



Introduction and background on Ireland tourism

The Republic of Ireland is an island and it is a part of North Atlantic. Ireland is considered as one of the best and clam tourism destinations after Switzerland. It is the third largest island and second most populous island in Europe. The country is mainly known for greenery and it is covered by low-lying mountains. Ireland has changeable climate which is free of extreme in temperature. The climate is influenced by Atlantic Ocean, thus very milder. Winter and summer are very mild with cooler than those of other European parts.

Tourism is one of the great asset contributor to Ireland's economy sector and it has significant potential role to play in economy renewal. According to 2016 tourism was responsible for overseas earning of Euro 4.577 billion and including domestic markets, international visitors contributes Euro 7.832 billion to Ireland's economy. Not only in-terms of revenue, tourism supported 1483000 jobs in food, accommodation, airlines and great contributor in shaping the Ireland's image, attractiveness as a place to

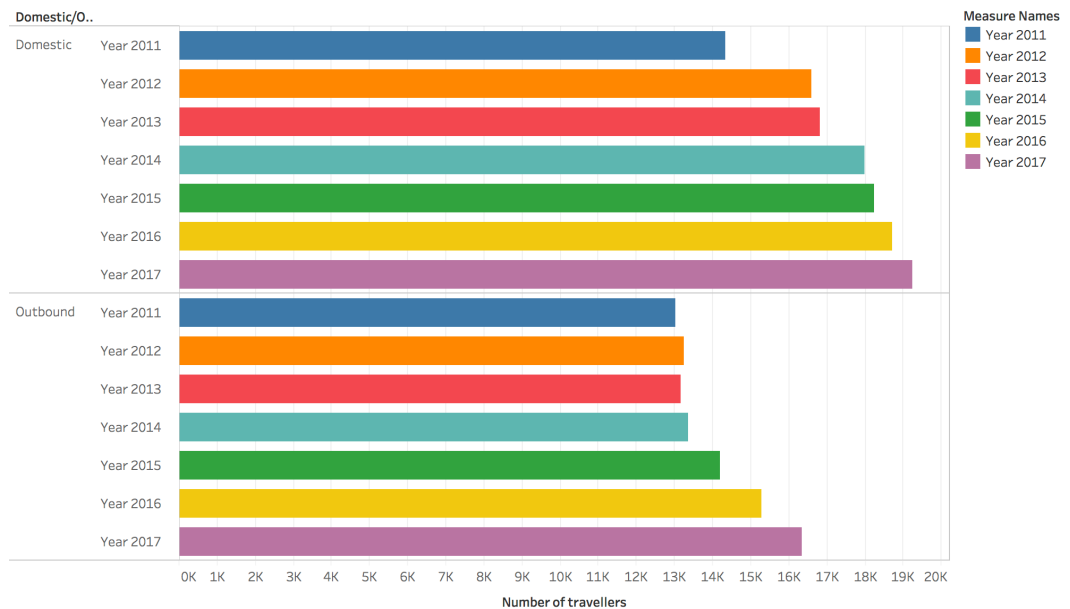
stay, enjoy and to invest. According to the Central statistics office the tourism has increased in Ireland by 10.9% in 2016 and core tourism has increased exponentially with holiday 9.6%, business trips up by 6.8% and visiting friends/relatives rose by 11.1%.

For the ease of convenience the tourism is divided into domestic, inbound and outbound tourism. Domestic tourism means the number places visited within Republic Ireland by Irish residents or non-irish residents which includes visiting within counties such as Galway, Dublin, Donegal, Limerick, Myo, Cork, Wicklow etc. Inbound tourism includes other countries visiting Ireland for different reasons such as Holiday, business, Visiting friends/familirs, sports events, education training etc. However, outbound is similar to inbound indicates the number of countries visited but by only Irish residents for different reasons mentioned.

Dataset: The dataset for Ireland tourism analysis has been extracted from the authenticated government website of Ireland, which handles public dataset for research and studies. All the data sets extracted was updated and published on March 2018, which complies the rules and regulations of GDPR. I have selected the dataset for tourism in Ireland to analyse the revenue, mode of transport, outbound and domestic travelers. The dataset has count of all related information.

Data cleaning: The data extracted was not suitable for data visualization. Once the data is extracted it must be cleaned. The Data cleaning is done using Microsoft excel and R to remove missing values, erroneous data and noise from datasets. Few columns and rows in the datasets are modified in terms of converting rows into columns, to make data suitable for visualization.

Domestic and Outbound travel by Irish residents



Year 2011, Year 2012, Year 2013, Year 2014, Year 2015, Year 2016 and Year 2017 for each Domestic/Outbound. Color shows details about Year 2011, Year 2012, Year 2013, Year 2014, Year 2015, Year 2016 and Year 2017.

Figure 1

Is there any difference between travelling by Irish residents within country and outside country?

Not surprisingly there is a huge difference in travelling by Irish residents within country. In this query we are comparing number of Irish domestic travelers and Irish outbound travelers from the year 2011 to 2017. From the above business query, it indicates on an average number of domestic travelers within Ireland is more than outbound travelling. However, in the year 2011, 2012, 2013 and 2014 there is no much difference in outbound travelling. But Irish has many places to explore, hence domestic travelling is more due to many exciting tourism places.

The clustered column chart indicates more than one data series. Here figure 1 shows each data series shared by same kind of axis labels, so that horizontal is grouped by number of visitors in thousands. The main advantage column bar chart is that it allows direct comparison multiple data series per category and also it can display the data changed over the time. As we are comparing more than 1 group with many years as attributes, clustered bar chart is used.

What is the expenditure (in Euro Millions) by Irish residents for travelling in each region for different reasons?



A figure shows different travelling reasons and their respective expenditures for outbound and domestic travelers by Irish residents. Surprisingly, apart from holiday as reason many Irish residents travel outside for business and to visit friends/relatives. Further, outbound travelling spent is 60% expenditure more than the domestic travelling.

Figure2

A simple bar chart is used due to bar is best to compare the smaller changes over the time for different groups at single glance. The bar chart also used to display the trends grouped by categories over time period. It is always good to keep bar chart in non-chronological order to identify the immediate changes.



Figure 3

Comparison of night spent (in thousands) by different age groups for domestic travel

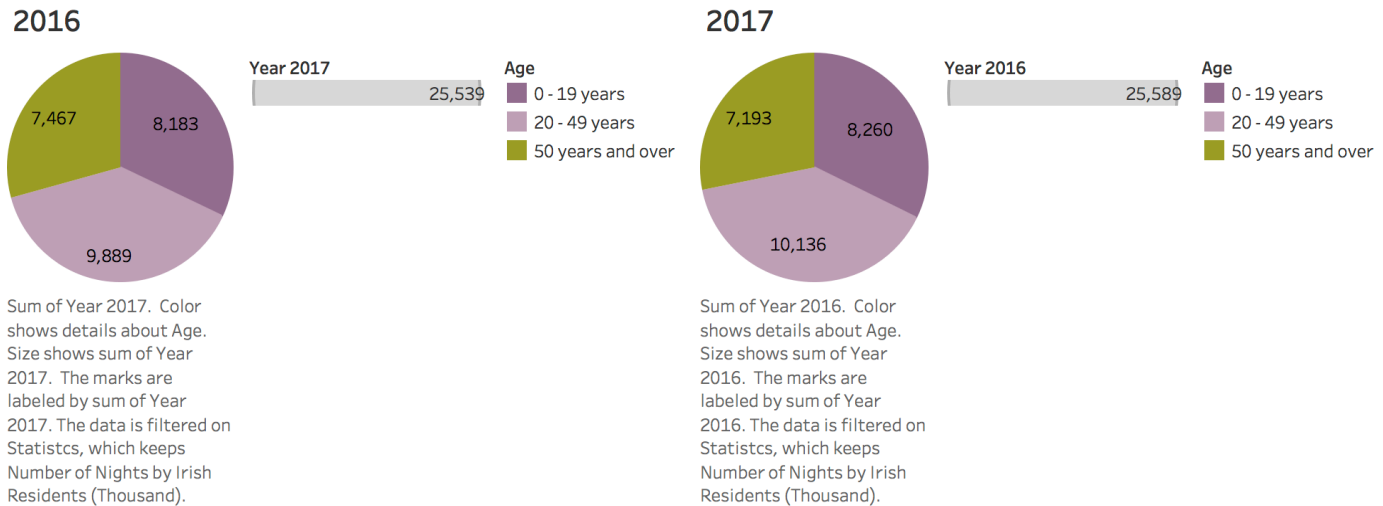


Figure 4

The Figure 4 shows the comparison of year 2016 and 2017 for different age group expenditure. From the figure 4 the middle age group people 20-49 years aged people travel most in the Ireland country. However, the number of people travelled overall inside country is almost same for both the years mentioned. Pie chart indicates in the year 2016 total 25539 people and in 2017 total 25589 people travelled overall inside the country.

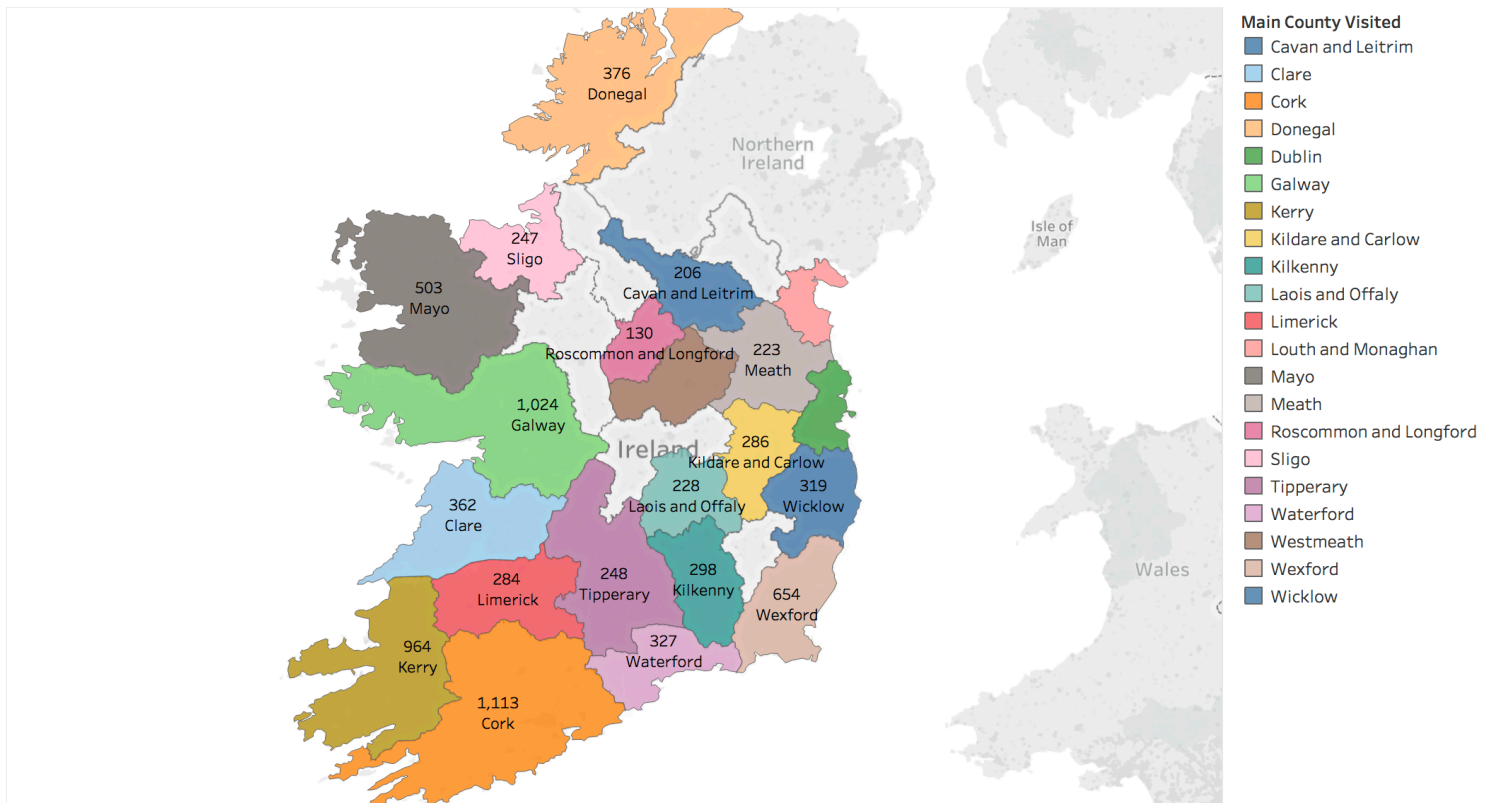
Pie chart is chosen over the other charts to distinguish parts as a whole. These type of charts so not change over the time. It also work good when we have only one type of dataset. Bar chart is also another option but if the categories are less than 7 it is good to use pie chart.

Countries visited most by irish residents in 2017

The figure 5 describes the most of the counties visited by Irish residents in the year 2017. Though the Dublin is capital of Ireland, most visited county is Cork - 1113 thousands and next to it is Galway – 1024 thousands, as these two counties have most beautiful scenic places to visit in Ireland.

The map chart is the best choice for all students and journalists. The map chart best suits for when it comes to referencing specific locations and also when user want to look at other data points near them, also shows the location where exactly it is located and clear distribution. Map chart is good in answering spatial type of queries.

Most if the counties visited by Irish residents in 2017



Map based on Longitude (generated) and Latitude (generated). Color shows details about Main County Visited. The marks are labeled by sum of Nuber of trips and Main County Visited. Details are shown for Main County Visited.

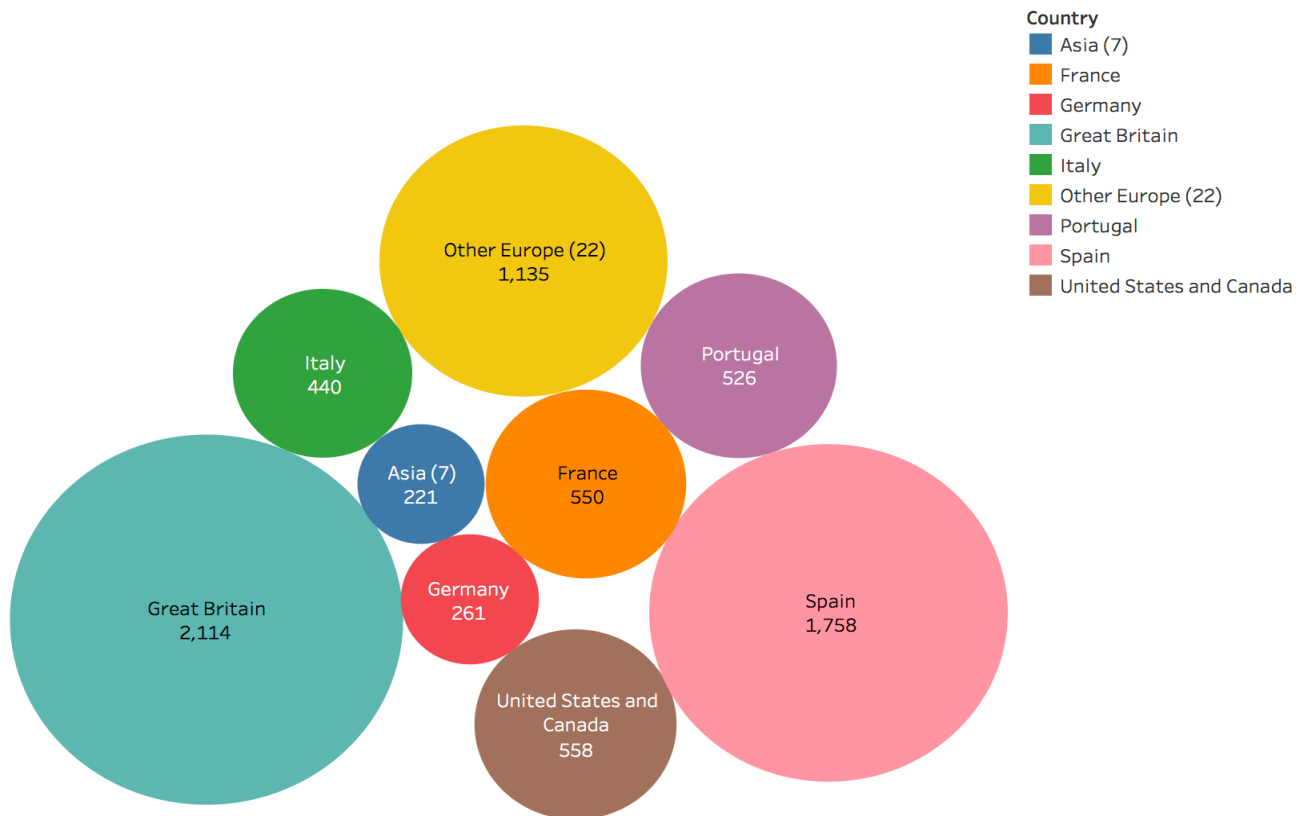
Figure 5

Most of visited countries by irish residents in 2017 (Outbound tourism)

The figure 6 describes the number of visits in thousands by Irish residents to other countries. The analysis contributes most to the tourism revenue, as having own country as tourism place. According to the figure 6 the Great Britain is the country most visited by Irish residents. The predicted reason may be Great Britain is next to Ireland and mode of travel is very easy, hence most of the Irish resident's travel to and from Ireland. The next most visited country after Great Britain is Spain by Irish people.

The bubble chart is choosen over over other charts due to clear distinguish between the countries visited. This type of chart is used when there are less than 3 dimensions and size is the matter of analysis.

Number of visits to other countries by Irish residents in 2017



Country and sum of Number of visits. Color shows details about Country. Size shows sum of Number of visits. The marks are labeled by Country and sum of Number of visits.

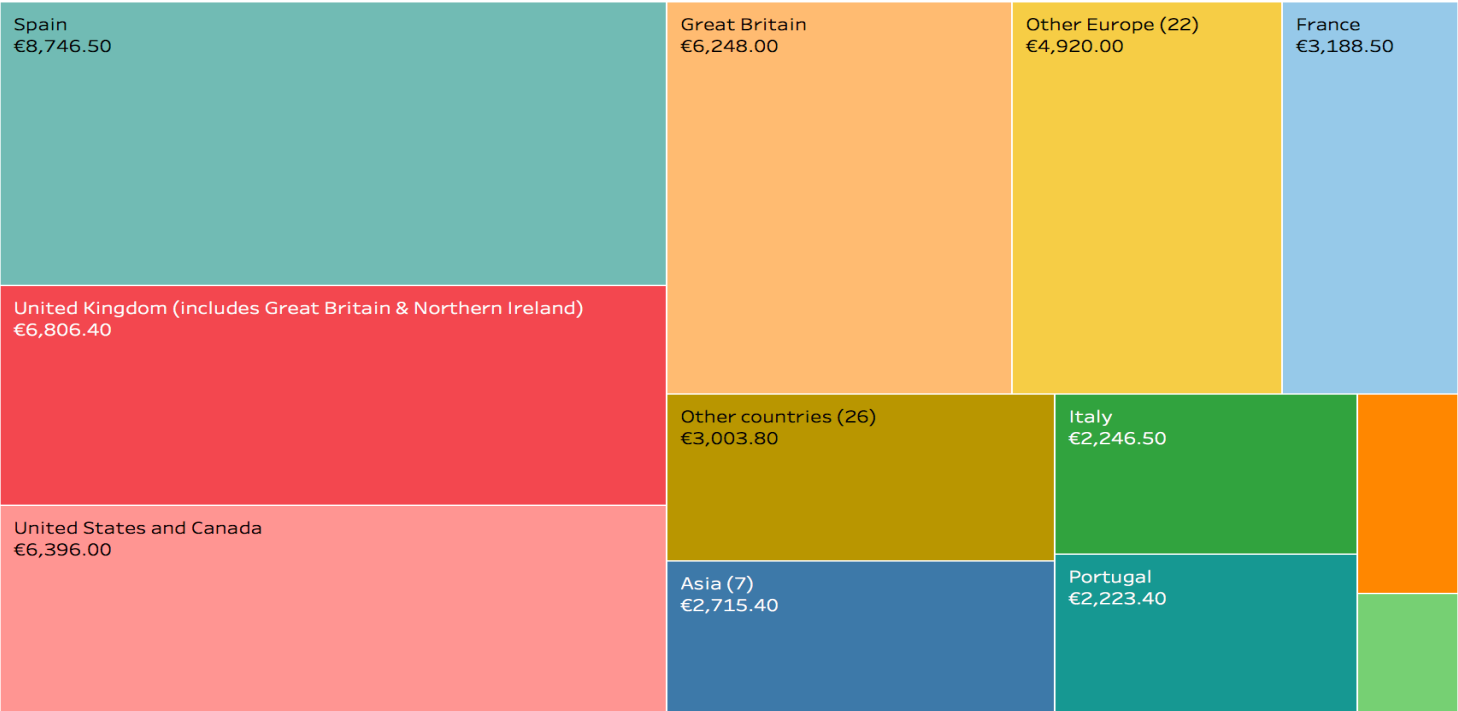
Figure 6

Expenditure in Euro million by Irish residents in other countries

The figure 7 describes the expenditure in individual countries by Irish residents. There are many interesting facts between the number of visits and expenditure in country. From figure 6 and figure 7 there are countries like unites states where number visits are less but the expenditure is more. On the other hand, the expenditure at Great Britain and Spain is almost same though there is huge difference in number of visits.

The treemap graphs used to describe heirarchial data using nested rectangles visually. This graph is choosen to display the expenditure by countries, as number of countries are more need 2 dimensional with respective expenditure. From the graph it is clearly visible and will be able distinguish between the countries. The heirarchial data is invisible due to space limitations in document.

Expenditure (in Euro Millions)by Irish residents in other countries



Country and sum of Total. Color shows details about Country. Size shows sum of Total. The marks are labeled by Country and sum of Total.

- Country
- Asia (7)
 - France
 - Germany
 - Great Britain
 - Italy
 - Northern Ireland
 - Other countries (26)
 - Other Europe (22)
 - Portugal
 - Spain
 - United Kingdom (includes Great Britain & Northern Ireland)
 - United States and Canada

Figure 7

How much money was spent in the countries visited by Irish residents from 2011-2017 in Euro millions?

Figure 8 represents the expenditure of Irish residents spent in each country in euro million. From the graph it is indicated that Irish residents spend most of the money in Spain in each year it stays in rank 1, in 2017 the total money is spent around Euro 1526.9 million but in the year 2011 to 2014 there was uniformity.

Although, people visit most of the time to United Kingdom, they spent very less on an average Euro 900 millions from 2011 to 2017.

This line graph is useful not only to calculate yearly, we can choose hove over at any point in time to calculate the expenditure.

Expenditure in Euro Million by Irish residents in other countries from 2011-2017

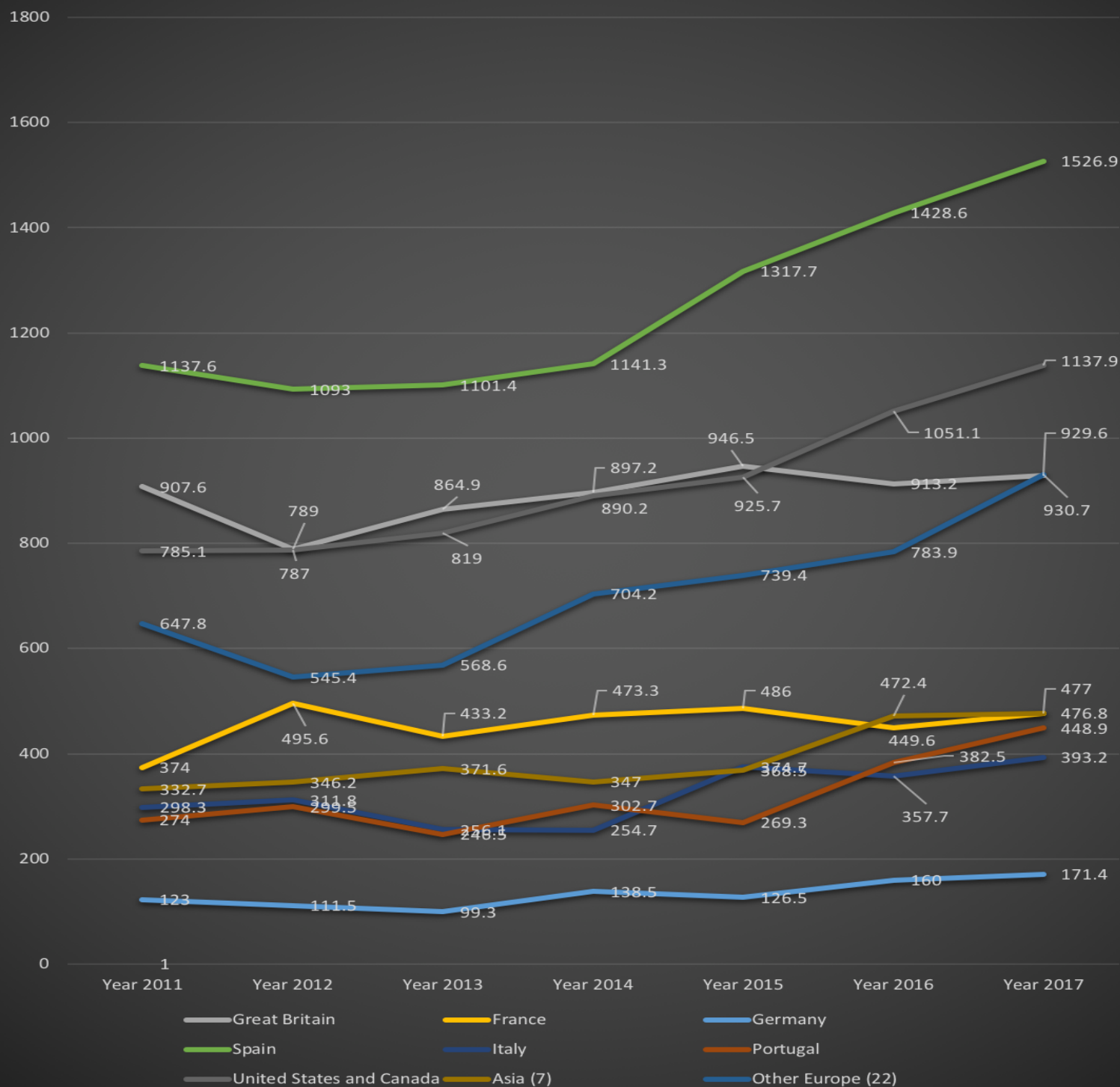


Figure 8

What type of accommodation Irish residents preferred while travelling? Analysis from 2012 to 2017

Figure 9 below represents the accommodation preferences by Irish residents in each year measured in percentage. From the graph it is indicated that most of the Irish residents prefer Hotel/conference centres to stay not surprisingly. However, the interesting fact is Irish residents also prefer to stay with friends and families when they travel.

The sunburst chart is chosen due to comarision among different years over the time period as whole 100%. These type of charts are good in representing heirarchical data where, outer layer depends on inner layer. Another alternative option is treemap.

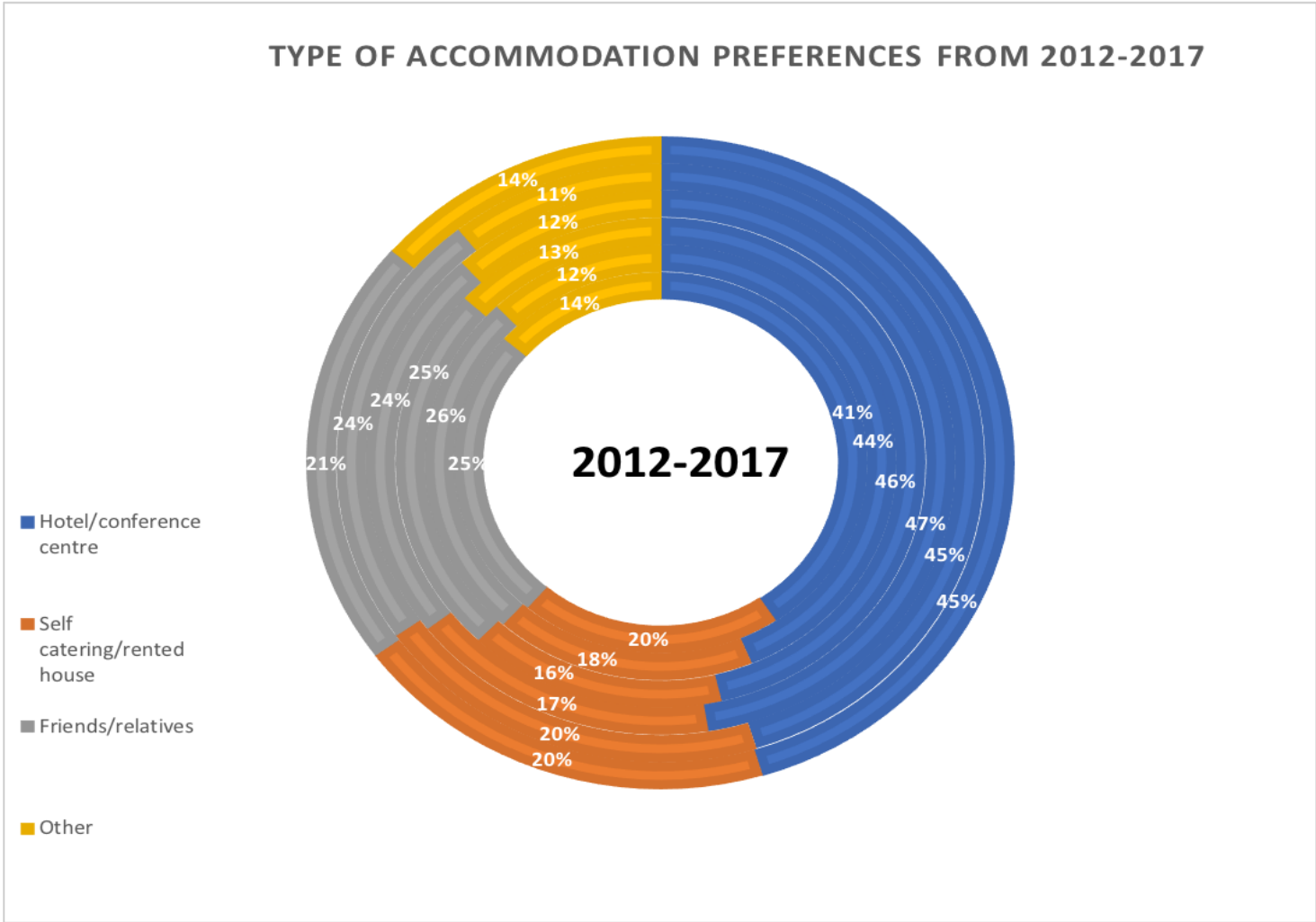


Figure 9

Inbound and outbound population pyramid quarterly from 2012-2017 by gender

A population pyramid is a type of bar graph used to represent age-sex structure of population. It demonstrates the

growth pattern for both outbound and domestic travelers in percentage. We can calculate the increase or drop in the percentage of travelers among male and female.

It indicates the distribution of the population among different quarters. From the population graph it can be interpreted as female population is more in travelling than male and it creases by 2% percentage of overall population.

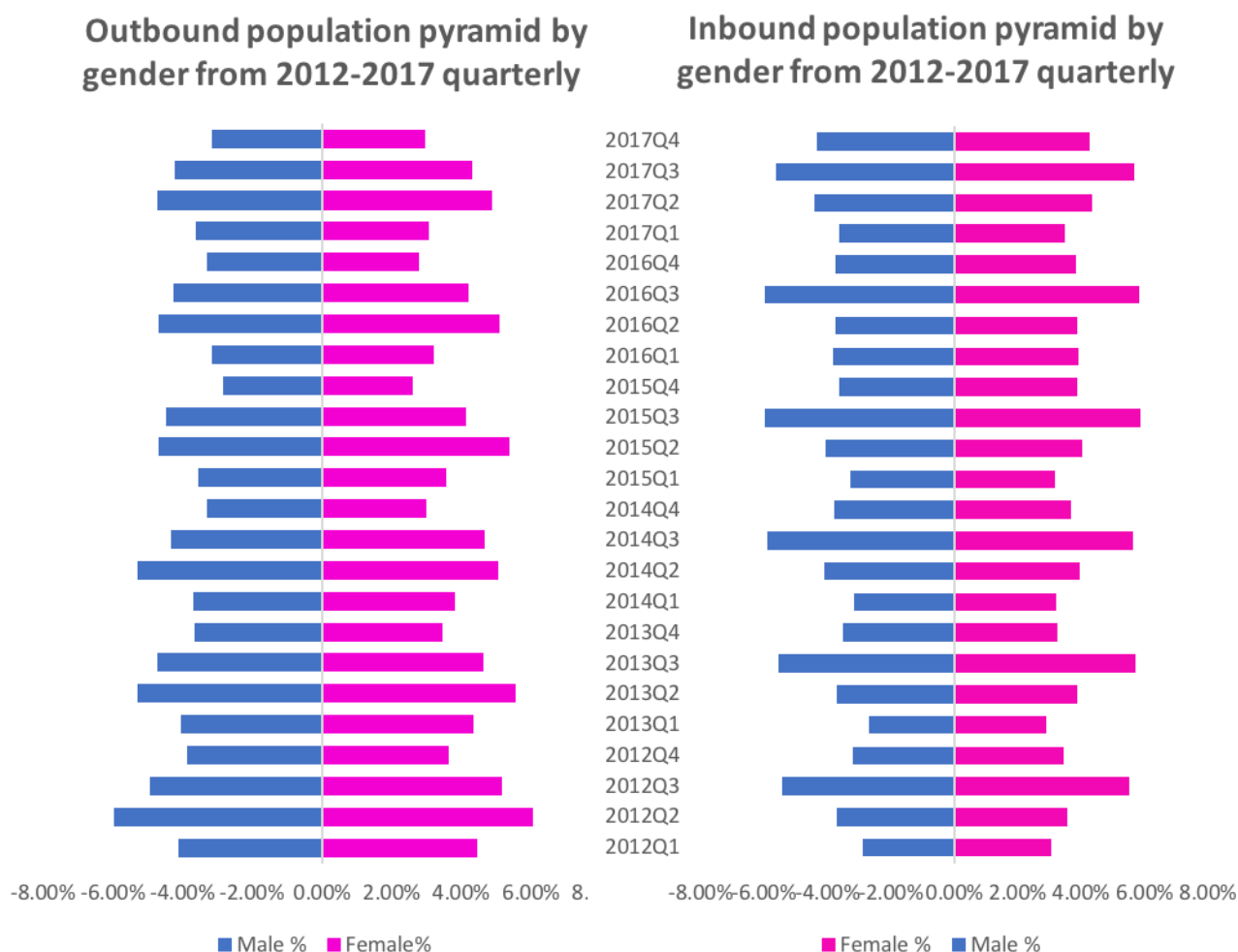


Figure 10

Mode of transport used widely from 2011 – 2017 for domestic and outbound travelling

A line chart indicates the increase or fall in mode of transport used by Irish residents from the year 2011 to 2017. This graph is the best suit to compare among the travelling mode for different years.

Each symbol at the end of graph indicates the mode of travel it may be by air, rail/bus, private cars or from sea. The graph indicates though there are many cruises available Irish residents prefer very less to travel by sea in both

the cases domestic and outbound. In the outbound air is the common mode of travel, however recently there is a sudden increase in travelling by bus. Using private vehicle remains almost constant across all the years.

On the other hand, in domestic travelers the use private vehicles and buses are high as expected. Surprisingly, there is sudden increase in using flights from 2014 to 2017 while travelling within Ireland.

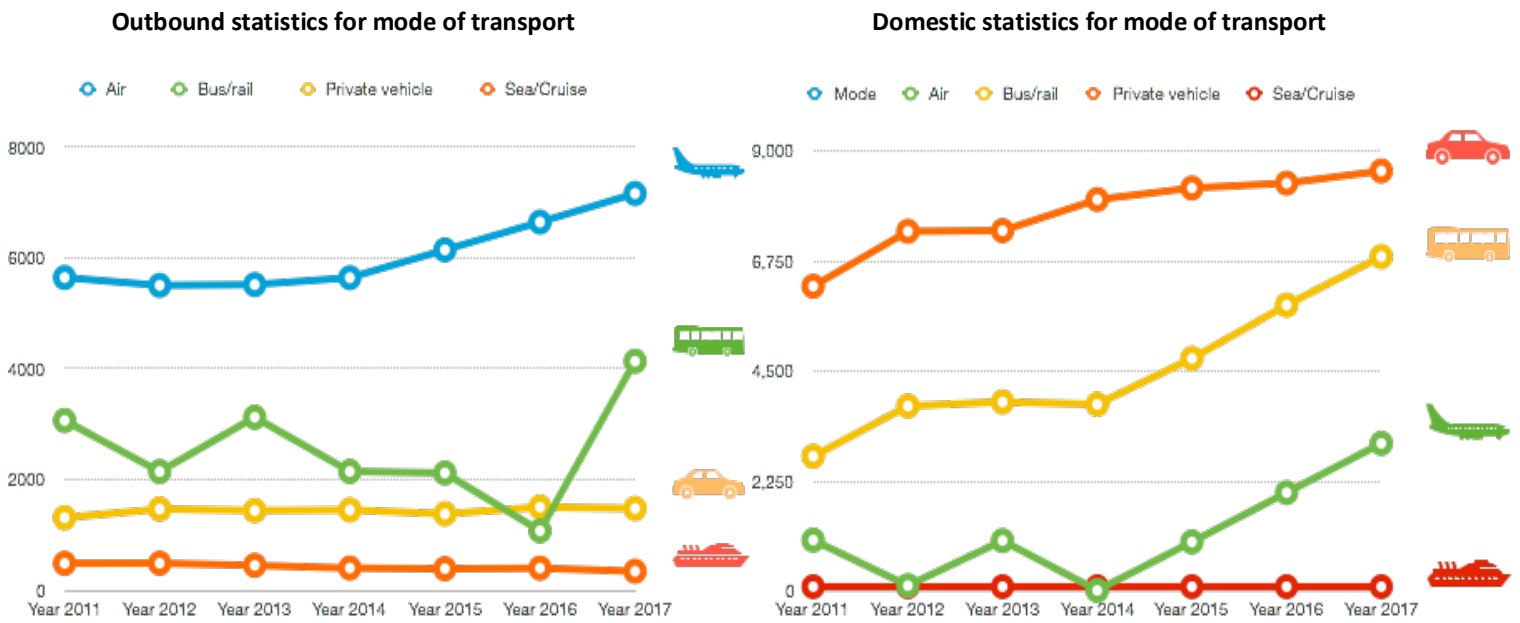


Figure 11

From the above statistics, 2016 and 2017 has been best year for Ireland tourism including domestic and outbound tourism with 10.5 million visitors to the country, contributing Euro 5.4 billion to the overall revenue. The main countries contributing for the revenues are United states, Canada, Spain, France, Netherlands and Australia.

References

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