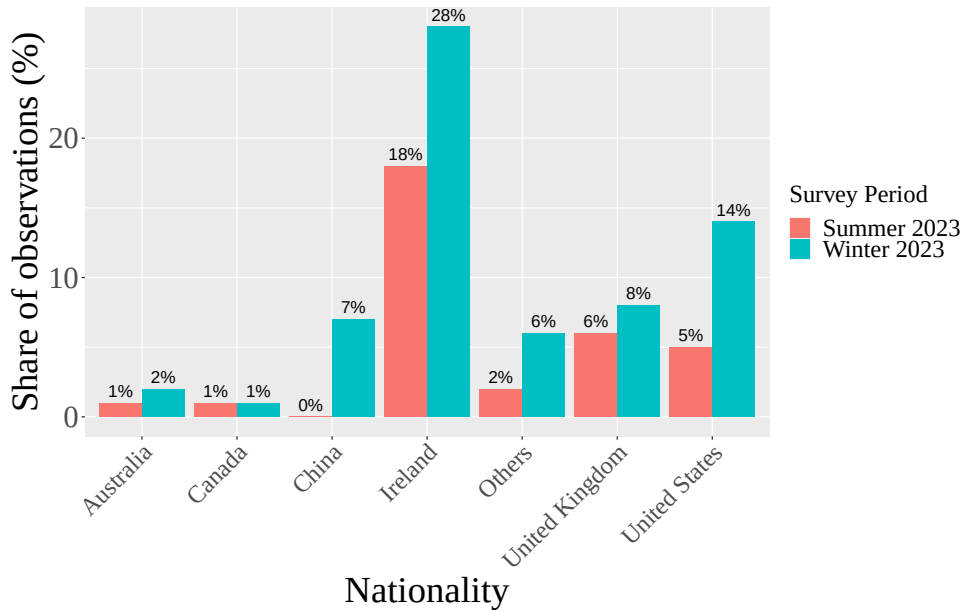
Notes: This figure shows the gender of visitors of the Irish pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

Australia, and several other countries. Females slightly outnumbered males, constituting 52% of the respondents. Age-wise, a significant 43% were over 60 years old, reflecting an appeal to older visitors. These findings highlight the broad international and age diversity of tourists, emphasising the historical significance of the sites.

The Irish pilot also provided web analytics for their website: www.historicgraves.ie. Their web analytics contains data regarding users' location, gender, and age. In the following sections, these data will be assessed.

In total 19380 users' data regarding gender were provided, shown in Figure 3.43. 52% or 10037 users were female and 48% or 9343 were male.

Figure 3.41: Number and share of visitors' nationality in Ireland - web analytics



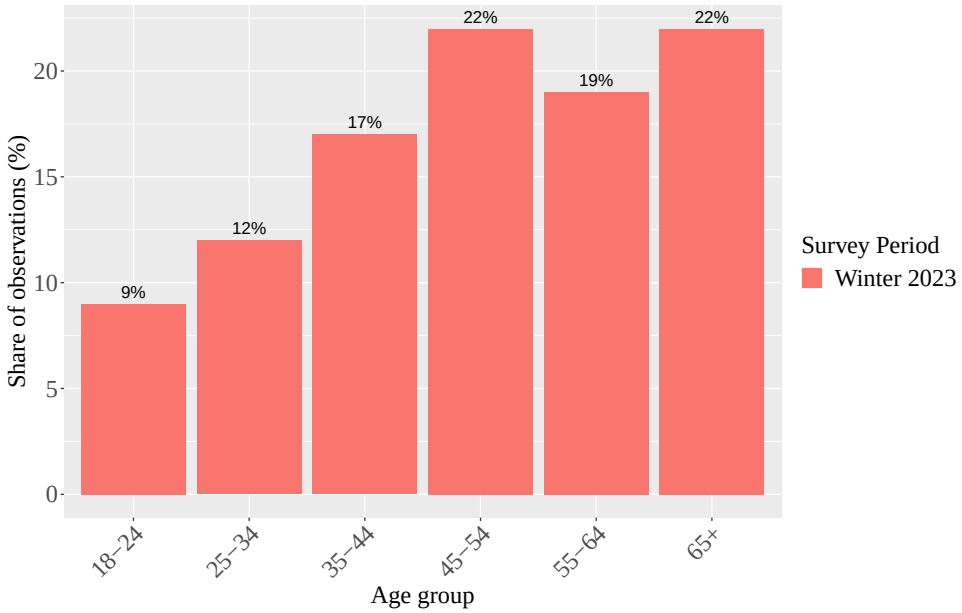
Notes: This figure shows the nationality of visitors of the Irish pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

The web analytics provided 19257 users' age distributions as shown in Figure 3.42. Around 22% of the users are above 65 years old, 19% of them are 55 to 64 years old, 22% of them are 45 to 54 years old, 17% are 35 to 45 years old, 12% of them are 25 to 34 years old, and 9% of them are 18 to 24 years old.

The website has the maximum number of users from Ireland accounting for 42% of users as shown in Figure 3.41. Users from the United States account for 21% of the users, the United Kingdom accounts for 11% of the users, China accounts for 10% of the users, Australia accounts for 4% of the users, Canada accounts for 2% of the users, and around 10% of the users are from other countries.

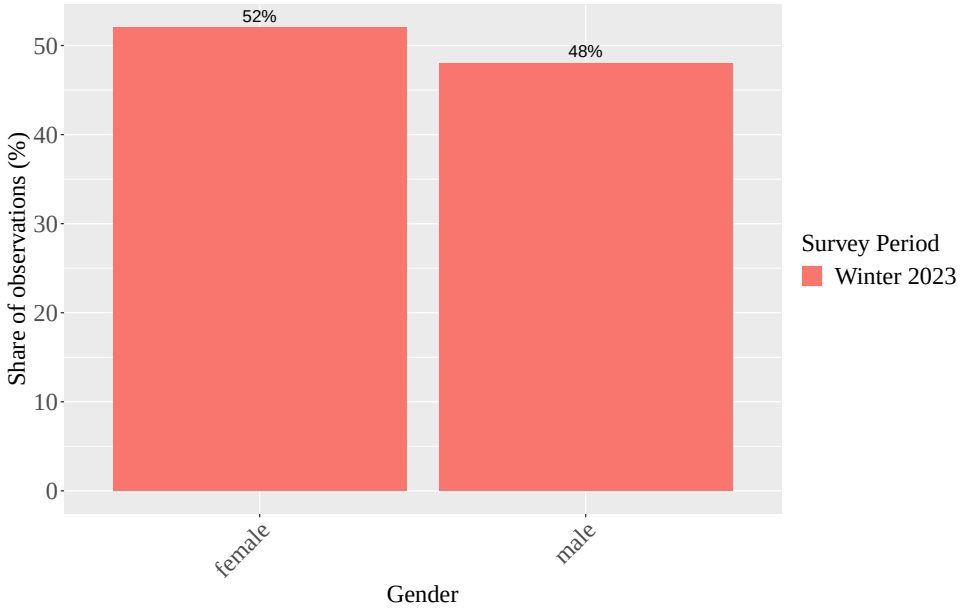
Figure 3.44 illustrates the time series analysis of the page views and number of users

Figure 3.42: Number and share of visitors within different age intervals in Ireland - web analytics



Notes: This figure shows the age intervals of visitors of the Irish pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

Figure 3.43: Gender distribution of visitors in the Irish pilot - web analytics

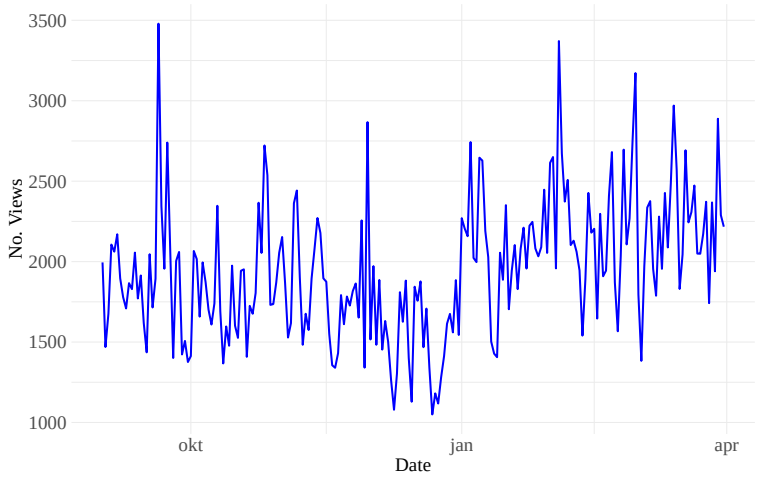


Notes: This figure shows the gender of visitors of the Irish pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

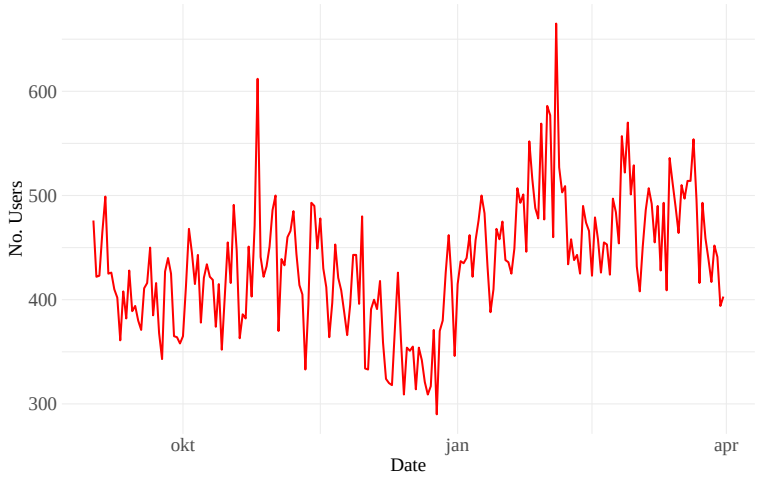
per day of the Irish website. Ireland web analytic data contains information regarding frequency of page views by website users. As shown in Figure 3.44a, the data dated from September 1, 2022 to March 31, 2023 indicates that the frequencies of page views various over the time period within a range of 1050 to 3479 views per day. The number

of web users per day is depicted in Figure 3.44b. It similarly contains the data from September 1, 2022 to March 31, 2023 and the range of frequency of users is between 290 to 665. The number of website users were higher throughout February to March in 2023 and lower during December 2022.

Figure 3.44: Web analytics - Ireland



(a) Web page views per day



(b) Web users per day

Notes: This figure shows number of web page views and the number of users of the web page of Irish pilot.
Source: Surveys conducted by INCULTUM pilot partners.

The Ireland pilot's web analytics for historicgraves.ie provided essential insights into user demographics and geographic engagement. Among 19,380 users, a balanced gender representation was observed, with 52% female and 48% male visitors. The site attracted a diverse age group, notably appealing to individuals above 65 years old (22%). Geographically, Ireland constituted most users (42%), while international engagement was

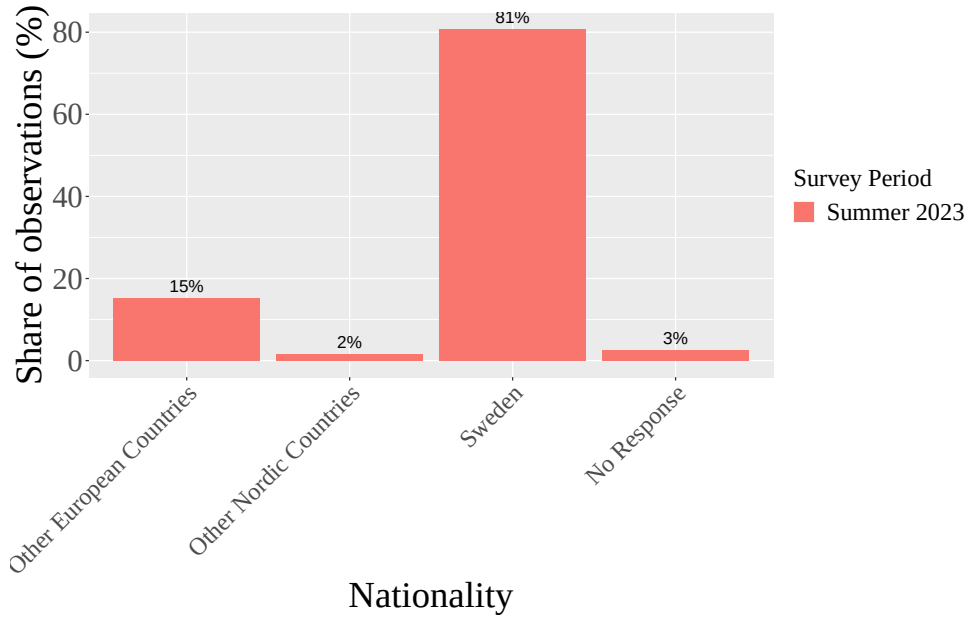
significant, particularly from the United States (21%) and the United Kingdom (11%). These findings emphasise the importance of tailoring the website content to cater to a diverse and global audience.

3.1.9 Pilot 10: Sweden

The Sweden pilot conducted a survey on tourists in the summer season and they have collected responses from 119 tourists. They covered demographic information along with collecting information regarding their activities, stays, expenditures, visits.

The nationality of respondents were dominated by the local Swedish citizens as depicted in Figure 3.45, around 81% were locals. This pilot hosted other Europeans tourists among which 2% were from Nordic countries and 15% from other European countries. However, around 3% did not revealed their nationality.

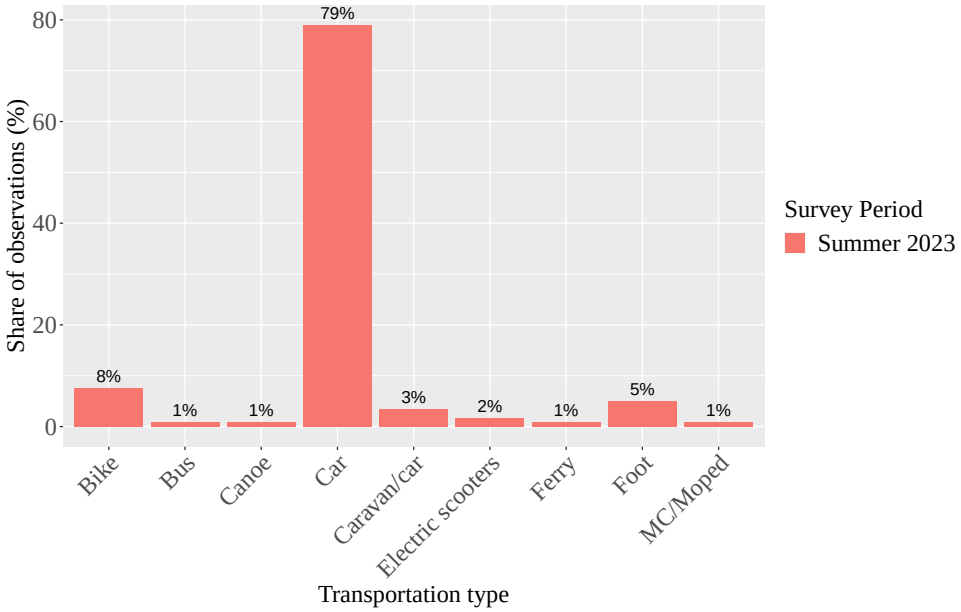
Figure 3.45: Number and share of visitors' nationality in Sweden



Notes: This figure shows the nationality of visitors of the Swedish pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

The tourist in this pilot relied significantly on car as shown in Figure 3.46, around 79% travelled on their car. Apart from it, the tourist used a versatile mode of transportation, including- bike, caravan, ferry, bus MC/Moped, canoe, electric scooter. Additionally, 5% of them visited the site on their foot.

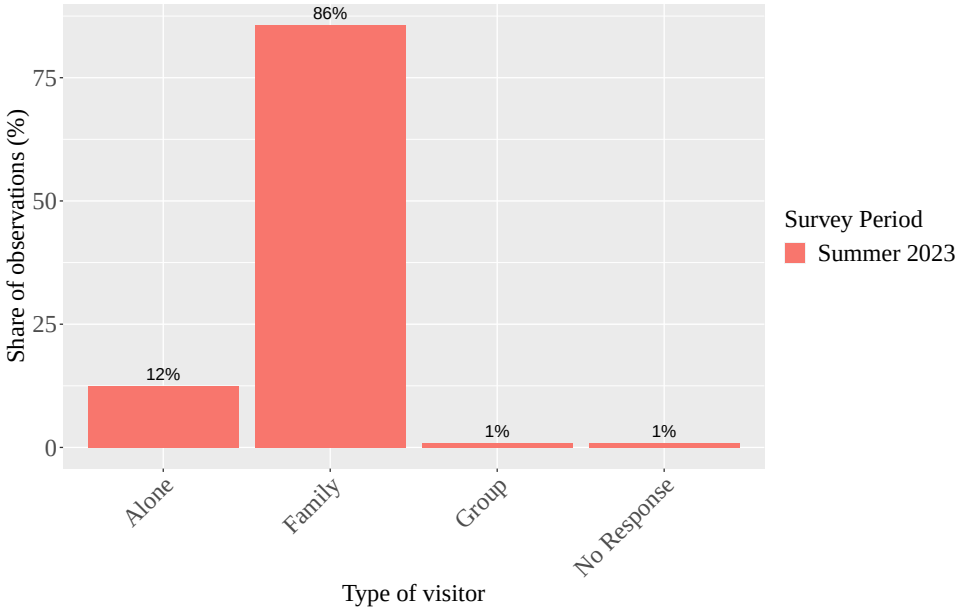
Figure 3.46: Type of transportation of visitors in Sweden



Notes: This figure shows the type of transportation of visitors of the Swedish pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

Tourists visited the sites in this pilot predominantly with family. as illustrated Figure 3.47, 86% of the respondents came with family, followed by the tourist who came alone with 12%. a small proportion of tourists came with group.

Figure 3.47: Visitors types in the Swedish pilot



Notes: This figure shows the type of visitors of the Swedish pilot. *Source:* Surveys conducted by INCULTUM pilot partners.

In summary, the majority of respondents (81%) were local Swedish citizens, with 2% from

Nordic countries, 15% from other European countries, and 3% undisclosed nationality. Most tourists (79%) used cars, with a variety of other transportation modes like bikes, caravans, ferries, and walking making up the rest. Family visits were predominant (86%), followed by solo tourists (12%), with a small number in groups.

3.2 Comparison of INCULTUM pilots based on visitor survey data

The pilots showcased a diverse array of nationalities among their visitors, reflecting a rich tapestry of cultural backgrounds and global interest in the respective destinations. The Portugal pilot attracted visitors from a wide range of countries, including Brazil, Canada, England, Netherlands, Scotland, and Vietnam. This diverse mix of nationalities emphasised the international appeal of the destination. Visitors in the Italy (Sicily) pilot hailed from Germany, England, Poland, Spain, Lithuania, Greece, and France. This blend of European nationalities indicated a varied interest in the Sicilian inland-Monti di Trapani region. The Tuscany-Emilia pilot primarily hosted local tourists, with a smaller percentage of international visitors from Australia, England, France, Germany, Ireland, the US, and the Netherlands. The pilot's appeal reached both local and international audiences. The Greece pilot welcomed visitors primarily from local Greek tourists. Additionally, international travellers from Israel, Germany, France, and Denmark explored the attractions, showcasing a mix of European and Middle Eastern visitors. Albania pilot's visitors represented a global spectrum, including tourists from Germany, France, Italy, Spain, the USA, Argentina, Austria, Belgium, Bulgaria, Canada, China, Czech Republic, England, Finland, Greece, Israel, Japan, Kosovo, New Zealand, Norway, Poland, Scotland, Slovakia, Slovenia, Sweden, and Switzerland. This extensive list highlighted the international intrigue surrounding Albania's attractions. The Ireland pilot drew visitors from a multitude of nations, such as the USA, UK, Australia, Canada, New Zealand, Argentina, Belgium, Czech Republic, Denmark, Greece, India, Italy, Kenya, Malaysia, Netherlands, Portugal, Russia, South Africa, Spain, and Switzerland. This diverse mix indicated a global fascination with Ireland's historic sites. The varied nationalities across these pilots underscored the universal appeal of these destinations, attracting visitors from different corners of the world

and fostering cultural exchange and tourism diversity.

Across the different pilots, visitors' age groups varied significantly. In the Portugal pilot, a mix of younger and older tourists was observed, while Italy (Sicily) pilot attracted a broad range of age groups, including younger travellers and older visitors. Italy (Tuscany-Emilia) pilot mostly appealed to an older demographic, with a considerable number of visitors above 60. Similarly, the Greece pilot saw a diverse range of ages, with significant interest from both younger and middle-aged travellers. In Albania, most visitors fell within the 46-60 age group, reflecting a mature audience. The Ireland pilot, on the other hand, attracted a substantial number of older tourists, with a significant portion above 60 years old. These varying age demographics emphasise the importance of tailored approaches to meet the preferences of different age groups in each pilot region.

Certainly, across the pilots, there was a notable diversity in terms of visitor gender, reflecting a balanced interest from both male and female travellers. The Portugal pilot had a mix of male and female visitors, with both genders contributing significantly to the overall visitor demographics. This balanced representation highlighted the universal appeal of the destination. Both male and female visitors were well-represented in the Italy (Sicily) pilot. The region attracted a diverse range of travellers, emphasising an inclusive environment for both genders. Similar to other pilots, the Tuscany-Emilia pilot showcased a balanced gender distribution among its visitors. Both male and female travellers explored the attractions, indicating a universal appeal to diverse audiences. In the Greece pilot, both male and female visitors participated in the survey. The region's attractions attracted a broad spectrum of travellers, making it inclusive for both genders. Albania's pilot saw active participation from both male and female travellers. The diverse attractions in the region appealed to a wide range of visitors, creating a gender-inclusive tourism environment. The Ireland pilot also demonstrated a balanced gender representation, with both male and female visitors exploring the historic sites. This gender diversity highlighted the universal appeal of Ireland's cultural heritage. Across these pilots, the balanced gender representation emphasised the inclusive nature of these destinations

and online platforms, welcoming visitors from all gender backgrounds and fostering a diverse and enriching tourism experience.

Across the pilots, transportation preferences varied significantly. In the Portugal pilot, diverse modes of transport were observed, indicating flexibility among visitors. Italy (Sicily) predominantly relied on Pullman services, while private transportation was the preferred choice in Italy (Tuscany-Emilia). In Greece, private vehicles were widely used, indicating a preference for independent travel. Albania showcased a mix of public and private transport, highlighting visitors' adaptability. The Ireland pilot data revealed a reliance on personal vehicles, underlining the importance of accessible road networks. These varied transportation choices emphasise the need for tailored infrastructure and services to accommodate diverse visitor preferences in each pilot region.

Each pilot study reveals distinct patterns in visitor categories. The Portugal pilot indicates a diverse range of visitor categories, including families, friends, solo travellers, and other groups. This diverse mix highlights the varied social contexts of travel preferences among visitors in Portugal. In the Italy (Sicily) pilot, visitors predominantly travelled with their partners, reflecting a preference for romantic or couple-oriented experiences. Additionally, students and school colleagues constituted a notable portion, indicating an educational or group travel focus. The Tuscany-Emilia pilot showcased a balanced mix of family and partner travellers, highlighting the region's appeal to both family-oriented tourists and couples. Moreover, a significant number of visitors preferred private transportation, underscoring the independence and flexibility sought by this group. The Greece pilot attracted a mix of family travellers, friends, and individuals travelling alone. The presence of various visitor categories suggests diverse motivations, ranging from family-oriented vacations to solo explorations. The Albania pilot drew a substantial number of tourists travelling with partners, indicating a preference for romantic getaways. Additionally, a significant portion of visitors explored the destination alone, emphasising the appeal of solo travel experiences in this region. The Ireland pilot exhibited a diverse mix of visitor categories, including families, couples, and individuals travelling alone. The significant

representation of older travellers suggests a preference for historical and cultural experiences among this demographic. Each pilot's unique visitor categories provide valuable insights for developing tailored tourism strategies, ensuring a rich and inclusive experience for all types of travellers.

Web analytics from Ireland's historicgraves.ie website indicated a gender balance among its 19,380 users, with 52% female and 48% male. Age-wise, the site engaged a diverse audience, especially appealing to users above 65 years old (22%). Geographically, 42% of users were from Ireland, with substantial international engagement, particularly from the United States (21%) and the United Kingdom (11%). These varied visitor profiles underscore the need for tailored tourism strategies, recognising the diverse demographics and preferences across the pilots.

Across the pilots, there were notable differences in visitor demographics and preferences. Each pilot attracted a unique mix of local and international tourists, reflecting diverse cultural backgrounds. Age distributions varied, with some pilots appealing to younger travellers and others to older visitors, highlighting the need for tailored experiences. The gender ratios were balanced in some pilots, while others showed slight imbalances. Additionally, transportation preferences differed, emphasising the importance of accommodating various modes of travel. These distinctions underscore the necessity of customised tourism strategies to cater to the specific needs and preferences of visitors in each pilot region.

3.3 Section summary

In this section we have provided a detailed analysis of pilot visitor survey data collected during two rounds, one in the winter 22/23 and one in the summer 23. We have illustrated demographic characteristics of the visitors such as age and gender and their nationality. This information has been complemented with information about the trip such as how visitors reach their destination and who they are travelling with. Finally, we have showed, for a smaller number of pilots, additional results regarding the visi-

tors knowledge of the location and the motivation of the trip. In conclusion we can say that each pilot experience their own mix of visitors in all dimensions indicating diversity within the INCULTUM pilot regions.

4 Data describing tourism

In Section 3 we presented one way to obtain detailed information about visitors of different locations. However, collecting surveys can be both time-consuming, costly and limited in terms of numbers. In this section we present additional ways to measure tourism activity, which can complement the results from on-site visitor surveys, and can be fully compared across many different locations. One possibility is to use international tourism statistics, such as those provided by Eurostat, appreciated and used by scholars and practitioners alike. In addition to this we present a novel approach based on computer-science and big data collected from a leading travel portal, Tripadvisor. This novel approach enables us to obtain a systematic, consistent, and reliable approximation for tourism flows in different countries with unprecedented precision, frequency, and depth of information. In comparison with international tourism statistics, this approach delivers 1) information on tourism flows at the attraction-level (not country-level), 2) detailed information about the tourist, including the rating given (a proxy for visitor satisfaction) and city of origin, 3) data as good as in real-time, and 4) at a daily frequency. In the rest of this section we present the different approaches and we also evaluate critically the approach using data from Tripadvisor.

4.1 Official tourism statistics

Eurostat offers different measures of tourism activity at the country level (Eurostat, 2023). We use arrivals at tourist accommodation establishments and net occupancy rates. For both measures, we consider both domestic and non-domestic visitors and all tourist accommodation establishments that fall under one of the three NACE Rev. 2 classifications I551 (hotels and similar accommodations), I552 (holiday and other short-stay accommodation), and I553 (camping grounds, recreational vehicle parks and trailer parks).

An arrival at a tourist accommodation establishment is defined as a person (tourist) who arrives at a tourist accommodation establishment and checks in. There are made no

restrictions on age, meaning that adults as well as children are part of the statistic. Same-day visitors that spend only few hours (no overnight stay) are excluded from this statistic. Another possibility is to use the net occupancy rate for bed places. The net occupancy rate for bed places is defined as the total number ofbed places in use during the reference period divided by the total amount of bed places available during the reference period. To express the occupancy rate as a percentage, the resulting fraction is multiplied by 100.

Even though in some cases the official statistics are available at the NUTS 2 or NUTS 3 level, we make use of the national level to ensure consistency across all pilot areas. We use the information from Eurostat to validate the use of a more rich and detailed dataset, namely reviews from Tripadvisor, as explained in the next section.

4.2 Tripadvisor reviews

International tourism statistics have several significant shortcomings such as being over-aggregated and lacking important information about the tourist. In the evaluation of the INCULTUM pilot action, we therefore propose the use of a much more detailed data source. This approach allows us to concentrate on locations geographically more close to INCULTUM pilot sites, and hence evaluate the impact of the INCULTUM action in more detail.

We collect reviews posted on Tripadvisor for the period January 2016 to July 2022, and covering all attractions in the countries where an INCULTUM pilot site is present: Albania, France, Greece, Ireland, Italy, Portugal, Slovakia, Spain and Sweden. We include reviews written in English and the domestic language, whenever available (i.e., French, Italian, Portuguese and Swedish). To create the dataset, we used a purpose-built Python web scraping program to collect the reviews from Tripadvisor.com dividing it into three different data entities: list of attractions, attraction reviews and user profiles, each of which is explained below.

List of attractions: This is a complete list of all attractions located in one of the INCULTUM pilot countries and present on Tripadvisor. The list contains information about the attraction, such as the name, the within-country ranking, overall rating, number of reviews, attraction location and the attraction type. The attraction type is based on Tripadvisor's own classification covering 20 different categories. The classification system is not mutually exclusive, meaning that some attractions can be classified in multiple categories at the same time.

Attraction reviews: This module is a list of all reviews in English and the national language of the attraction country, for all attractions in the attraction module. This module includes the title and text of the review, together with the date when the review was published and the rating of the attraction. The list also includes a unique and anonymous identifier of the user who published the review. This latter can be used to link the review to the user profile module to obtain additional information about the user such as the user location.

User profiles: The user profile module contains basic information about the users who wrote at least one review for at least one attraction in our sample of countries. It reveals information about the user such as the user location.

Together these three modules form the basis of our dataset, where, combining the information in each, we obtain information about both the user and the attraction related to every review. The data is at the individual and daily level, and hence highly disaggregated. To obtain additional variables, we use OpenStreetMap (OSM) data to identify the latitude and longitude of locations (user and attraction) in R using the geocode function in the tidygeocoder package Cambon et al. (2021). Finally, using the locations, we can also compute the distance travelled by each user, to reach an attraction.

To analyse the impact of the INCULTUM pilot action, we identify all attractions in our data, located geographically closer to an INCULTUM pilot area. The inclusion of attractions is based on the subdivision of the territories into NUTS3 regions, as defined by

the European Union. We identify both impacted regions control regions. The impacted regions are NUTS3 regions where an INCULTUM pilot area is located. These are the regions where we can expect to find an impact of the INCULTUM pilot action. The control regions can be used as a counterfactual of the impact if the INCULTUM action. Such control regions should be similar to the INCULTUM pilot regions before the innovative actions of INCULTUM, but not after, since they were not exposed to the action. We can compare the trends of the INCULTUM pilot regions and the control regions before and after the INCULTUM action, and the difference between the regions can be attributed to the INCULTUM action.

Tripadvisor is not widely used in all INCULTUM countries (E.g., Albania and Slovakia), and hence, there is not a sufficient number of English reviews to be able to match on characteristics of the attraction (e.g., falling into the same attraction categories). Furthermore, few pilots had a presence on Tripadvisor before the start of INCULTUM. Therefore, we rely on method geographic proximity, to identify control regions, selecting NUTS3 regions bordering NUTS3 regions where an INCULTUM pilot site is located. A complete list of INCULTUM pilot regions can be seen in Table A1 and the control regions are listed in Table A2, both in Appendix A.

Summary statistics can be seen in Table 4.1.

4.3 Other possibilities

An alternative approach to look at INCULTUM pilot tourism activity is to consider Google search trends. The idea behind using Google search trends is that an increase in search activity for a given location can be interpreted as an increase in interest in the location. While this is not a direct measure of tourism activity, it is a proxy for the visibility of or interest in a given area. Given the above mentioned, in the assessment of the impact of pilot action, this is not included. However, a brief description and first results taking this approach, can be seen in Appendix B.

Table 4.1: Summary statistics

Panel A - Rewiews and attractions

	Albania	France	Greece	Ireland	Italy-Sicily	Italy-Tuscany	Portugal	Slovakia	Spain	Sweden
No. reviews (country)	20261	4264008	882169	894179	2692027	2692027	1124285	40878	1774871	248466
No. attractions (country)	658	57380	12709	7737	37704	37704	11557	1510	42452	5827
No. reviews (INCULTUM + bordering)	6918	77445	17560	602905	65370	236089	162170	6748	164275	98166
No. attractions (INCULTUM + bordering)	283	2466	411	7346	1344	3014	2070	909	6090	1831
No. reviews (local)	171	9911	148	59072	2170	6514	6560	280	8376	7779
No. reviews (domestic)	449	37034	1698	68459	27866	33750	10954	546	7964	5963
No. reviews (Europe)	2853	7274	5882	119070	11355	47307	70475	1743	77806	20302
No. reviews (world)	1238	6362	4454	194515	9819	92782	13245	948	31813	21505

Panel B - Monthly data aggregated by INCULTUM + bordering regions

Variable		Albania	France	Greece	Ireland	Italy-Sicily	Italy-Tuscany	Portugal	Slovakia	Spain	Sweden
No. reviews (country)	Mean	208.06	39280.13	7944.64	7513.07	21839.84	21839.84	10380.84	365.29	15743.04	2218.20
	Std.dev.	146.10	28605.42	7197.17	5381.65	16190.47	16190.47	6406.09	272.84	10128.58	1802.29
	Min	11	2092	276	145	498	498	437	3	1116	250
	Max	609	120748	22675	20695	6684	6684	24923	998	35107	8628
	Obs.	81	81	81	81	81	81	81	80	80	81
No. Reviews (INCULTUM + bordering)	Mean	85.41	956.11	216.79	7443.27	807.04	2914.68	2002.10	84.35	2053.44	1211.93
	Std.dev.	74.02	716.53	190.57	5329.69	751.72	2112.10	1527.00	73.62	1283.65	1043.34
	Min	3	48	4	144	17	57	46	2	135	79
	Max	318	2943	680	20469	3770	7290	5930	316	4149	4581
	Obs.	81	81	81	81	81	81	81	80	80	81
No. Reviews (local)	Mean	2.67	122.36	2.79	729.28	28.55	80.42	80.99	4.59	104.70	96.04
	Std.dev.	1.64	93.78	1.79	523.94	26.59	65.79	50.93	8.21	52.99	72.92
	Min	1	5	1	24	1	2	3	1	18	5
	Max	7	403	8	2257	98	247	228	64	205	272
	Obs.	64	81	53	81	76	81	81	61	80	81
No. Reviews (domestic)	Mean	5.99	457.21	21.49	845.17	344.02	416.67	135.23	8.15	99.55	73.62
	Std.dev.	5.31	369.90	16.69	679.73	413.82	328.01	136.04	7.17	53.11	56.85
	Min	1	2	1	24	4	4	2	1	8	5
	Max	24	1530	84	3087	2310	1267	635	34	214	276
	Obs.	75	81	79	81	81	81	81	67	80	81
No. Reviews (Europe)	Mean	35.66	90.93	73.53	1470	140.19	584.04	870.06	22.93	972.58	250.64
	Std.dev.	34.79	89.70	84.18	1176.33	122.53	508.89	779.45	21.31	700.88	226.22
	Min	1	1	1	13	1	7	12	1	20	5
	Max	121	365	286	4606	455	1949	2908	115	2309	962
	Obs.	80	80	80	81	81	81	81	76	80	81
No. Reviews (world)	Mean	15.67	81.56	56.38	2401.42	122.74	1145.46	163.52	14.81	397.66	268.81
	Std.dev.	14.995	70.85	50.46	2295.22	105.84	986.36	124.21	15.08	295.42	305.91
	Min	1	1	1	8	1	15	2	1	5	1
	Max	62	249	183	7082	392	3262	389	61	953	1150
	Obs.	79	78	79	81	80	81	81	64	80	80
Travel distance (km)	Mean	3131.96	1110.27	3607.18	2848.53	2667.41	4378.51	2309.45	2184.97	2980.25	2928.01
	Std.dev.	1422.28	512.08	1138.25	1126.92	949.39	1238.64	475.76	1860.21	781.03	1336.84
	Min	550.27	167.16	673.32	424.09	801.68	1123.19	970.15	129.71	736.43	539.07
	Max	10279.81	2849.01	5873.96	4546.12	6172.32	6270.45	3379.45	15674.55	4130.77	4955.80
	Obs.	81	81	81	81	81	81	81	78	80	81

Notes: This table shows summary statistics for the data and different units of observation. Panel A shows overall numbers for both the country and NUTS3 regions where an INCULTUM pilot is located and bordering NUTS3 regions. Panel B shows summary statistics using aggregated data at the monthly level also considering both the country and NUTS3 regions. Own data collected from Tripadvisor (see Section 4 for details).

4.4 Section summary

In this section we have presented different ways to measure tourism activity. Official tourism statistics covering all INCULTUM countries are available from the European statistics office, Eurostat. However, such statistics are often highly aggregated and can therefore not be used to study tourism at more local levels. For this reason, we present a new dataset, containing reviews from Tripadvisor, and covering all attractions in each

of the INCULTUM countries. This alternative, allows us to measure tourism at very disagregated levels and with high frequency.

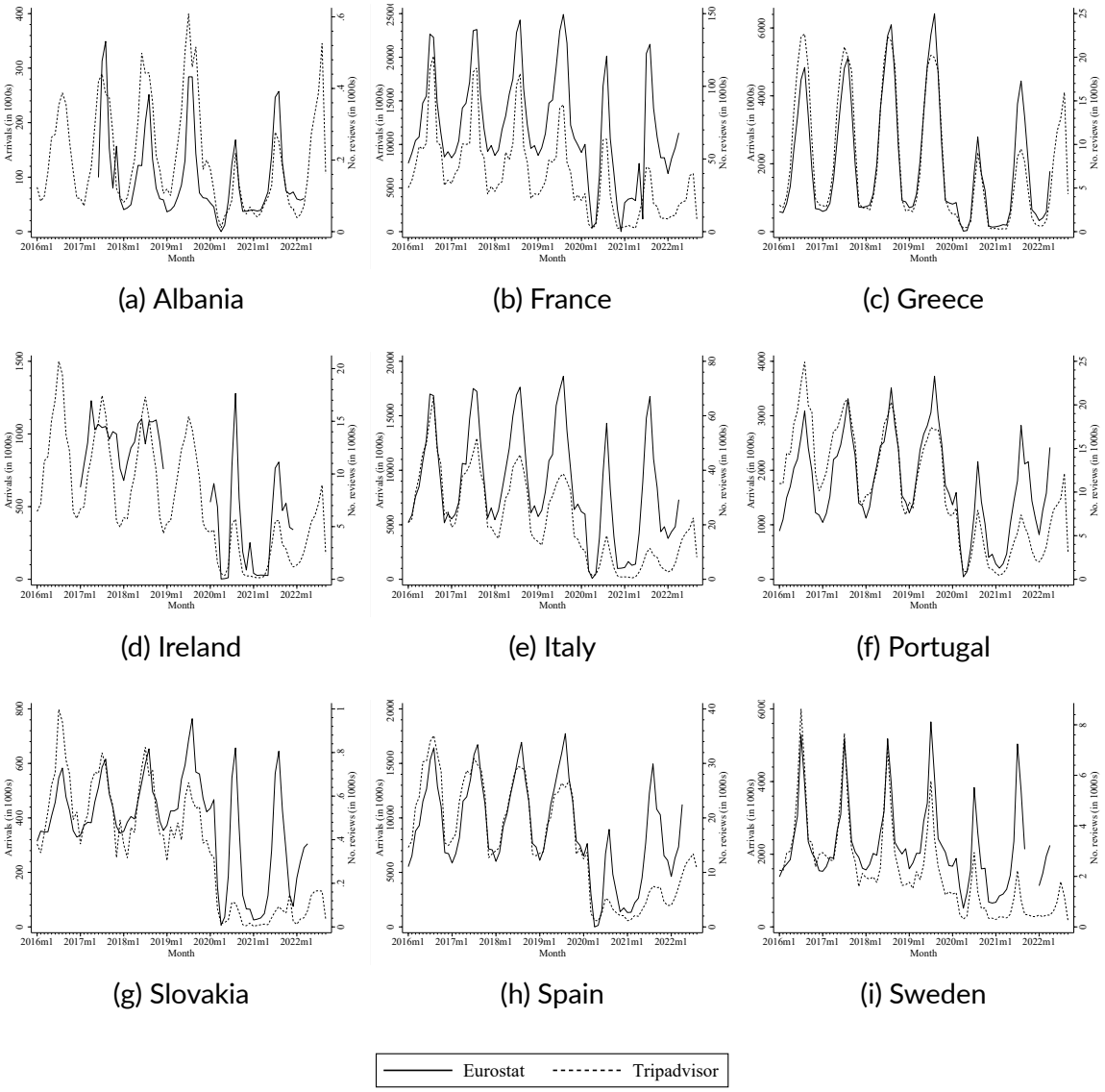
5 Validating the Tripadvisor data

Before turning to the analysis of tourism activity in the INCULTUM pilot areas, we present a series of validation tests of our Tripadvisor data presented in Section 4.2. The aim of this section is to illustrate that we can be confident with the conclusions drawn on the basis of the Tripadvisor data. To this end, we compare the Tripadvisor data with the official tourism statistics from Eurostat presented in Section 4.1. We compare the number of Tripadvisor reviews at the national level for all INCULTUM pilot countries, with Eurostat measures. To be as detailed as possible, we show the results for all reviews and for domestic reviews and foreign reviews separately.

5.1 A visual inspection

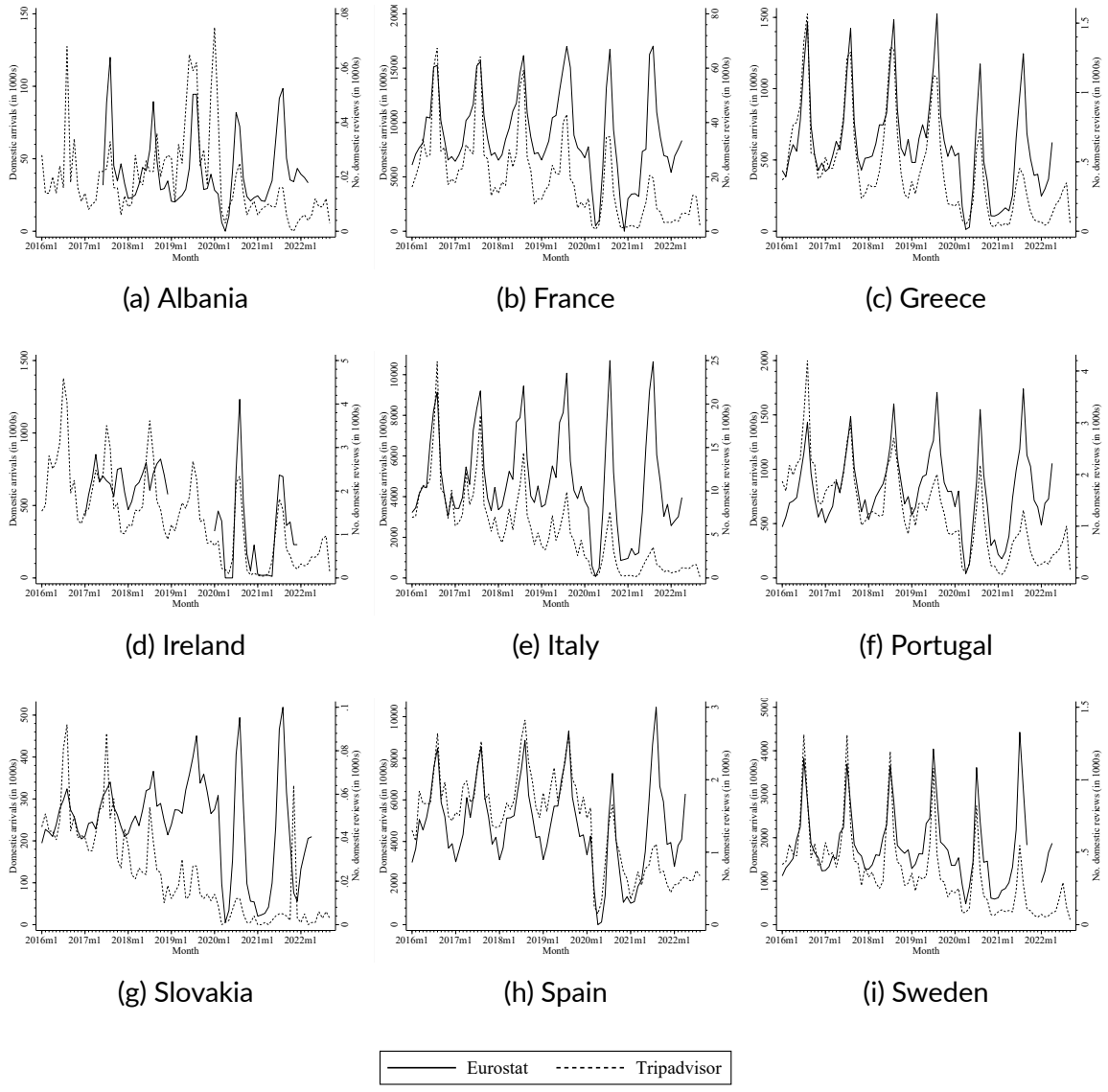
We start with a visual inspection of our data aggregated at the monthly level and compare this to the number of arrivals and the occupancy rates as given by Eurostat. In Figure 5.1 we show the total number of Eurostat arrivals and Tripadvisor reviews for each of the INCULTUM countries. An inspection of Figure 5.1 already makes it clear that the time-series follow each other closely in almost all countries with the exception of Albania and partly Slovakia, where they seems to be less closely correlated. To assure that the results are valid also when considering only domestic reviews or only foreign reviews, we show these separately in Figure 5.2 and Figure 5.3. The conclusions are similar to Figure 5.1, with the exception that in the case of both Albania and Slovakia, the foreign reviews follow more closely the foreign arrivals from Eurostat. This is what we could expect, given that domestic reviews are more likely in the national language and hence not included in our data in these two cases. On the other hand, foreign reviews are more likely in English, and hence these are better represented in our data. Finally, we also show the results using the Eurostat occupancy rates which can be seen in Figure 5.4. From Figure 5.4, we can once more conclude that the times-series follow each other quite closely.

Figure 5.1: Total number of arrivals and reviews over time



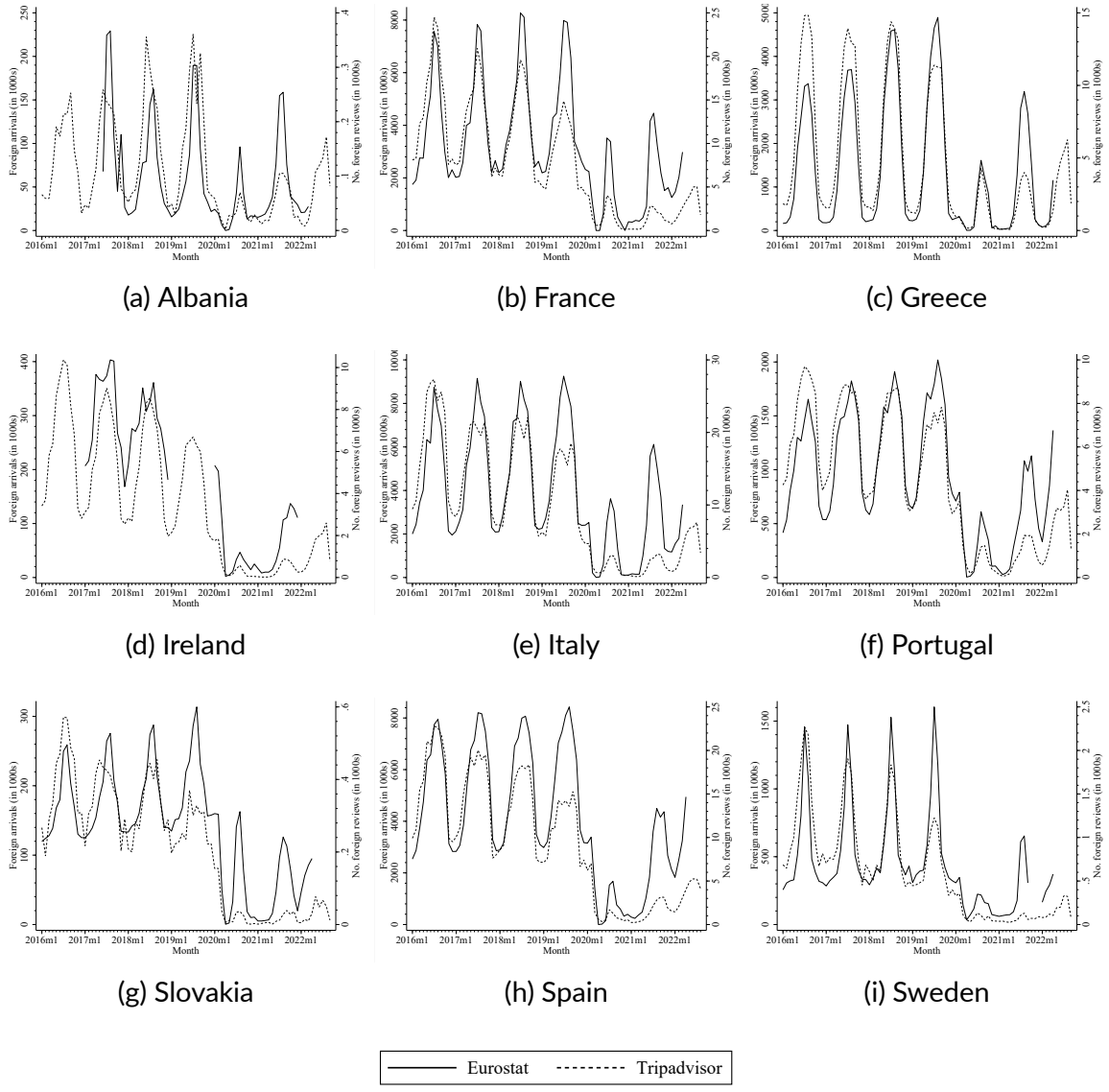
Notes: This Figure shows number of Tripadvisor reviews and Eurostat arrivals by country and month. *Source:* (Eurostat, 2023) and own data collected from Tripadvisor (see Section 4 for details).

Figure 5.2: Number of domestic arrivals and domestic reviews over time



Notes: This Figure shows number of Eurostat domestic arrivals and Tripadvisor domestic reviews by country and month. *Source:* (Eurostat, 2023) and own data collected from Tripadvisor (see Section 4 for details).

Figure 5.3: Number of foreign arrivals and foreign reviews over time



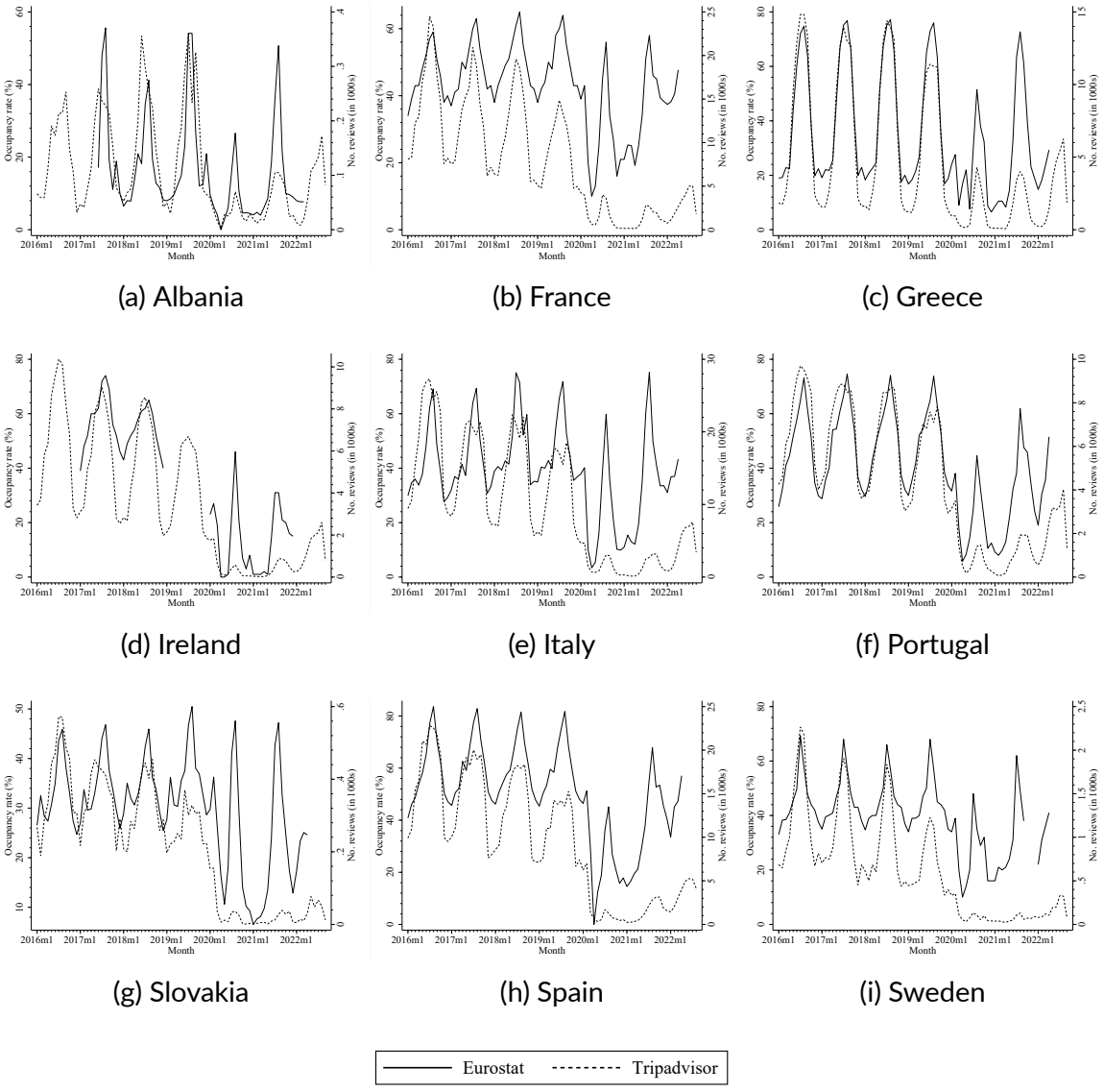
(a) Albania (b) France (c) Greece

(d) Ireland (e) Italy (f) Portugal

(g) Slovakia (h) Spain (i) Sweden

Notes: This Figure shows number of Eurostat foreign arrivals and Tripadvisor foreign reviews by country and month. *Source:* (Eurostat, 2023) and own data collected from Tripadvisor (see Section 4 for details).

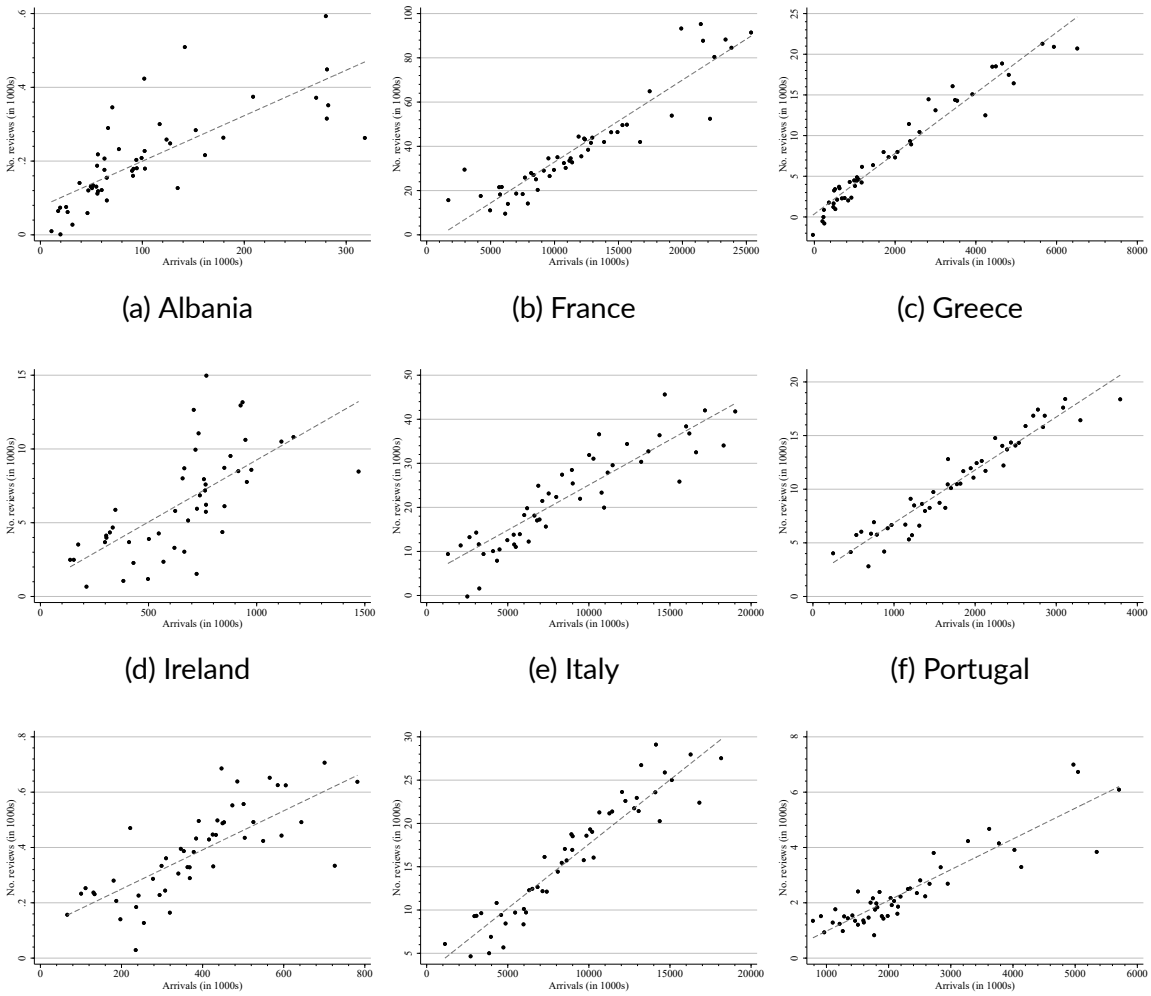
Figure 5.4: Eurostat occupancy rates and number of Tripadvisor reviews over time



Notes: This Figure shows the Eurostat occupancy rates and Tripadvisor reviews by country and month.
Source: (Eurostat, 2023) and own data collected from Tripadvisor (see Section 4 for details).

As a second visual inspection, we illustrate binned scatterplots of Eurostat arrivals/occupancy rates and Tripadvisor reviews. The idea of these plots is to visually illustrate how closely the variables correlate. The closer the dots follow a straight line, the more closely the variables are correlated. In Figure 5.5 we show the correlation between total arrivals and total reviews, while in Figures 5.6 and 5.7 we show the binned scatterplots between domestic arrivals and domestic reviews and foreign arrivals and foreign reviews respectively. Finally Figure 5.8 shows the binned scatterplots between Eurstat occupancy rates and Tripadvisor reviews. In all four figures it is very clear that they are well aligned.

Figure 5.5: Monthly correlation between tourist arrivals and number of reviews



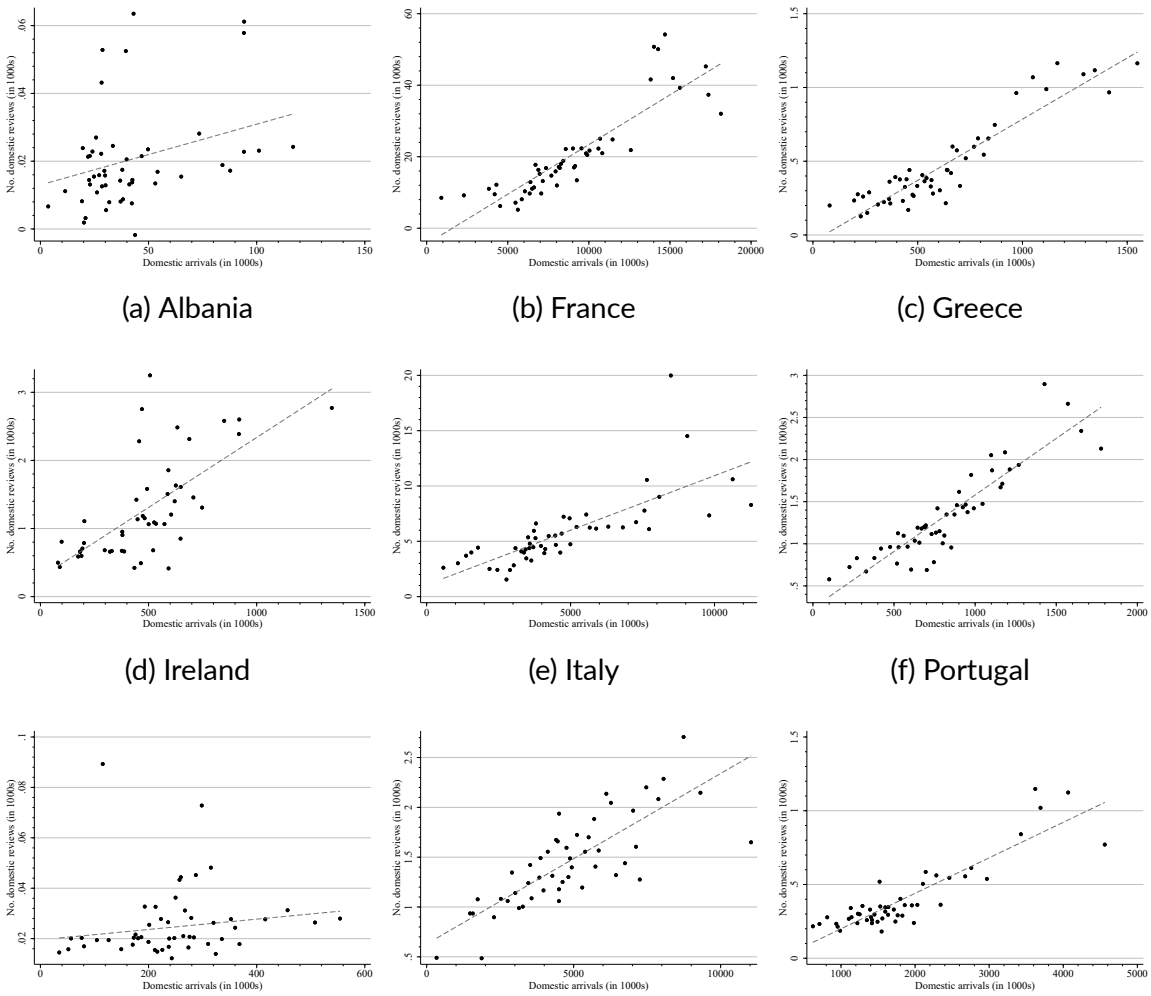
(a) Albania (b) France (c) Greece

(d) Ireland (e) Italy (f) Portugal

(g) Slovakia (h) Spain (i) Sweden

Notes: This Figure shows binned scatter plots of the number of Eurostat arrivals and the number of Tripadvisor reviews by country. *Source:* Official tourism statistics from (Eurostat, 2023) and own data collected from Tripadvisor (see Section 4 for details).

Figure 5.6: Monthly correlation between domestic tourist arrivals and number of domestic reviews



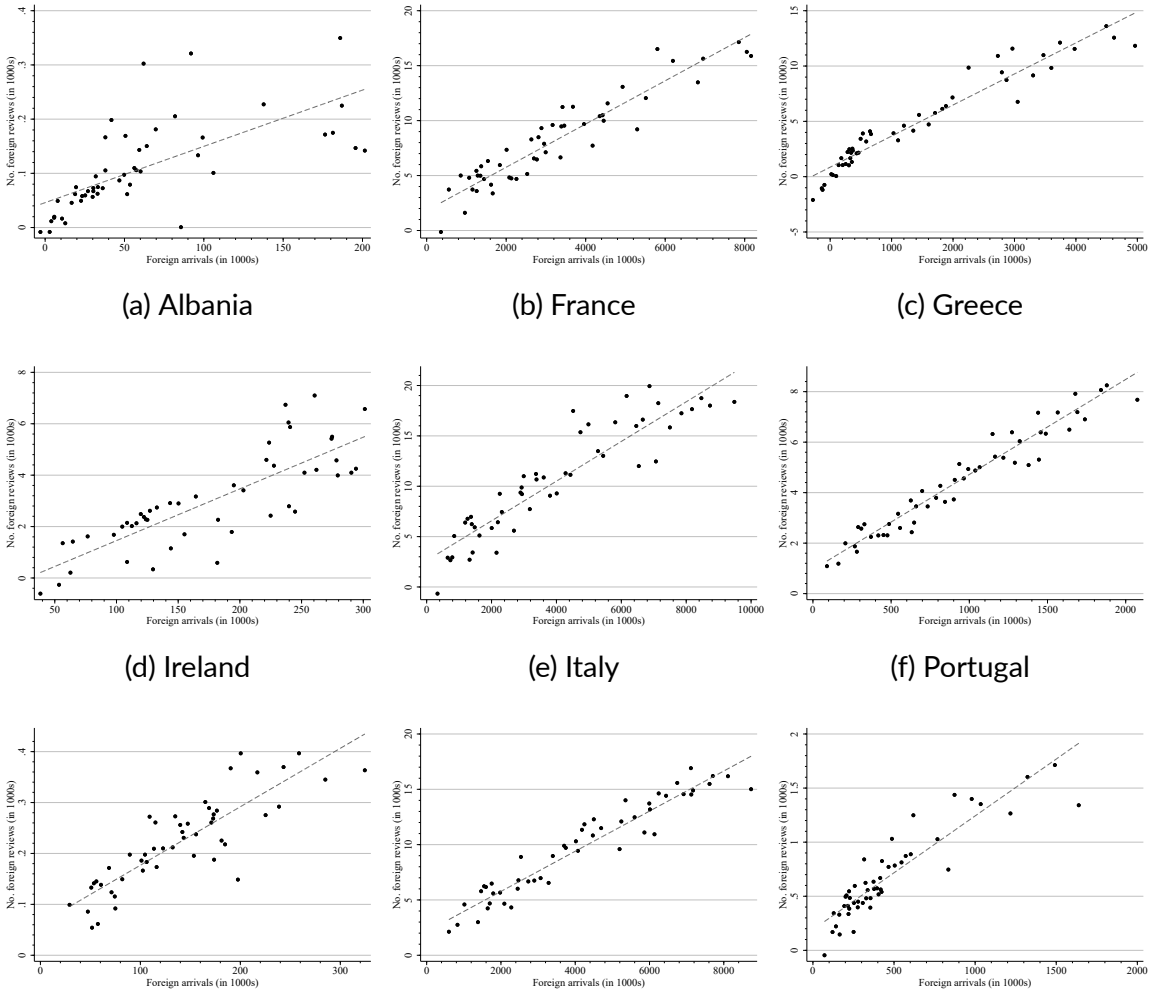
(a) Albania (b) France (c) Greece

(d) Ireland (e) Italy (f) Portugal

(g) Slovakia (h) Spain (i) Sweden

Notes: This Figure shows binned scatter plots of the number of Eurostat domestic arrivals and the number of Tripadvisor domestic reviews by country. *Source:* Official tourism statistics from (Eurostat, 2023) and own data collected from Tripadvisor (see Section 4 for details).

Figure 5.7: Monthly correlation between foreign tourist arrivals and number of foreign reviews



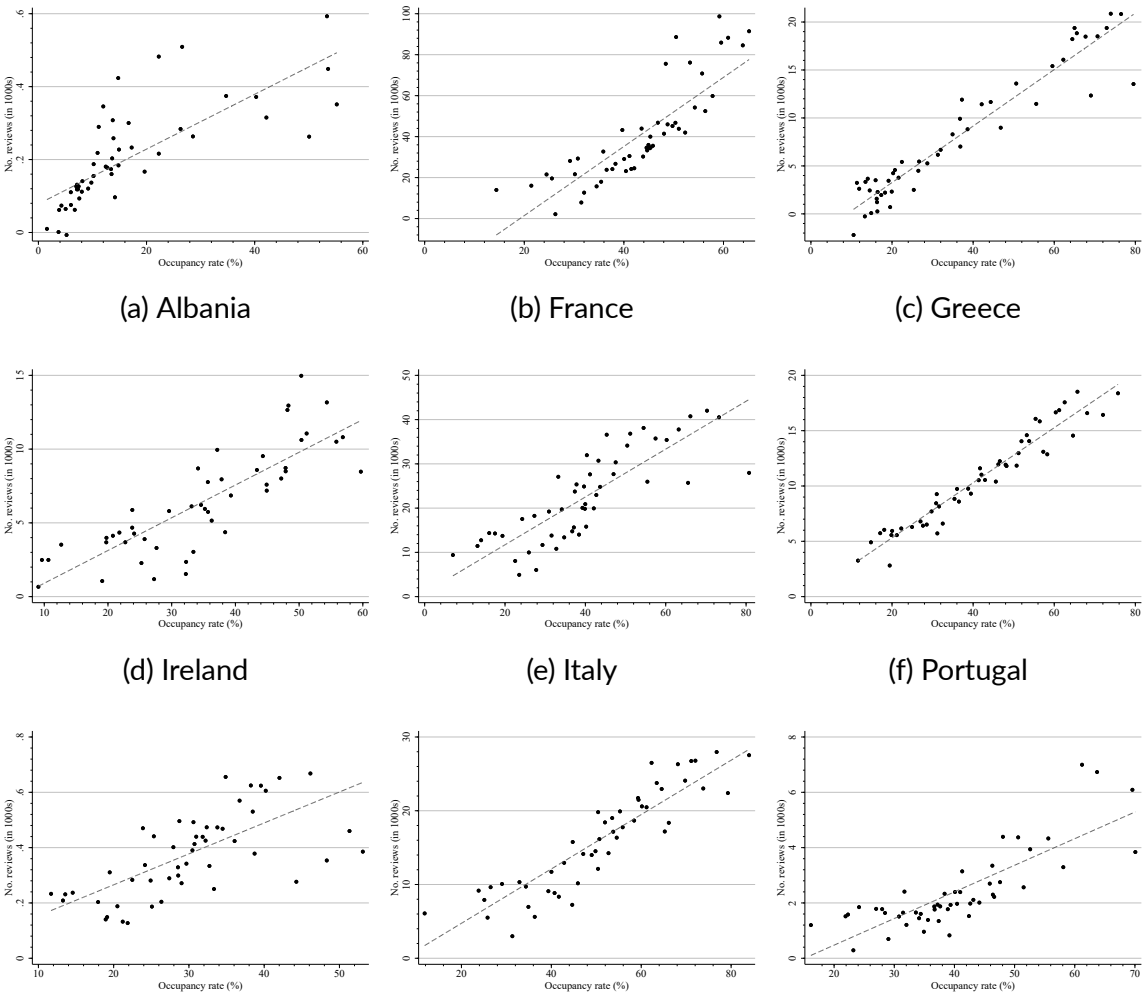
(a) Albania (b) France (c) Greece

(d) Ireland (e) Italy (f) Portugal

(g) Slovakia (h) Spain (i) Sweden

Notes: This Figure shows binned scatter plots of the number of Eurostat foreign arrivals and the number of Tripadvisor foreign reviews by country. *Source:* Official tourism statistics from (Eurostat, 2023) and own data collected from Tripadvisor (see Section 4 for details).

Figure 5.8: Monthly correlation between Eurostat occupancy rates and Tripadvisor reviews



(a) Albania (b) France (c) Greece

(d) Ireland (e) Italy (f) Portugal

(g) Slovakia (h) Spain (i) Sweden

Notes: This Figure shows binned scatter plots of the Eurostat occupancy rates and the number of Tripadvisor reviews by country. *Source:* Official tourism statistics from (Eurostat, 2023) and own data collected from Tripadvisor(see Section 4 for details).

5.2 Formal validity tests

In this section we present the results of two formal ways of testing the validity of using our Tripadvsor data. The most simple way to test the validity, is to compute simple correlation coefficient between the variables. The correlation coefficients can be seen in Table 5.1. Higher values indicate a stronger correlation between the variables, and in parentheses we show the statistical significance, p-values. Finding p-values closer to zero indicate that we can be more confident that the tested variables are indeed correlated. Table 5.1 panel a, shows the correlation coefficients between total number of Eurostat arrivals and Tripadvisor, panel b between domestic arrivals and domestic reviews, panel c between foreign arrivals and foreign reviews and panel d between Eurostat occupancy rates and Tripadvisor reviews. The same picture emerges from Table 5.1 as we saw in the previous subsection. The correlation coefficients are quite high and also highly significant, with the exception from Albania and Slovakia in panel b, which consider the domestic measures.

Table 5.1: Validity Test: Correlation coefficients between Tripadvisor reviews and Eurostat tourism measures

	All	Albania	France	Greece	Ireland	Italy	Portugal	Slovakia	Spain	Sweden
					(a) No. arrivals					
No. reviews	0.862	0.726	0.875	0.847	0.843	0.790	0.8149	0.702	0.832	0.800
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
					(b) No. domestic arrivals					
No. domestic reviews	0.796	0.295	0.786	0.862	0.789	0.640	0.632	0.283	0.688	0.771
	(0.000)	(0.025)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.013)	(0.000)	(0.000)
					(c) No. foreign arrivals					
No. foreign reviews	0.892	0.707	0.854	0.908	0.935	0.843	0.873	0.831	0.882	0.826
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
					(d) Occupancy rate					
No. reviews	0.536	0.762	0.827	0.938	0.927	0.695	0.887	0.685	0.867	0.835
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Notes: Simple correlation coefficients between Eurostat arrivals and Tripadvisor reviews in Panel (a), Eurostat domestic arrivals and Tripadvisor domestic reviews in Panel (b), Eurostat foreign arrivals and Tripadvisor foreign reviews in Panel (c), and the occupancy rate from Eurostat and Tripadvisor reviews in Panel (d). *p*-values in parentheses. *Source:* Official tourism statistics from (Eurostat, 2023) and own data collected from Tripadvisor (see Section 4 for details).

Another way to test the validity of our data is to regress the number of reviews on the number of arrivals/occupancy rate. This method indicate how well tourism arrivals or occupancy rates can explain the number of monthly reviews from Tripadvisor. The advantage of using this method is that we can control for time fixed effects, i.e. factors that are constant across places, but change over time. In Table 5.2 we present the results using observations from all INCULTUM countries together. In column 1 we show the results using $ln(Arrivals)$ as the explanatory variable and $ln(Reviews)$ as the outcome of interest. The estimate is highly significant and indicates that a 1% increase in the number of arrivals corresponds to a 0.67% increase in the number of reviews. In Table 5.2, column 2, we present the results using domestic arrivals and domestic reviews, finding that a 1% increase in the number of domestic arrivals corresponds to a 0.61% increase in the number of domestic reviews. In panel c we show the results using foreign arrivals and foreign reviews, again finding a highly significant estimate. Finally in column 4 we use the occupancy rates where a 1% increase in the occupancy rate implies a 0.4% increase in the number of reviews. In all four columns the Eurostat measures also appear to have a very high explanatory power.

In Figures 5.3 - 5.6 we show the results separately by country. Showing the results separately helps illustrate whether our data is reliable in each country separately. Considering the results of the visual inspection and the correlation coefficient in Table 5.1 this could be a concern for Albania and Slovakia. However, from Figures 5.3 - 5.6, we can conclude that in all cases the estimates are highly significantly different from zero and all models have a high explanatory power. Given this we are confident that our data is a valid alternative to using official tourism statistics and we can therefore proceed with our analysis.

Table 5.2: Validity Test: Regression results for full sample

	(1) ln(Reviews)	(2) ln(Domestic reviews)	(3) ln(Foreign reviews)	(4) ln(Reviews)
ln(Arrivals)	0.673***			
	(0.025)			
ln(Domestic arrivals)		0.610***		
		(0.036)		
ln(Foreign arrivals)			0.688***	
			(0.022)	
Occupancy rate				0.036***
				(0.002)
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes
N	632	623	630	635
R^2	0.964	0.963	0.960	0.946

Notes: Regression results when estimating the number of Tripadvisor reviews on the number of arrivals or the occupancy rate from Eurostat. Column 1 uses all arrivals and reviews, column 2, uses domestic arrivals and domestic reviews, column 3 uses foreign arrivals and foreign reviews and column 4 uses the occupancy rates and number of reviews. Robust standard errors in parentheses. *** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$. *Source:* Official tourism statistics from (Eurostat, 2023) and own data collected from Tripadvisor (see Section 4 for details).

Table 5.3: Validity Test: Regression results for total number of arrivals and reviews by country

	(1) ln(Reviews)	(2) ln(Reviews)	(3) ln(Reviews)	(4) ln(Reviews)	(5) ln(Reviews)	(6) ln(Reviews)	(7) ln(Reviews)	(8) ln(Reviews)	(9) ln(Reviews)
ln(Arrivals)	0.746***	0.691***	0.672***	0.540***	0.721***	0.816***	0.872***	0.684***	0.845***
	(0.154)	(0.088)	(0.042)	(0.073)	(0.066)	(0.049)	(0.106)	(0.054)	(0.085)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	57	75	76	48	76	76	76	75	73
R^2	0.851	0.881	0.969	0.861	0.934	0.957	0.884	0.946	0.974
Sample	Albania	France	Greece	Ireland	Italy	Portugal	Slovakia	Spain	Sweden

Notes: Regression results when estimating the number of Tripadvisor reviews on the number of Eurostat arrivals by country. Robust standard errors in parentheses. *** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$. *Source:* Official tourism statistics from (Eurostat, 2023) and own data collected from Tripadvisor (see Section 4 for details).

Table 5.4: Validity Test: Regression results for domestic arrivals and domestic reviews by country

	(1) ln(Domestic reviews)	(2) ln(Domestic reviews)	(3) ln(Domestic reviews)	(4) ln(Domestic reviews)	(5) ln(Domestic reviews)	(6) ln(Domestic reviews)	(7) ln(Domestic reviews)	(8) ln(Domestic reviews)	(9) ln(Domestic reviews)
ln(Domestic arrivals)	0.756**	1.034***	0.544***	0.675***	0.877***	0.901***	0.433***	0.377***	0.763***
	(0.343)	(0.080)	(0.050)	(0.080)	(0.058)	(0.070)	(0.143)	(0.055)	(0.102)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	56	75	76	45	76	76	71	75	73
R^2	0.541	0.942	0.955	0.893	0.960	0.932	0.777	0.867	0.955
Sample	Albania	France	Greece	Ireland	Italy	Portugal	Slovakia	Spain	Sweden

Notes: Regression results when estimating the number of Tripadvisor domestic reviews on the number of domestic arrivals from Eurostat. Robust standard errors in parentheses. *** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$. *Source:* Official tourism statistics from (Eurostat, 2023) and own data collected from Tripadvisor (see Section 4 for details).

Table 5.5: Validity Test: Regression results for foreign arrivals and foreign reviews by country

	(1) ln(Foreign reviews)	(2) ln(Foreign reviews)	(3) ln(Foreign reviews)	(4) ln(Foreign reviews)	(5) ln(Foreign reviews)	(6) ln(Foreign reviews)	(7) ln(Foreign reviews)	(8) ln(Foreign reviews)	(9) ln(Foreign reviews)
ln(Foreign arrivals)	0.442***	1.229***	0.567***	0.975***	0.510***	0.658***	0.699***	0.722***	0.856***
	(0.106)	(0.052)	(0.044)	(0.094)	(0.056)	(0.051)	(0.100)	(0.046)	(0.080)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	57	73	76	48	76	76	76	75	73
R^2	0.879	0.982	0.954	0.929	0.923	0.928	0.877	0.959	0.970
Sample	Albania	France	Greece	Ireland	Italy	Portugal	Slovakia	Spain	Sweden

Notes: Regression results when estimating the number of Tripadvisor foreign reviews on the number of foreign arrivals from Eurostat. Robust standard errors in parentheses. $^{***}\, p < 0.01$ $^{**}\, p < 0.05$ $^{*}\, p < 0.10$. *Source:* Official tourism statistics from (Eurostat, 2023) and own data collected from Tripadvisor (see Section 4 for details).

Table 5.6: Validity Test: Regression results for Eurstat occupancy rates and Tripadvisor reviews by country

	(1) ln(Reviews)	(2) ln(Reviews)	(3) ln(Reviews)	(4) ln(Reviews)	(5) ln(Reviews)	(6) ln(Reviews)	(7) ln(Reviews)	(8) ln(Reviews)	(9) ln(Reviews)
Occupancy rate	0.034***	0.063***	0.031***	0.076***	0.063***	0.046***	0.123***	0.046***	0.034***
	(0.013)	(0.006)	(0.007)	(0.012)	(0.005)	(0.005)	(0.011)	(0.002)	(0.004)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	58	76	76	48	76	76	76	76	73
R^2	0.762	0.911	0.876	0.835	0.944	0.897	0.921	0.971	0.965
Sample	Albania	France	Greece	Ireland	Italy	Portugal	Slovakia	Spain	Sweden

Notes: Regression results when estimating the number of Tripadvisor reviews on the occupancy rates from Eurostat. Robust standard errors in parentheses. *** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$. *Source:* Official tourism statistics from (Eurostat, 2023) and own data collected from Tripadvisor (see Section 4 for details).

5.3 Section summary

In this section we have extensively compared our Tripadvisor data to official tourism statistics from Eurostat, to validate the data. We have showed time-trends for Eurostat arrivals/occupancy rates and Tripadvisor reviews, and illustrated how they follow each other fairly close. As a further data validation, we have also presented a formal analysis of the correlations between the official statistics and our proposed data. We have showed that simple correlation coefficients are quite high for all INCULTUM countries apart from Albania and Slovakia. In a regression design we have showed that the Eurostat measures have a high explanatory power of Tripadvisor reviews and the estimates are all highly significant.

6 Tourism activity and trends in INCULTUM pilot regions

Given the results of the validity tests in Section 5, we proceed with the analysis of the INCULTUM pilot action using the Tripadvisor data. In this section we present tourism trends of the INCULTUM pilot regions and compare with the selected control regions identified in Section 4. We complement the analysis with maps showing the location of attractions located in the INCULTUM pilot regions and the locations of users visiting one of these attractions.

6.1 Methodology and considerations

To identify the impact of the INCULTUM action on tourism activity in the INCULTUM pilot areas we look at tourism trends in detail. We provide detailed insights in tourism activity in the INCULTUM pilot- and control areas, by looking at different time trends and comparing their respective tourism activity. We also provide several detailed maps to show the location of both attractions and users, and maps presenting travel patterns for four different travel categories: local, domestic, Europe and world. The analysis will therefore consist in a visual inspection of the trends, where after we can draw conclusions regarding the impact of the INCULTUM pilot action.

We acknowledge that a more thorough analysis would also include formal testing and comparisons using regression analysis. However, we believe that the visual inspection of maps and time trends provide useful insights of the impact. The choice of excluding regression analyses is based on the consideration that the tourism sector was facing massive repercussions with the outbreak of the Covid-19 pandemic and associated lockdown measures. The restrictive measures on internal and international travel generally started from March/April 2020 and the Covid-19 was declared a pandemic by the WHO on 11 March 2020 (World Health Organization, 2020). As a consequence, a majority of the INCULTUM pilot countries had extended periods during which internal movement was restricted and international travel was subject to additional controls. Most of the pilot countries still had restrictions on internal movements and international travel

in place when the INCULTUM project started in May 2021. The entire tourism sector experienced a record decline due to the Covid-19 pandemic and tourism-dependent economies were disproportionately affected (Behsudi, 2020). This means that the baseline data in all regions (both pilot and control regions) is affected by this important event to different degrees, and therefore, future trends in tourism activity are likely also affected by this decline. Consistent and reliable estimates from a regression analysis would require detailed information about several economic indicators, which, to the best of our knowledge, do not exist at the necessary level of aggregation and across all INCULTUM countries. The pandemic leaves a high degree of uncertainty with respect to tourist travel preferences in the post-pandemic period. We cannot rule out the possibility that the pilots could be unable to meet all of their KPI targets due to circumstances that are beyond the pilots' control. The comparison to control regions could help to shed light on whether the trends in visitors observed on the pilot-level is consistent with broader trends in tourism and reflective of the performance of the pilots.

We present the results for each INCULTUM pilot region, where, as explained in Section 4, an INCULTUM pilot region is defined as a NUTS3 region in which an INCULTUM pilot site is located and the control regions are the bordering NUTS3 regions. In part of the analysis we consider both pilot and control regions together, to show tourism trends around the pilot site and in other parts of the analysis, we consider pilot and control regions separately, to compare their trends.

6.2 Describing tourism in INCULTUM pilot regions

6.2.1 Location of attractions and users

We start by showing the location of all attractions located in the INCULTUM pilot regions, which can be seen in Figure 6.1. The blue dots indicate the location of an attraction and the red squares the approximate location of an INCULTUM pilot site. In Figure 6.2 we extend the sample to include the location of attractions in the control regions as well, while in Figure 6.3 we show more detailed maps for each country where we also include

information about the number of reviews for each attraction location determined by the size of the dots. Comparing attractions in the pilot and control regions, is useful in order to assure that they do not differ too much in terms of tourism activity.

Considering the INCULTUM countries separately, we can observe different patterns in the location of attractions and the number of reviews.

Albania: Looking at Figures 6.1 and 6.2, the INCULTUM pilot regions in Albania look quite similar to the selected control regions. Attractions seem quite well distributed across all regions, with the exception of the coastal control regions where more attractions are present. The same picture emerges from Figure 6.3, where attractions closer to the coast generally have more reviews.

France: For France, Figures 6.1 and 6.2 show similar distributions of attractions across all regions. Going into detail with the number of reviews at attractions, there is a larger concentration of reviews around the INCULTUM pilot site, while the central part of the region appears to have attractions with less reviews according to Figure 6.3. The control regions all look quite similar, with some attractions receiving more reviews than others.

Greece: In Greece, Figures 6.1 and 6.2 reveal a slightly different pattern, where the INCULTUM pilot regions appears to have a larger concentration of attractions closer to the pilot site, but attractions are still distributed similarly across the rest of the regions. From Figure 6.3 the pilot regions seems to have more larger attractions, together with the coastal regions.

Ireland: Ireland differs from the other pilots, in that the pilot action takes place all over the country. Therefore we do not explicitly consider control regions, but a look at Figures 6.1 and 6.2 al here reveal a similar distribution across regions. The pattern in Figure 6.3 is similar with all regions having similar distributions.

Italy (Sicily): In Italy (Sicily), the pattern looks different. From Figures 6.1 and 6.2, the INCULTUM pilot region has a larger number of attractions located close to the coast,

while the control regions have a more even distribution all over the area. From Figure 6.3 the coastal areas once more receive more reviews, and all regions have similar patterns.

Italy (Tuscany-Emilia): In Italy (Tuscany-Emilia), all regions look similar in their distribution of attractions according to Figures 6.1 and 6.2. The same is true from Figure 6.3, with the exception that one of the control regions has more attractions with a larger number of reviews.

Portugal: From Figures 6.1 and 6.2, the Portuguese pilot region has a higher number of attractions mainly located close to the coast, while the control regions have less attractions more evenly distributed. The same appears from Figure 6.3 and in addition it is also clear that a large number of all reviews in these regions regard attractions in the pilot region close to the coast.

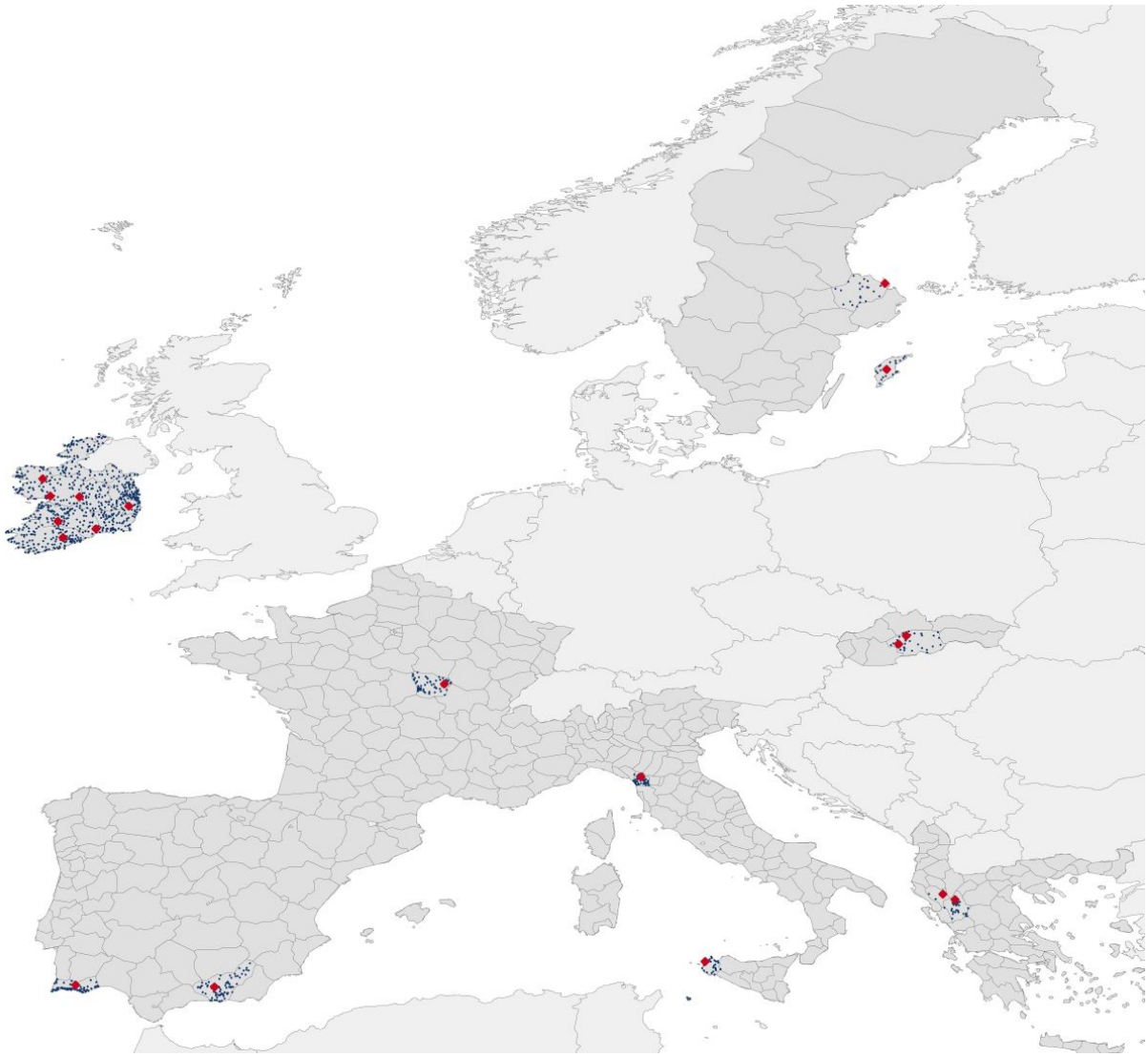
Slovakia: Also for Slovakia, Figures 6.1 and 6.2 reveal similar attraction distribution across all regions. While the distribution of attractions is simmilar across the Slovakian regions, the number of reviews is not. From Figure 6.3, it is clear that the attractions in the pilot region receive less reviews than most of the other attractions.

Spain: In Spain the coastal areas once again seem to have larger concentrations of attractions, but overall, all regions look quite similar. In terms of visitors, Figure 6.3 reveals that attractions close to the INCULTUM site receive a large number of reviews, and, as for other countries, also the coastal attractions receive more reviews.

Sweden: Figures 6.1 and 6.2 show also similar distributions for the Swedish regions. The pattern is similar when looking at Figure 6.3, where all regions appear to have attractions receiving more reviews. Not surprisingly, the regions with most reviews is the one where the Swedish capital is located.

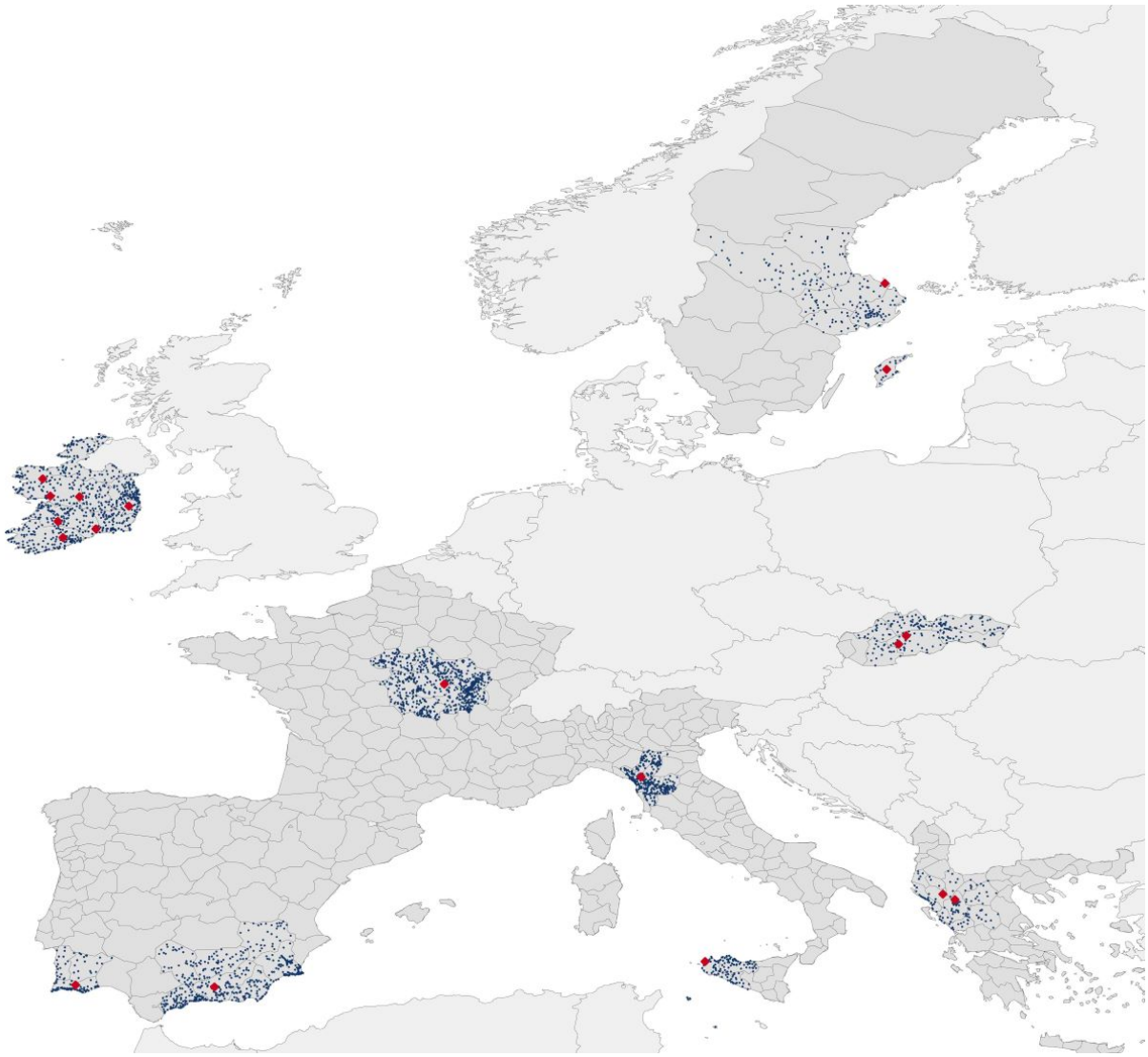
To complement this part of the analysis, Figure 6.4 shows the location of users visiting an attraction in one of the INCULTUM pilot regions or control regions.

Figure 6.1: Location of attractions in INCULTUM pilot egions



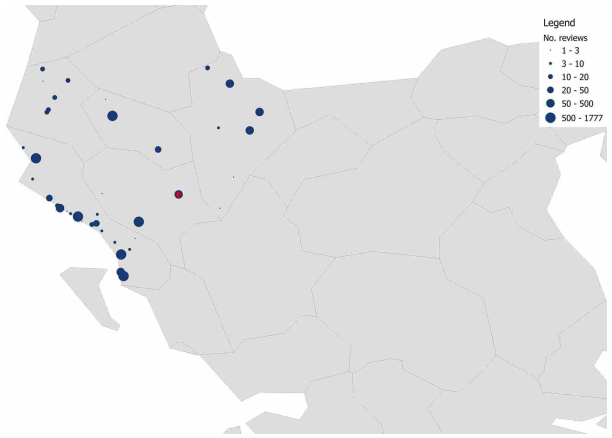
Notes: This Figure shows the location of all attractions on Tripadvisor and located in a NUTS3 region where there is located an INCULTUM pilot site. The blue dots indicate attractions and the red dots represent the approximate location of an INCULTUM pilot site. In the case of the Irish pilot, the dots indicate locations where visitor surveys have been distributed. *Source:* Own data collected from Tripadvisor (see Section 4 for details).

Figure 6.2: Location of attractions in INCULTUM pilot and bordering regions

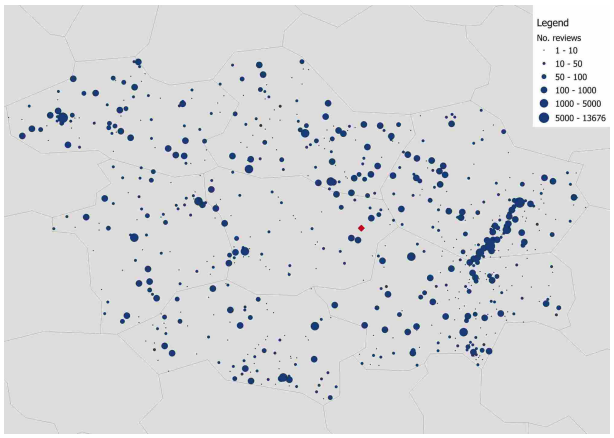


Notes: This Figure shows the location of all attractions on Tripadvisor and located in a NUTS3 region where there is located an INCULTUM pilot site and NUTS3 regions that border regions with an INCULTUM pilot site. The blue dots indicate attractions and the red dots represent the approximate location of an INCULTUM pilot site. In the case of the Irish pilot, the dots indicate locations where visitor surveys have been distributed. *Source:* Own data collected from Tripadvisor (see Section 4 for details).

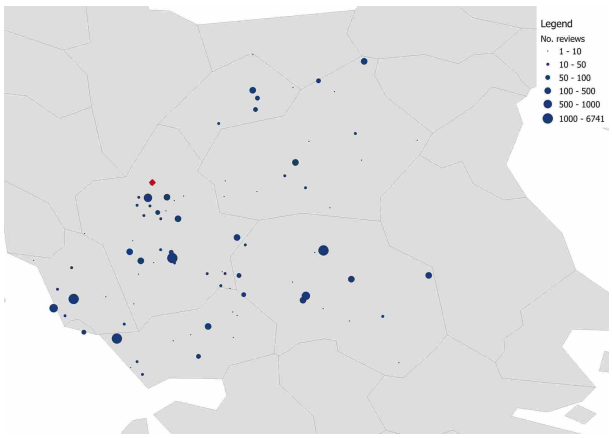
Figure 6.3: Number of reviews at attraction locations in INCULTUM pilot and bordering regions



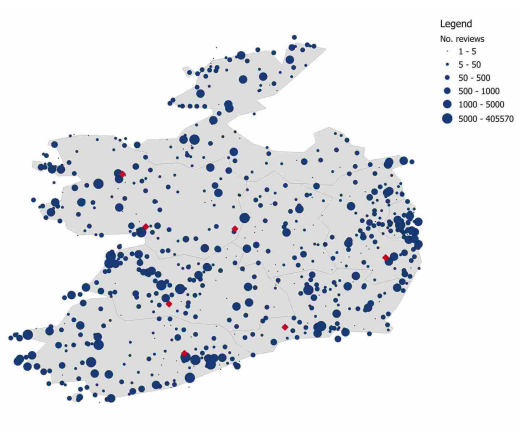
(a) Albania



(b) France



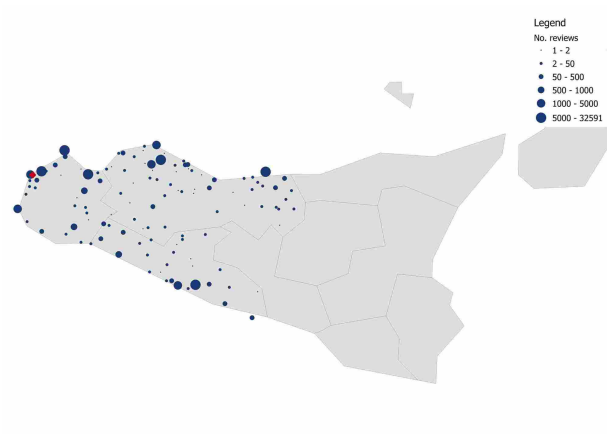
(c) Greece



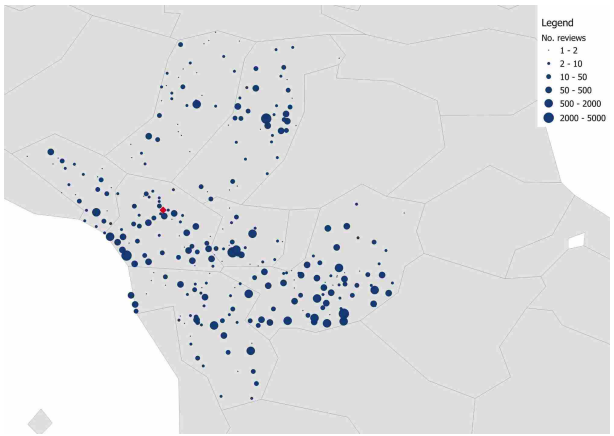
(d) Ireland

Continues on next page.

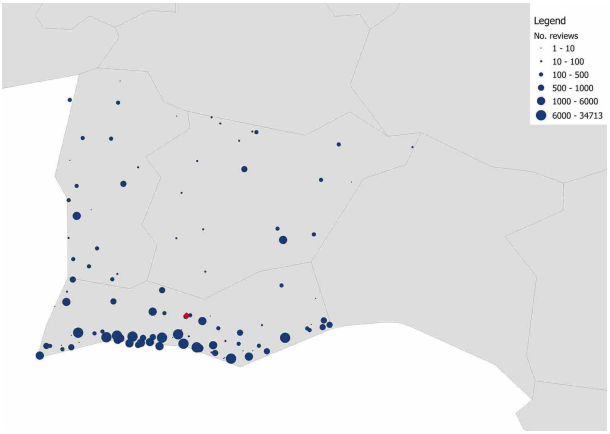
Figure 6.3: Number of reviews at attraction locations in INCULTUM pilot and bordering regions



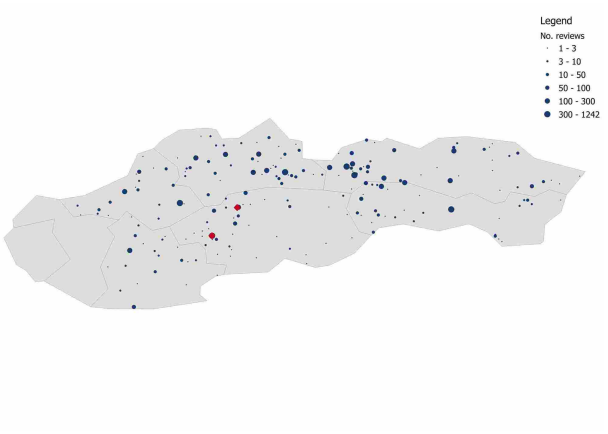
(e) Italy (Sicily)



(f) Italy (Tuscany-Emilia)



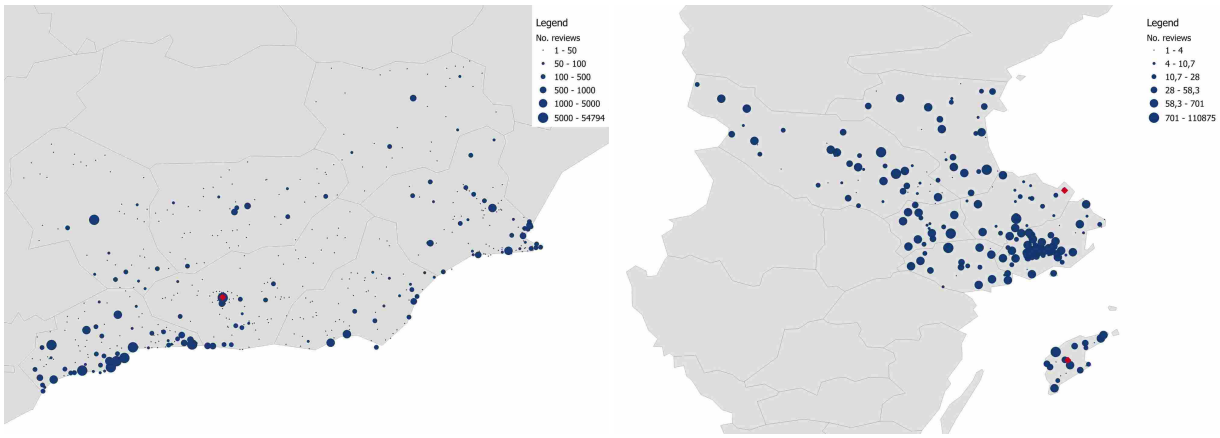
(g) Portugal



(h) Slovakia

Continues on next page.

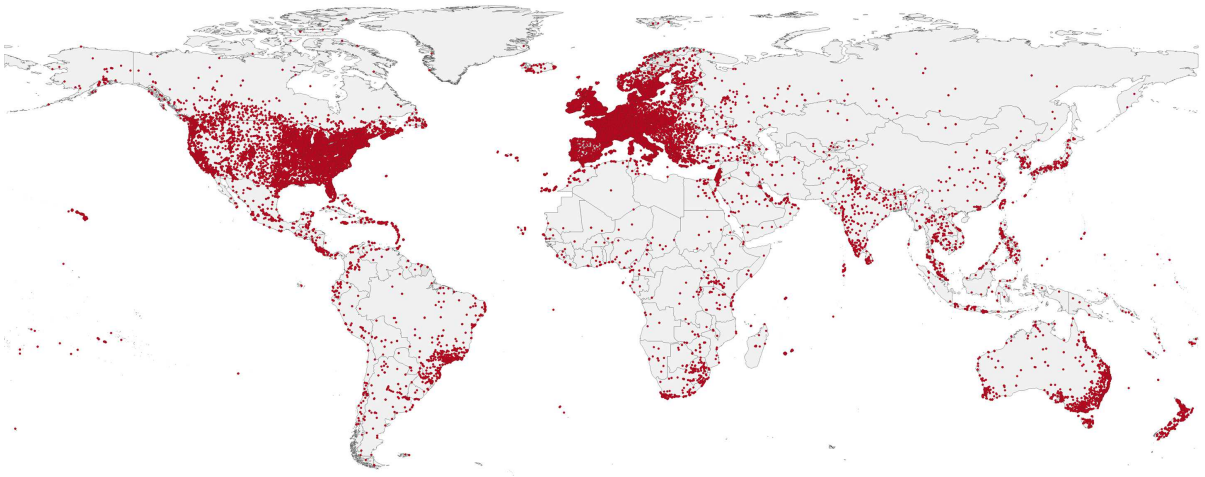
Figure 6.3: Number of reviews at attraction locations in INCULTUM pilot and bordering regions



(i) Spain (j) Sweden

Notes: This map shows the location and the number of reviews for each attraction in one of the NUTS3 regions where an INCULTUM pilot is present or in one of the bordering NUTS3 regions. The blue dots indicate attractions and the red dots represent the approximate location of an INCULTUM pilot site. In the case of the Irish pilot, the dots indicate locations where visitor surveys have been distributed. *Source:* Own data collected from Tripadvisor (see Section 4 for details).

Figure 6.4: Location of users visiting INCULTUM pilot regions



Notes: This Figure shows the location of users visiting an attraction in one of the NUTS3 regions where an INCULTUM pilot is present or visiting one of the bordering NUTS3 regions. *Source:* Own data collected from Tripadvisor (see Section 4 for details).

6.2.2 Travel patterns

To get an understanding of where the visitors of attractions in the INCULTUM pilot regions and control regions come from, we look at travel patterns of the visitors. We classify visitors from different locations, i.e. local, domestic, Europe and world, to look for different patterns in each INCULTUM country. A local visitor is defined as a visitor originating from the same NUTS3 region as the attraction visited. In Figures 6.5 - 6.14 it is possible to see the travel patterns.[1] In each figure, panel a shows where international visitors come from, panel b the European visitors, panel c the national visitors, and panel d the local visitors.

Overall when looking at users from all over the world the patterns are very similar for all pilots, with a large amount originating from the United States. In terms of European visitors, there is a larger number originating from English speaking countries. This is not surprising, since English is one of the language in which we collected reviews. In general it also appears that there are more visitors from Northern Europe, and many visitors from Southern Europe are located closer to the coasts. Some salient patterns also appear from individual countries. In France it appears that a large share of European visitors originate from southern Germany and Switzerland, while in Ireland, Portugal and Spain, a large share of visitors originate from England. In the other countries visitors origin is more evenly distributed across Europe. Regarding domestic and local tourism there are also different patterns in each country.

In Albania domestic tourism is directed largely towards the coast and to nearby regions. The same patterns also appears at the local level.

In France domestic visitors originate from all locations across France. However, a larger number of visitors originate from the area around Paris and other larger cities. Locally, there are no clear patterns of the visitors.

In Greece the origin of domestic tourists is also distributed across the country, with

[1] For computational reasons the figures represent smaller random samples of the actual users in cases where the number of users in a region exceeded 10000.

no clear pattern as for the choice of destination. Locally the small distances seem to dominate.

In Ireland there is a larger number of domestic visitors originating from Dublin, but with no specific pattern in the choice of attractions. The same appears also at the local level, where visitors come from all over the region.

In Italy (Sicily) the domestic visitors originate from all the country, while, maybe not surprisingly, a large number of visitors choose attractions closer to the coast. The same pattern also appears at the local level, where it also seems that most visitors originate themselves from coastal areas.

In Italy (Tuscany-Emilia) there are no clear patterns for domestic and local visitors, apart from some indication that local visitors are also from nearby places.

In Portugal there is a clear pattern where both the domestic and the local visitors overwhelmingly chose attractions on the coast in the pilot region.

In Slovakia the pattern is not very clear. However there is some indication that both the domestic and local visitors also travel longer distances within the country/region, so reach an attraction. Furthermore, there is some indication that the domestic visitors often select attraction in central Slovakia.

In Spain there is a more clear patter where domestic tourists from all over the country, but often from larger cities and the coast, often choose attractions near the coast. A larger number of domestic visitors also come from locations closer to the attraction. At the local level there is more activity in the coastal regions, but visitors in all regions also visit attractions all over the region.

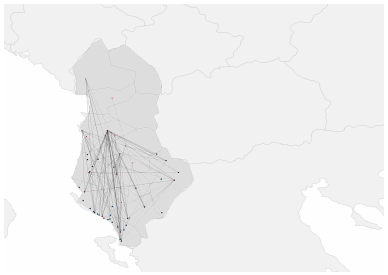
In Sweden a larger number of domestic visitors originate from the south, but with no clear pattern in the choice of attractions. For the local visitors there also appears to be no clear pattern.

Summing up, in some pilot areas there are quite clear patterns of where tourists come from and where they go, e.g. in Portugal and Italy (Sicily), where most visitors visit the coast.

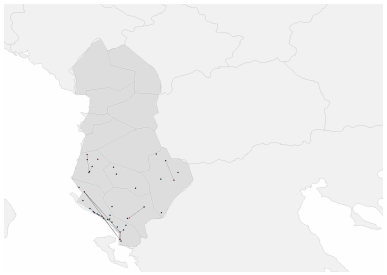
Figure 6.5: Travel patterns of visitors to INCULTUM pilot and bordering regions - Albania

(a) World

(b) Europe



(c) Domestic



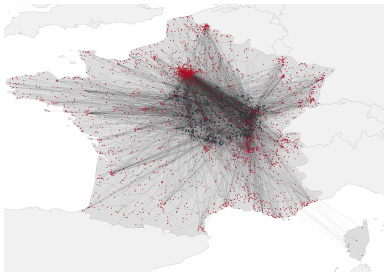
(d) Local

Notes: Travel patterns of visitors to one of the NUTS3 regions where an INCULTUM pilot is present or one of the bordering NUTS3 regions. Panel (a) shows patterns from all over the world, panel (b) from Europe, panel (c) domestic travel and panel (d) local travel. The red dots represent the location if users and the blue dots the location of attractions. *Source:* Own data collected from Tripadvisor (see Section 4 for details).

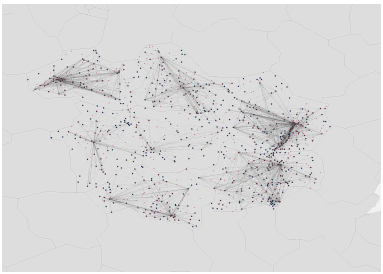
Figure 6.6: Travel patterns of visitors to INCULTUM pilot and bordering regions - France

(a) World

(b) Europe



(c) Domestic



(d) Local

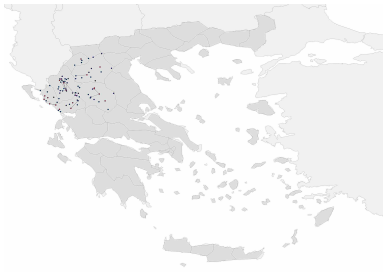
Notes: Travel patterns of visitors to one of the NUTS3 regions where an INCULTUM pilot is present or one of the bordering NUTS3 regions. Panel (a) shows patterns from all over the world, panel (b) from Europe, panel (c) domestic travel and panel (d) local travel. The red dots represent the location if users and the blue dots the location of attractions. *Source:* Own data collected from Tripadvisor (see Section 4 for details).

Figure 6.7: Travel patterns of visitors to INCULTUM pilot and bordering regions - Greece

(a) World

(b) Europe

(c) Domestic



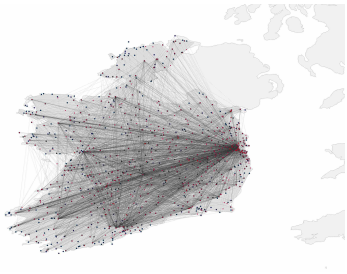
(d) Local

Notes: Travel patterns of visitors to one of the NUTS3 regions where an INCULTUM pilot is present or one of the bordering NUTS3 regions. Panel (a) shows patterns from all over the world, panel (b) from Europe, panel (c) domestic travel and panel (d) local travel. The red dots represent the location if users and the blue dots the location of attractions. *Source:* Own data collected from Tripadvisor (see Section 4 for details).

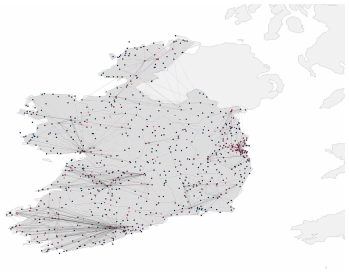
Figure 6.8: Travel patterns of visitors to INCULTUM pilot and bordering regions - Ireland

(a) World

(b) Europe



(c) Domestic



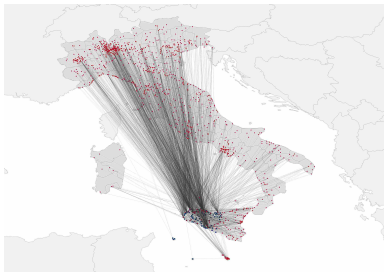
(d) Local

Notes: Travel patterns of visitors to one of the NUTS3 regions where an INCULTUM pilot is present or one of the bordering NUTS3 regions. Panel (a) shows patterns from all over the world, panel (b) from Europe, panel (c) domestic travel and panel (d) local travel. The red dots represent the location if users and the blue dots the location of attractions. *Source:* Own data collected from Tripadvisor (see Section 4 for details).

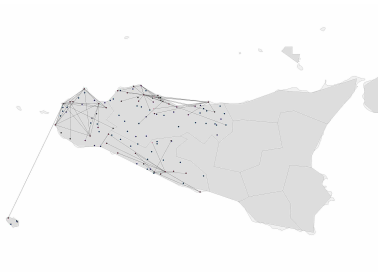
Figure 6.9: Travel patterns of visitors to INCULTUM pilot and bordering regions - Italy (Sicily)

(a) World

(b) Europe



(c) Domestic



(d) Local

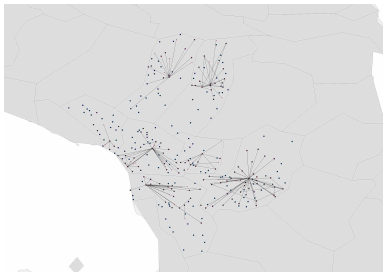
Notes: Travel patterns of visitors to one of the NUTS3 regions where an INCULTUM pilot is present or one of the bordering NUTS3 regions. Panel (a) shows patterns from all over the world, panel (b) from Europe, panel (c) domestic travel and panel (d) local travel. The red dots represent the location if users and the blue dots the location of attractions. *Source:* Own data collected from Tripadvisor (see Section 4 for details).

Figure 6.10: Travel patterns of visitors to INCULTUM pilot and bordering regions - Italy (Tuscany-Emilia)

(a) World

(b) Europe

(c) Domestic

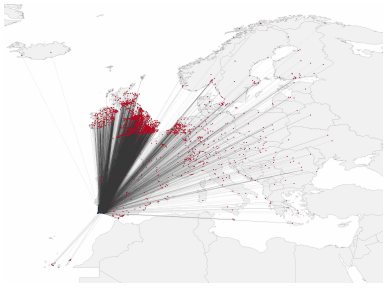


(d) Local

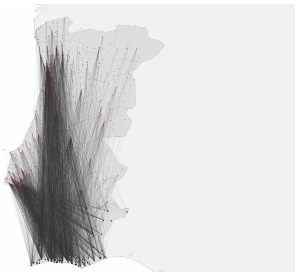
Notes: Travel patterns of visitors to one of the NUTS3 regions where an INCULTUM pilot is present or one of the bordering NUTS3 regions. Panel (a) shows patterns from all over the world, panel (b) from Europe, panel (c) domestic travel and panel (d) local travel. The red dots represent the location if users and the blue dots the location of attractions. *Source:* Own data collected from Tripadvisor (see Section 4 for details).

Figure 6.11: Travel patterns of visitors to INCULTUM pilot and bordering regions - Portugal

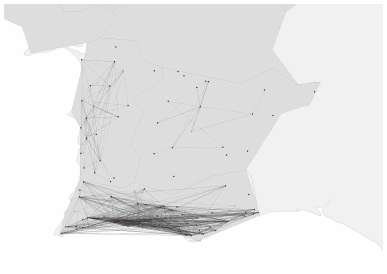
(a) World



(b) Europe



(c) Domestic



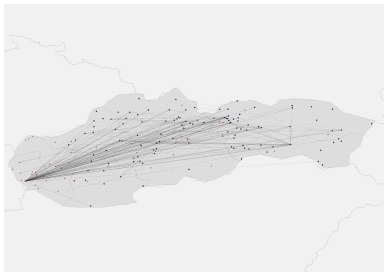
(d) Local

Notes: Travel patterns of visitors to one of the NUTS3 regions where an INCULTUM pilot is present or one of the bordering NUTS3 regions. Panel (a) shows patterns from all over the world, panel (b) from Europe, panel (c) domestic travel and panel (d) local travel. The red dots represent the location if users and the blue dots the location of attractions. *Source:* Own data collected from Tripadvisor (see Section 4 for details).

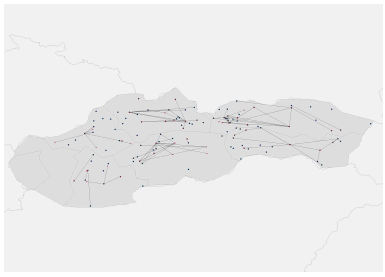
Figure 6.12: Travel patterns of visitors to INCULTUM pilot and bordering regions - Slovakia

(a) World

(b) Europe



(c) Domestic



(d) Local

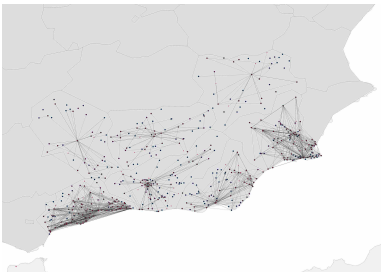
Notes: Travel patterns of visitors to one of the NUTS3 regions where an INCULTUM pilot is present or one of the bordering NUTS3 regions. Panel (a) shows patterns from all over the world, panel (b) from Europe, panel (c) domestic travel and panel (d) local travel. The red dots represent the location if users and the blue dots the location of attractions. *Source:* Own data collected from Tripadvisor (see Section 4 for details).

Figure 6.13: Travel patterns of visitors to INCULTUM pilot and bordering regions - Spain

(a) World

(b) Europe

(c) Domestic



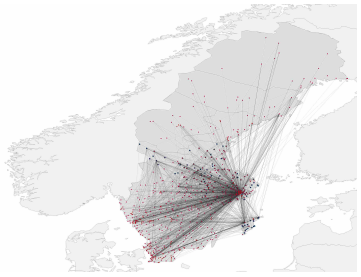
(d) Local

Notes: Travel patterns of visitors to one of the NUTS3 regions where an INCULTUM pilot is present or one of the bordering NUTS3 regions. Panel (a) shows patterns from all over the world, panel (b) from Europe, panel (c) domestic travel and panel (d) local travel. The red dots represent the location if users and the blue dots the location of attractions. *Source:* Own data collected from Tripadvisor (see Section 4 for details).

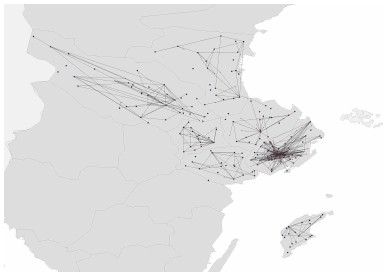
Figure 6.14: Travel patterns of visitors to INCULTUM pilot and bordering regions - Sweden

(a) World

(b) Europe



(c) Domestic



(d) Local

Notes: Travel patterns of visitors to one of the NUTS3 regions where an INCULTUM pilot is present or one of the bordering NUTS3 regions. Panel (a) shows patterns from all over the world, panel (b) from Europe, panel (c) domestic travel and panel (d) local travel. The red dots represent the location if users and the blue dots the location of attractions. *Source:* Own data collected from Tripadvisor (see Section 4 for details).

6.2.3 Time trends of tourism activity

Next, we look at time trends in tourism flows for the INCULTUM pilot regions and the control regions. In Figure 6.15 we illustrate how the number of Tripadvisor reviews in pilot regions and in pilot and control regions changes over time for each INCULTUM pilot area.[2] The number of Tripadvisor reviews is a proxy of the number of visits in the regions and therefore, the figure illustrates how tourism activity changes. From a first look at Figure 6.15 it is clear that all regions, experience a large drop in the number of reviews around the beginning of 2020 with the outbreak of the Covid-19 pandemic. Furthermore, the drop seems to last for a couple of years, where after there is a rebound. Figure 6.15 also shows a clear pattern of seasonality with peaks during the high season each summer.

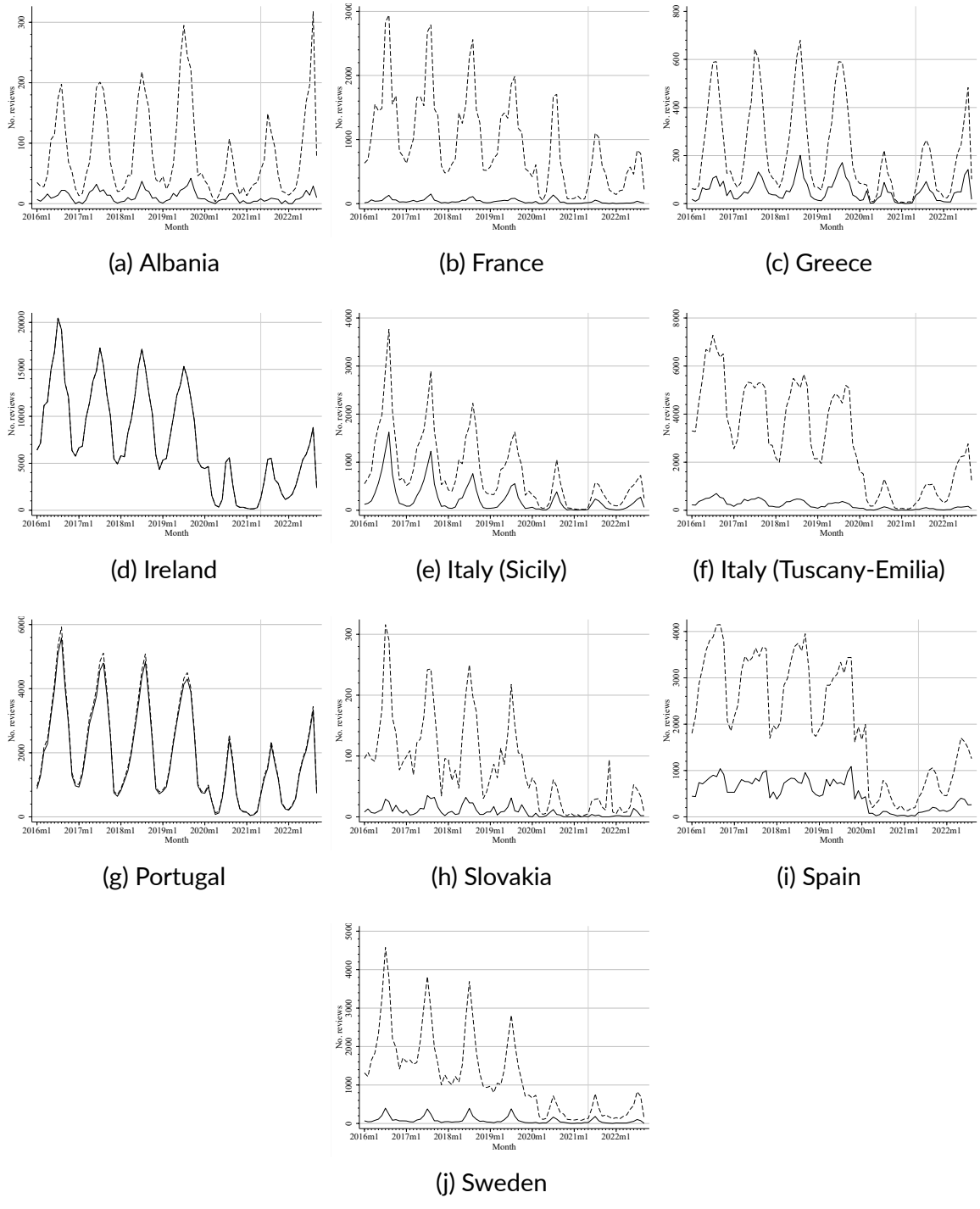
Having a look at each panel of Figure 6.15 individually, there are some differences when comparing the pilot regions to the total numbers in pilot and control regions. In Panel g, it is clear that the Portuguese INCULTUM pilot region dominates in terms of reviews. The Sicilian pilot in Panel e also has a high share of all the reviews, while in most other places, the INCULTUM pilot regions receives less reviews. In Panel d, the Irish pilot receives all reviews, given that we do not include any control regions.

In Figure 6.16 we break the total number of reviews for both pilot and control regions into the different travel categories. The different shades of grey, show the share of reviews for each of the four travel categories, out of the total number of reviews in the pilot area. Also here, there are some interesting differences between areas.

In Panel a, it appears that only a small share of reviews of the Albanian pilot area comes from local and domestic visitors. There is somewhat an increase around the outbreak of the pandemic in 2020, but it does not last. On the other hand, it appears that the European visitors dominate in the Albanian pilot area.

[2] In the following we use the three definitions, pilot region, control region and pilot area. The pilot region refers to NUTS3 regions in which an INCULTUM pilot site is located. The control regions refer to NUTS3 regions bordering a pilot region. The pilot area refers to the entire area of NUTS3 regions included in the analysis, i.e. both pilot- and control regions.

Figure 6.15: Number of reviews over time for INCULTUM pilot and bordering regions



Notes: This Figure shows number of Tripadvisor reviews in NUTS3 regions where an INCULTUM pilot is located and the number of reviews including also bordering NUTS3 regions. The vertical line indicates when the INCULTUM action started. *Source:* Own data collected from Tripadvisor (see Section 4 for details).

In Panel b, the local and domestic visitors dominate largely, showing that only about 20% of visitors are from outside France. This pattern is likely not reflective of overall tourism in France, but shows the nature of the pilot area a being attractive to domestic visitors at all times.

Panel c show a predominance of visitors from outside of Greece. The local visitors represent a very small share, while the domestic represents around 40% during the high season. There is a slight change after the outbreak of Covid-19, but the levels seem to restore from 2022. In the Greek pilot area, there is a even distribution between European visitors and visitors from outside Europe.

In the Irish pilot area in panel d, there is a clear increase in domestic travelling beginning from 2020 and a decrease from 2022. Local visitors represent an important part of domestic travel, while international visitors are evenly distributed between European visitors and visitors from outside of Europe.

Panels e and f show the distributions in the two Italian pilot areas, with some interesting differences. The Sicilian pilot in Panel e has a higher share of domestic visitors, while the Tuscan pilot has a higher share of international visitors, especially visitors from outside Europe. The Tuscan pilot also seems to have a bigger change in the composition as a consequence of the Covid-19 pandemic, with a sudden increase in the share of domestic visitors during 2020.

In Panel g, there is a very high share of European visitors most of which are from outside Portugal, with the exception of a shorter period following the Covid-19 pandemic. On the other hand, the share of visitors from outside Europe is quite low.

In Panel h, the level of both domestic and especially local visitors is quite low with two major peaks during 2020 and 2021 where they reach almost 50% of all reviews. The European visitors dominate, reaching also almost 100% of all reviews for shorter periods of time.

In the Spanish pilot area in Panel i, the European travellers also dominate followed by other visitors from outside Europe. The domestic visitors mainly remain below 20% with the exception of a period from 2020 to 2021, when the Covid-19 pandemic was peaking. From 2022 the levels have returned below the 20%.

Finally in Panel j the Swedish travellers are illustrated. Similarly, to several other pilot areas the international visitors dominate with both European and non-European at similar levels around 30% each. From 2020 the local and domestic visitors reach levels of almost 80% of all reviews even though the levels once again decrease around 2022.

Overall it appears that international travel dominates in most pilot areas except from France and Italy (Sicily). Furthermore, areas where international travel reaches the highest levels are also the places mostly affected by the outbreak of the Covid-19 pandemic. The higher the levels of international travel before the pandemic the larger shifts towards domestic travel after.

Another way to look at tourism flows, is to look at the distances travelled by visitors to reach an attraction. In Figure 6.17 we show the average travel distance for each INCULTUM pilot area over time. In almost all areas, excluded the Albanian pilot area, there is a decrease around the beginning of 2020, followed by an increase during 2021 around the start of the INCULTUM project. In the Albanian pilot in panel a, there are no significant changes in the travel distance. This could be due to the smaller number of reviews and, according to the conclusions from 6.16 the fact that international travel in Albania remains quite high for the entire period. The decrease in travel distance is an indication of a shift from visitors coming from far away towards more local visitors or a decrease in long distance travel.

6.2.4 Comparison of INCULTUM pilot regions and control regions

In the remaining part of this section, we illustrate how tourism flows have changed in the INCULTUM pilot regions, compared to the control regions. To have an idea of the overall movements in the pilot areas we start by illustrating the fraction of reviews in the

INCULTUM pilot area out of the national level in Figure 6.18. [3] In areas such as France, Greece and Italy (Sicily) the fraction of reviews out of the national levels is very low reaching shares below 10% of all reviews in the country. On the other hand, in Sweden, Albania and Slovakia the fraction of reviews in the INCULTUM pilot areas is quite high, reaching levels well above 50% of all reviews. Portugal, Spain and Italy (Tuscany-Emilia) are somewhere in between with levels around 15-25%. In some cases, e.g. in France and Slovakia, the fractions increase after the outbreak of Covid-19, while in other areas such as Sweden and Italy (Tuscany-Emilia) the opposite happens.

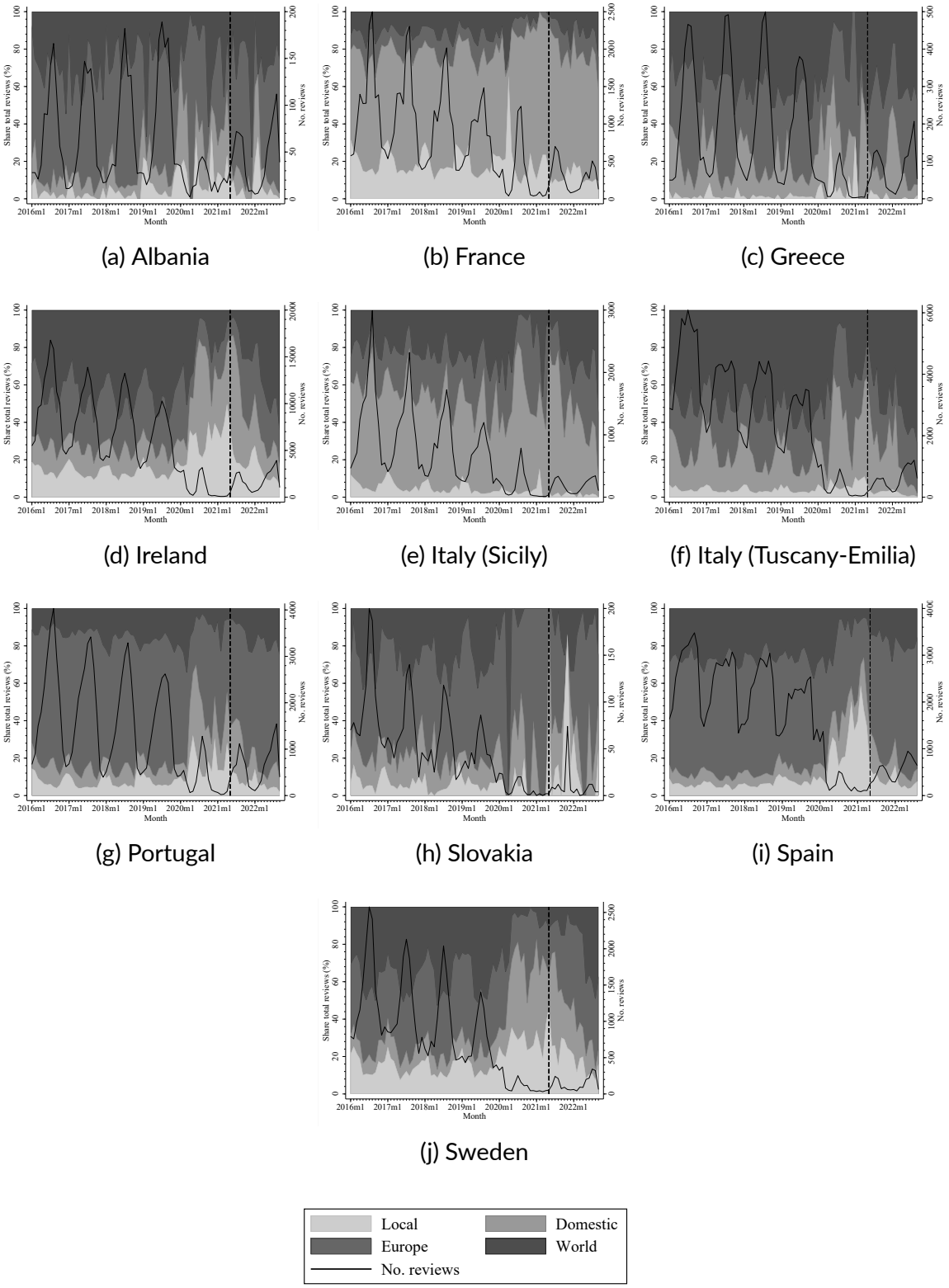
In Figure 6.19 we compare the number of reviews in pilot regions to the average number of reviews in the control regions. The picture is similar to Figure 6.18 in terms of the trends. In magnitudes, in Greece, Italy (Tuscany-Emilia), Slovakia and Spain, the number of reviews received in the pilot regions is larger than the average in the control regions. The Portuguese pilot regions receives more than 20 times as many as the control regions while in the other cases the numbers are lower, but still indicating that they receive more at all times. In the remaining pilot regions the fractions vary a bit bore with periods where the number of reviews in the pilot regions is lower than in the control regions and other periods where the number is higher (mainly in the period after 2020). More generally, the fractions follow the same trend in the period before the outbreak of the Covid-19 pandemic, where after there is a sudden increase in the share of reviews in the pilot regions followed by a decrease below the pre-2020 levels. Around the beginning of the INCULTUM project, several pilot regions experience a new period with an increase in the fraction of reviews interrupting the negative trend. One explanation to this increase is that the implemented INCULTUM pilot action help the pilot regions to return to their pre-pandemic levels. If this recovery would have happened without the INCULTUM pilot action is hard to say given the pre-pandemic trends, but Figure 6.19 indicates that there is something happening around that point.

From the above analysis, we cannot say with certainty whether the pilot action has had

[3] In this section the Irish pilot is excluded given that we consider the entire country as being part of the pilot area.

an impact on tourism in the pilot regions. Given the issues explained in Section 6.1

Figure 6.16: Share of reviews for different travel categories over time for INCULTUM pilot and bordering regions



(a) Albania (b) France (c) Greece

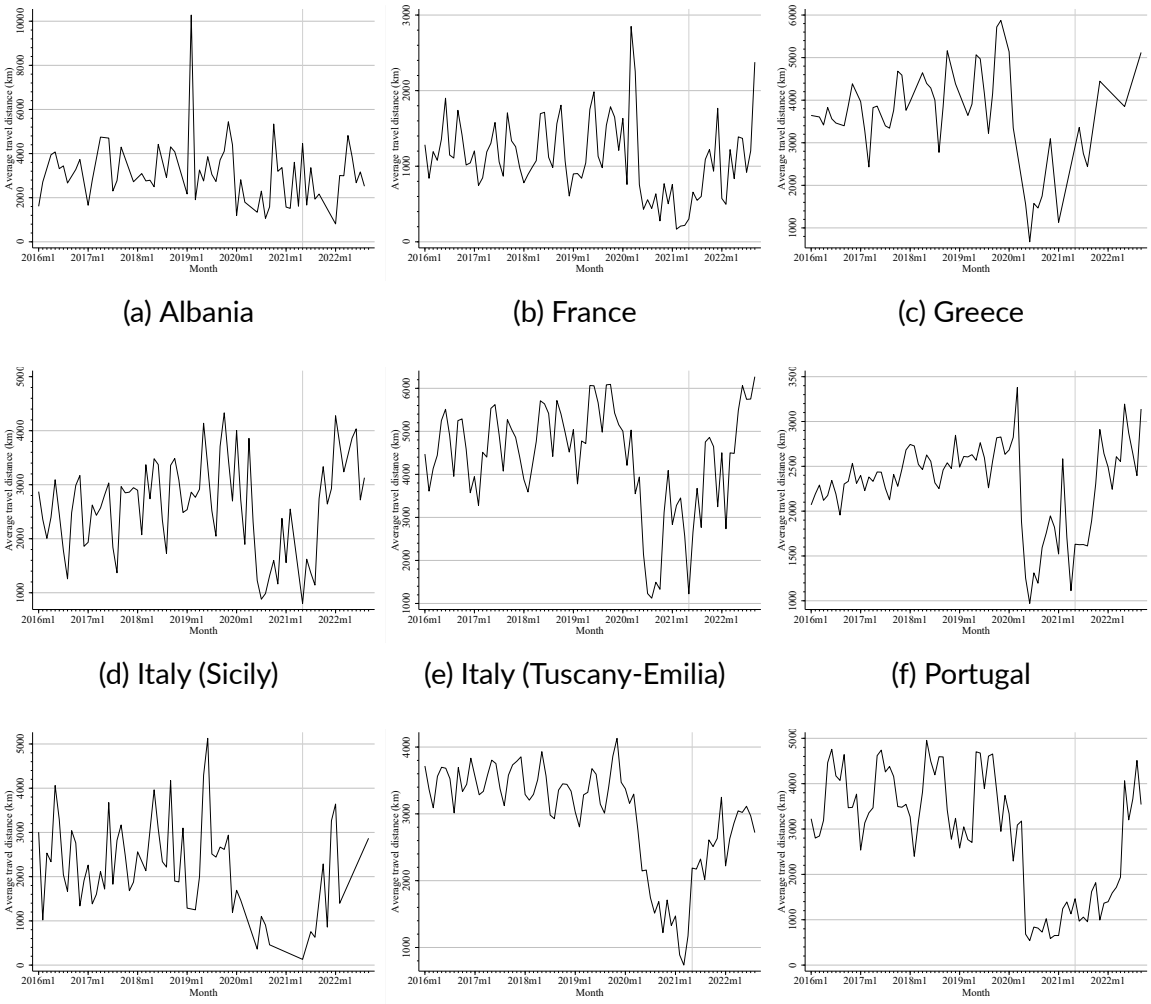
(d) Ireland (e) Italy (Sicily) (f) Italy (Tuscany-Emilia)

(g) Portugal (h) Slovakia (i) Spain

(j) Sweden

Notes: This Figure shows the share of reviews out of the total in the following four travel categories: local, domestic, Europe and world. The vertical line indicates when the INCULTUM action started. Regions refer to NUTS3 regions where an INCULTUM pilot is located and bordering NUTS3 regions. *Source:* Own data collected from Tripadvisor (see Section 4 for details).

Figure 6.17: Distance travelled over time in INCULTUM pilot and bordering regions



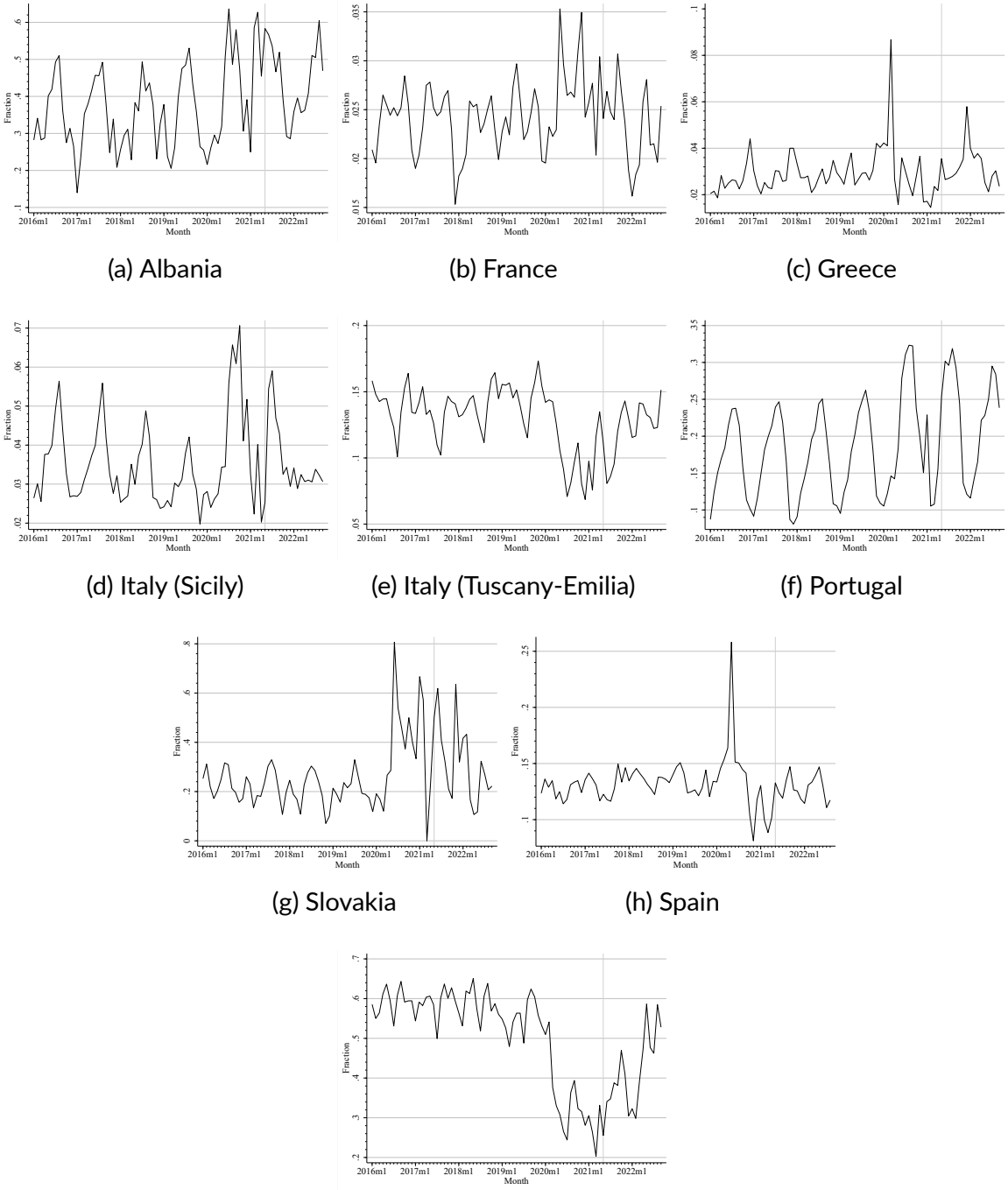
(a) Albania (b) France (c) Greece

(d) Italy (Sicily) (e) Italy (Tuscany-Emilia) (f) Portugal

(g) Slovakia (h) Spain (i) Sweden

Notes: This figures shows the average travel distance of visitors to attractions in NUTS3 regions where an INCULTUM pilot is located and attractions in bordering NUTS3 regions by month. The vertical line indicates when the INCULTUM action started. *Source:* Own data collected from Tripadvisor (see Section 4 for details).

Figure 6.18: Fraction of the number of reviews in INCULTUM pilot and bordering regions out of all reviews in country over time



(a) Albania (b) France (c) Greece

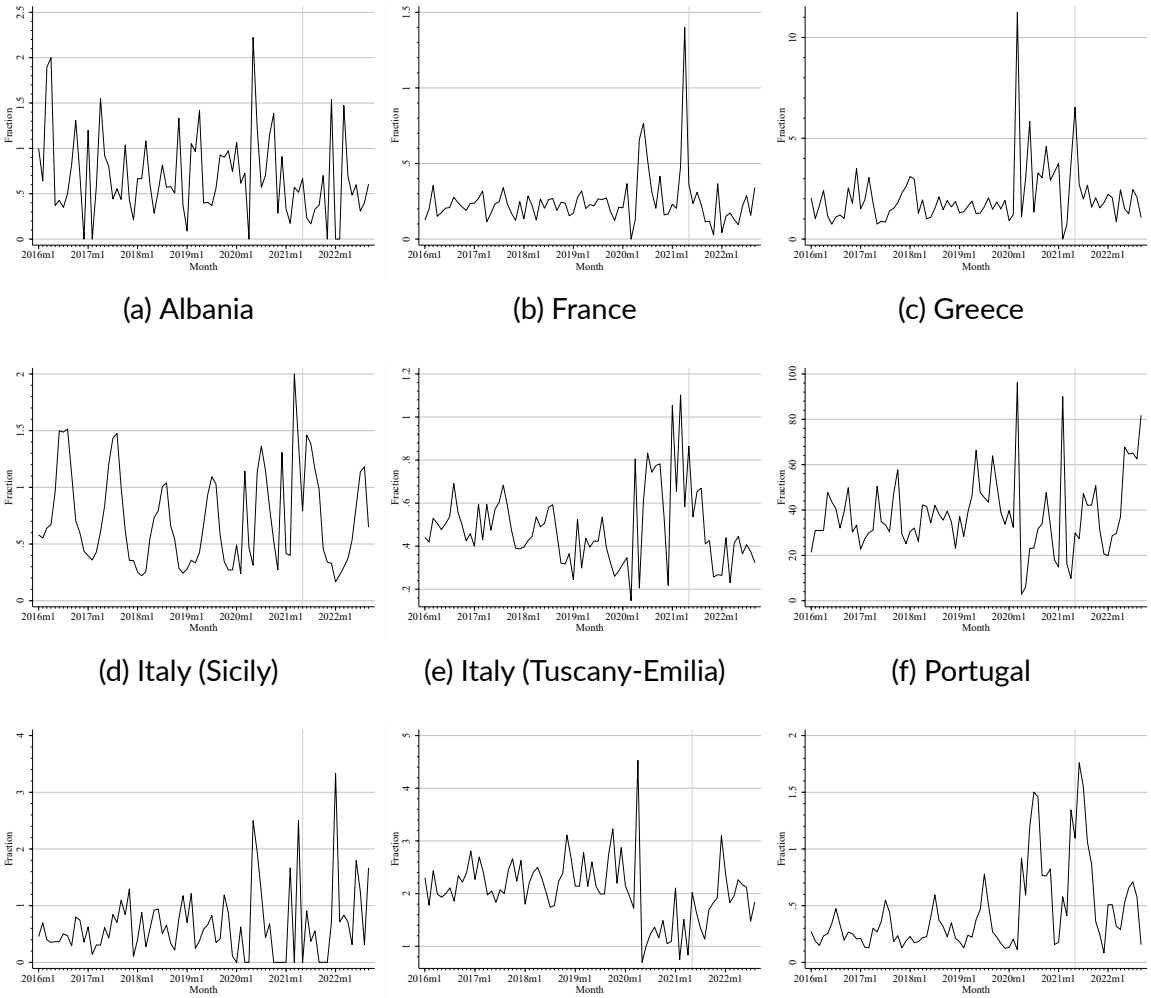
(d) Italy (Sicily) (e) Italy (Tuscany-Emilia) (f) Portugal

(g) Slovakia (h) Spain

(i) Sweden

Notes: This figures shows the fraction of Tripadvisor reviews referring to attractions in NUTS3 regions where an INCULTUM pilot is located and bordering NUTS3 regions out of the total number of reviews in each country. The vertical line indicates when the INCULTUM action started. *Source:* Own data collected from Tripadvisor (see Section 4 for details).

Figure 6.19: Fraction of number of reviews in INCULTUM pilot regions out of average number in bordering regions over time



(a) Albania (b) France (c) Greece

(d) Italy (Sicily) (e) Italy (Tuscany-Emilia) (f) Portugal

(g) Slovakia (h) Spain (i) Sweden

Notes: This figures shows the fraction of Tripadvisor reviews referring to attractions in NUTS3 regions where an INCULTUM pilot is located out of average number of reviews in bordering NUTS3 regions. The vertical line indicates when the INCULTUM action started. *Source:* Own data collected from Tripadvisor (see Section 4 for details).

6.3 Section summary

In this section we have provided insights in tourism activity in the INCULTUM regions and compared the trends to the control regions. We have showed maps of both the locations of attractions and users from our novel Tripadvisor data, and showed travel patterns for four different categories of travellers. Throughout the section is has become clear that all areas were largely affected by the outbreak of the Covid-19 pandemic at the beginning of 2020 but with different paths of recovery. The INCULTUM pilot sites have been found to be different in attracting tourists from different origins. While some pilots attract more domestic and short distance visitors, others attract more international visitors. Changes in the travel patterns also differ across pilot areas. Generally, locations with more domestic travel before the Covid-19 pandemic also experienced less changes in the composition of visitors from different categories. Finally, we have showed that the fraction of reviews in the INCULTUM pilot regions generally experienced a drop after the outbreak of Covid-19, but from the start of the INCULTUM project during 2021 there is a rebound which could be attributed in part to the pilot action.

7 Summary and outlook

The INCULTUM project seeks to promote sustainable socio-cultural and economic growth in Europe's marginal and peripheral regions through cultural tourism. A primary aspect of this initiative involves the roll-out of innovative participatory methods across ten distinct pilot projects. These pilots have been observed at various stages—prior to, during, and after interventions—to glean insights about outcomes and identify key conditions for successful execution. This monitoring utilizes a blend of both quantitative and qualitative data, which includes standard statistical information and new data harvested through unique collection techniques.

This document (D3.3 Findings analysis report) highlights the results post-pilot phase. The report depicts urban and regional progression in the INCULTUM pilot areas, spanning the timeframe before and subsequent to the introduction of innovative strategies. This includes a visual representation of the pilot regions' evolution relative to national benchmarks during the INCULTUM project's tenure. Subsequently, data gathered by the pilot partners, inclusive of visitor survey insights, is presented and dissected. Concluding the report, we delve into tourism patterns in the pilot zones, contrasting these with our control regions, enabling us to pinpoint and discuss the tangible effects of INCULTUM's innovative interventions.

7.1 Summary of findings

The global outbreak of COVID-19 presented unprecedented challenges to numerous sectors, including the realm of cultural tourism. The INCULTUM project, like many others, encountered unexpected hurdles in its efforts due to the pandemic. International and local travel restrictions, safety protocols, and shifting consumer behaviors drastically impacted the dynamics of cultural tourism. Evaluating the pilot studies became particularly challenging as these external factors introduced significant variables that were not originally accounted for in the project's design. Traditional metrics and expectations had to be re-evaluated in the context of the pandemic's global impact. Moreover, the re-

duced number of tourists and altered patterns in tourism behavior made it difficult to glean clear insights and derive conclusive outcomes. The pandemic not only affected the immediate results but also raised questions about the long-term implications and adaptability of the implemented strategies. As such, while the INCULTUM project aimed to assess the effectiveness of innovative participatory approaches, the COVID-19 challenge inevitably complicated the evaluation process, demanding additional flexibility and consideration in interpreting the findings.

Despite the challenges brought about by the COVID-19 pandemic, the INCULTUM project showcased resilience and adaptability, achieving meaningful results. The team's dedication and innovative approach underlined the potential of cultural tourism even in unprecedented scenarios. Noteworthy observations include:

Effect of the Pandemic: All regions experienced a sharp decline in reviews (a proxy for tourism activity) around the start of 2020 due to the Covid-19 pandemic. This aligns with global trends where travel restrictions and health concerns led to a reduced desire or ability to travel.

Shift in Tourism Dynamics: There was a notable shift in the nature of tourism after the outbreak. Areas that previously had high levels of international tourism witnessed significant shifts towards domestic tourism post-pandemic.

Comparison with Control Regions: The comparison between INCULTUM pilot regions and control regions showed varied results. Some regions like Portugal's pilot area significantly outperformed control regions in terms of reviews. The impact of the INCULTUM pilot action in recovering from the pandemic's effects is hinted at, but not definitively concluded upon.

Distance of Travel: Another dimension explored was the average travel distance of visitors. Unsurprisingly, there was a reduction around the start of 2020, highlighting a preference or necessity for local or domestic tourism during the pandemic.

Travel Patterns: The travel patterns revealed that, globally, many visitors to the INCULTUM pilot regions originated from the United States. Furthermore, European visitors mostly hailed from English-speaking countries. This dominance of English-speaking visitors can be attributed to the fact that data was collected in English, suggesting a potential bias in the data.

Domestic and Local Tourism: Each country displayed unique patterns in domestic and local tourism. For instance, in Albania, most tourism was directed towards the coast, while in France, larger cities, notably Paris, dominated as sources of domestic tourists.

Summary: Overall, the INCULTUM findings report sheds light on the intricacies of tourism patterns in various European regions. It offers a clear view of how the industry was impacted by external events, particularly the Covid-19 pandemic. It also hints at the resilience of the sector.

With regards to the specific INCULTUM project interventions conducted at the pilot sites, some promising trends are revealed. There are discernible positive shifts in tourism patterns and increased visitor engagement in regions where the INCULTUM initiatives were implemented. These initial successes hint at the efficacy of the INCULTUM approach, emphasizing the potential of well-strategized, community-focused interventions in bolstering cultural tourism, even amidst global challenges.

Furthermore, more qualitative feedback from stakeholders and local communities indicates a renewed sense of optimism and confidence in the future of tourism. This feedback, coupled with the tangible results from the pilot sites, showcases the potential of the INCULTUM approach.

7.2 Research Outlook

The findings and insights gathered from the INCULTUM project offer a rich tapestry of information that can significantly influence research directions in the realm of cultural tourism, particularly in marginal and peripheral regions of Europe. Here are some key

research outlooks:

Resilience and Adaptation in Tourism: The project's analysis of how tourism was affected by the COVID-19 pandemic provides a valuable case study on the resilience and adaptability of the tourism sector. Future research can delve deeper into the strategies and practices that allowed certain regions to rebound more effectively, contributing to the development of crisis management policies in tourism.

Sustainable Tourism Development: The preliminary insights on how the INCULTUM pilot regions succeeded in revitalizing cultural tourism underline the potential of sustainable development strategies. Researchers can further investigate the long-term sustainability of these initiatives, examining their environmental, social, and economic impacts to inform future policy frameworks.

Community-Centric Approaches: The INCULTUM project highlights the importance of involving local communities in tourism development. Future research can explore the dynamics of community engagement, shedding light on effective strategies for fostering collaboration and ensuring that local residents benefit from tourism.

Data-Driven Tourism Policy: The innovative data collection methods employed by INCULTUM offer an exciting avenue for future research and policymaking. Researchers can explore how big data, social media analytics, and other novel data sources can be harnessed to gain real-time insights into tourism trends, helping policymakers make informed decisions.

Cultural Heritage Preservation: The project underscores the role of cultural heritage in driving tourism. Future research can delve into heritage preservation strategies, examining how digital technologies, cultural education, and conservation efforts can be integrated into tourism policies to enhance visitor experiences.

Collaborative Tourism Networks: INCULTUM's pilot regions benefited from collaboration and knowledge sharing. Future policies can encourage the formation of tourism

networks and partnerships between regions, fostering cross-regional cooperation and enhancing the overall competitiveness of cultural tourism.

Policy Evaluation Metrics: The challenges encountered during the project's evaluation phase shed light on the complexities of assessing the impact of tourism policies. Researchers can develop more robust evaluation metrics and methodologies for assessing the success of cultural tourism initiatives, considering both quantitative and qualitative measures.

Incorporating these research outlooks into future initiatives can help shape the trajectory of cultural tourism in Europe, fostering sustainable, community-oriented, and resilient tourism practices.

7.3 Policy Outlook

The findings and insights from the INCULTUM project have the potential to shape and inform future research directions in cultural tourism, particularly within Europe's marginal and peripheral regions. Key policy outlooks include:

Tailored Support for Marginal Regions: Policymakers can consider designing targeted support programs for marginal and peripheral regions, acknowledging their unique challenges and opportunities in cultural tourism development. This may include financial incentives, capacity building, and infrastructure development.

Promotion of Digitalization: The project highlights the importance of digital tools and platforms in promoting cultural tourism. Policymakers can encourage the adoption of digital technologies, including virtual tours, augmented reality experiences, and online marketing, to enhance the visibility of cultural assets.

Crisis Preparedness and Recovery Plans: Learning from the impact of the COVID-19 pandemic, governments can develop crisis preparedness and recovery plans specifically tailored to the tourism sector. These plans should outline strategies for managing dis-

ruptions and supporting tourism businesses during crises.

Inclusive Tourism Policies: Promoting inclusive tourism practices should be a priority. Policymakers can encourage initiatives that ensure the participation of underrepresented groups, such as indigenous communities and local artisans, in the cultural tourism value chain.

Sustainable Tourism Certification: Introducing sustainable tourism certification and labeling schemes can incentivize cultural tourism providers to adopt environmentally and socially responsible practices. This can align with broader sustainability goals.

Heritage Conservation Funds: Governments can establish dedicated funds for the conservation and restoration of cultural heritage sites and assets. These funds can be financed through tourism-related revenue, ensuring the long-term preservation of attractions.

Data Governance and Privacy Frameworks: As data collection and analytics play a significant role in tourism policy, policymakers should focus on establishing robust data governance and privacy frameworks to protect the rights and privacy of both tourists and local communities.

Education and Training: Encouraging education and training programs related to cultural tourism can help build the capacity of local communities and businesses. Training initiatives can cover aspects like hospitality, digital marketing, and sustainable tourism practices.

Cross-Border Cooperation: Policymakers can facilitate cross-border cooperation between regions to create cultural tourism networks that span national boundaries. This can lead to the development of enticing transregional or transnational tourism products and experiences.

Continuous Evaluation: Developing a culture of continuous policy evaluation is essential. Policymakers should establish mechanisms for regular monitoring and assessment of the

impacts of cultural tourism policies, enabling timely adjustments and improvements.

By incorporating these policy outlooks into their strategic planning, governments and regional authorities can foster the sustainable growth of cultural tourism while preserving the cultural heritage and identity of their regions.

7.4 Conclusion

This deliverable, D3.3 Findings Analysis Report, serves as a comprehensive assessment of the INCULTUM project's outcomes and their implications for cultural tourism in Europe's marginal and peripheral regions. Its findings and recommendations are affected by the challenging and unexpected occurrence of the Covid-19 pandemic and its aftermath. Nonetheless, the deliverable provide a valuable resource for policy making and a foundation for future research endeavors, especially with regards to strategic initiatives aimed at fostering sustainable development in these areas.

The INCULTUM project, focused on promoting sustainable cultural tourism in Europe's marginalized regions, has navigated the complex terrain of evaluating its pilot interventions amid the unprecedented challenges posed by the Covid-19 pandemic. While these difficulties have made it challenging to draw unequivocal conclusions about the project's impact, the final analysis report offers a nuanced understanding of the tourism industry's resilience and adaptability in the face of adversity. It underscores the potential for targeted initiatives like INCULTUM to stimulate positive changes in regional development. As the project's insights ripple into policy, research, and practice, they have the potential to shape a more sustainable and culturally enriched future for Europe's peripheries.

References

Behsudi, A. (2020). Tourism-dependent economies are among those harmed the most by the pandemic, December 2020. *IMF Finance & Development*, pages 36–39.

Cambon, J., Hernangómez, D., Belanger, C., and Possenriede, D. (2021). tidygeocoder: An r package for geocoding. *Journal of Open Source Software*, *6*(65):3544. R package version 1.0.5.

Eurostat (2022a). At-risk-of-poverty rate by NUTS regions. Online data code: ILC_LI41. https://ec.europa.eu/eurostat/databrowser/view/ILC_LI41/default/table?lang=en&category=livcon.ilc.ilc_ip.ilc_li. Last data update: 29/09/2023.

Eurostat (2022b). Cultural employment by NUTS 2 regions. Online data code: CULT_EMP_REG. https://ec.europa.eu/eurostat/databrowser/view/cult_emp_reg/default/table?lang=en. Last data update: 02/03/2023.

Eurostat (2022c). Gross domestic product (GDP) at current market prices by NUTS 3 regions. Online data code: NAMA_10R_3GDP. https://ec.europa.eu/eurostat/databrowser/view/nama_10r_3gdp/default/table?lang=en. Last data update: 21/02/2023.

Eurostat (2022d). Population by educational attainment level, sex and NUTS 2 regions. Online data code: EDAT_LFSE_04. https://ec.europa.eu/eurostat/databrowser/view/edat_lfse_04/default/table?lang=en. Last data update: 14/09/2023.

Eurostat (2022e). Population density by NUTS 3 region. Online data code: DEMO_R_D3DENS. https://ec.europa.eu/eurostat/databrowser/view/DEMO_R_D3DENS/default/table?lang=en. Last data update: 19/04/2023.

Eurostat (2022f). Population structure indicators by NUTS 3 region. Online data code: DEMO_R_PJANIND3. https://ec.europa.eu/eurostat/databrowser/view/demo_r_pjanind3/default/table?lang=. Last data update: 28/09/2023.

Eurostat (2022g). Unemployment rates by sex, age, educational attainment level and NUTS 2 regions (%). Online data code: FST_R_LFU3RT. https://ec.europa.eu/eurostat/databrowser/view/LFST_R_LFU3RT/default/table?lang=en. Last data update: 14/09/2023.

Eurostat (2023). Eurostat tourism statistics. https://ec.europa.eu/eurostat/web/tourism. Last data update: 05/01/2023.

World Health Organization (2020). Who virtual press conference on covid-19, 11 march 2020. https://www.who.int/docs/default-source/coronaviruse/transcripts/who-audio-emergencies-coronavirus-press-conference-full-and-final-11mar2020.pdf?sfvrsn=cb432bb3_2.

A Regional classifications of INCULTUM pilot areas

Table A1: Regional classifications of INCULTUM pilot areas

#	Country	Location as described by pilot	NUTS3 region name	NUTS3 region code	NUTS 2 region name	NUTS 2 region code
1	Spain	The Altiplano	Granada	ES614	Andalusia	ES61
2	Portugal	Campina de Faro	Algarve	PT150	Algarve	PT15
3	Slovakia	Banská Bystrica, Banská Štiavnica	Banskobystrický kraj	SK032	Central Slovakia	SK03
4	Italy	Monti di Trapani, Calatafimi-Segesta, Custonaci, Buseto Palizzolo	Trapani	ITG11	Sicilia	ITG1
5	Italy	San Pellegrino, Alpe, Tuscan-Emilian Appennines	Modena Lucca	ITH54 ITI12	Emilia-Romagna Toscana	ITH5 ITI1
6	France	Regional Natural Park	Nièvre	FRC12	Bourgogne	FRC1
7	Greece	Aaos Valley, Konitsa	Ionnina	EL543	Epirus	EL54
8	Albania	Upper Vjosa Valley, Përmet	Gjirokastër	AL033	Southern Albania	AL03
9	Ireland	County Mayo County Galway County Limerick County Cork County Waterford County Wicklow	West Region West Region Mid-West Region South-West Region South-East Region Mid-East Region	IE042 IE042 IE051 IE053 IE052 IE062	Northern and Western Region Northern and Western Region Southern Region Southern Region Southern Region Eastern and Midland Region	IE04 IE04 IE05 IE05 IE05 IE06
10	Sweden	Gotland Öregrund	Gotlands län Uppsala län	SE214 SE121	Småland and the Islands East Middle Sweden	SE21 SE12

Table A2: Regional classifications of bordering areas

#	Country	NUTS3 region code	NUTS3 region name
1	Spain	ES617	Málaga
		ES421	Albacete
		ES613	Córdoba
		ES620	Murcia
		ES611	Almería
		ES616	Jaén
2	Portugal	PT184	Baixo Alentejo
		PT181	Alentejo Litoral
3	Slovakia	SK041	Prešovský kraj
		SK042	Košický kraj
		SK023	Nitriansky kraj
		SK031	Žilinský kraj
		SK022	Trenčiansky kraj
4	Italy (Sicily)	ITG14	Agrigento
		ITG12	Palermo
5	Italy (Tuscany-Emilia)	ITI17	Pisa
		ITH53	Reggio nell'Emilia
		ITI13	Pistoia
		ITH54	Modena
		ITI14	Firenze
		ITI11	Massa-Carrara
6	France	FRB01	Cher
		FRK11	Allier
		FRC11	Côte-d'Or
		FRC13	Saône-et-Loire
		FRB06	Loiret
		FRC14	Yonne
7	Greece	EL531	Grevena, Kozani
		EL532	Kastoria
		EL542	Thesprotia
		EL541	Arta, Preveza
		EL611	Karditsa, Trikala
8	Albania	AL034	Korcë
		AL031	Berat
		AL035	Vlorë
		AL032	Fier
9	Ireland	IE063	Midland Region
		IE061	Dublin Region
		IE041	Border Region
		IE042	West Region
10	Sweden	SE110	Stockholms län
		SE122	Södermanlands län
		SE125	Västmanlands län
		SE312	Dalarnas län
		SE313	Gävleborgs län

B Google trends analysis of pilot regions

To access statistics on Google search trends we make use of Google Trends, an online platform that analyses search queries in Google Search across multiple regions and languages. To get data on each pilot study, we insert keywords that mimic the location as described by pilot (e.g. "Banska Bystrica" for pilot study 3).Google Trends only provide data for search terms that exceed a certain search frequency threshold. Therefore, we had to rely on keywords that were specific enough to potentially relate to the pilot sites but also general enough to meet the Google Trends frequency threshold. Results for specific place names, such as "Castril" or "San Pellegrino in Alpe", were generally not available. See Table A1 for a full list of locations as described by each pilot. Finally, we consider a time period that spans back to 2016 and lasts until April 2021, the month before the official launch of INCULTUM.

Table B1: Keywords used in Google Trends by pilot study

Pilot	Keywords
1. Spain	Altiplano Granada
2. Portugal	-
3. Slovakia	Banska Bystrica; Banska Stiavnica
4. Italy (Sicily)	Trapani; Buseto Palizzolo; Calatafimi-Segesta; Custonaci
5. Italy (Tuscany-Emilia)	Garfagnana
6. France	Bibracte
7. Greece	Aoos; Konitsa
8. Albania	Vjosa; Vjose; Permet; Vjosë
9. Ireland	Historic Graves; Connemara; County Cork; County Limerick
10. Sweden	Gotland; Roslagen; Torsö

Note: This table outlines the search terms typed in Google Trends to gather data on the interest for each pilot study. Google Trends only provide data for search terms that exceed a certain search frequency threshold. Search terms for which Google Trends provides no data are excluded from the table.

Google Trends does not provide data on the total number of searches for a given search query. Instead, they normalise each data point and scales the popularity of a search term on a scale from 0 to 100, where 100 represents the highest level of interest. That is, the Google Trends data indicates a search term's popularity relative to the total number of Google searches done at a given time. A positive (or negative) trend does not necessarily

mean the term was searched more (or fewer) times but rather that the term is increasing in popularity relative to other searches.