Who benefits from tax free shopping ? Customers behavioral responses to countries VAT refund strategies

Master's Thesis

PARIS SCHOOL OF ECONOMICS
ECOLE D'ECONOMIE DE PARIS

Charlène Defrasne
Supervisor : Thomas Piketty
Referee : Antoine Bozio

Paris School of Economics
Master Analyse et Politique Economiques (APE)

July 2020

Abstract

This study aims to analyze the effect of VAT refund on travellers' spending across the world and more especially in the European Union countries from 2010 to 2018. First, I focus on extra-European Union travellers' and European travellers' spending in the European Union. Extra-EU travellers can benefit from VAT refund on their goods they purchase and bring back home. However they do not seem to spend more than EU travellers during their stay in the European Union, controlling for other factors. I also exploit Croatia's entry into the EU as a natural experiment. I find that it has not been a deterrent to EU travellers spending in Croatia, who no longer benefit from VAT refunds for their shopping in Croatia. Additionally, the VAT refund threshold, which varies across EU countries, has not an impact on extra-EU travellers' spending. Finally, I show that the customers who are likely to benefit from VAT refund are high income individuals. The highest income deciles are more likely to travel abroad, and conditionally on going abroad they spend disproportionally more than lower income deciles in expenses benefiting from VAT refund. Overall, the VAT refund polices applied in the EU and elsewhere appear to transfer resources from low-income to high-income households, with no noticeable impact on travellers' spending.

JEL Classification: D90; H23; H31
Keywords : Travel spending; VAT refund; Redistributive effects

Acknowledgements

I am extremely grateful to my supervisor Thomas Piketty for his insightful comments and for his constant help and continuous availability. It was a real pleasure to work on that subject. I would like to thank Antoine Bozio for accepting to be referee.

Contents

List of Figures

List of Tables

1 Introduction

The concept of "shopping tourism" is quite recent. It is becoming an increasingly relevant component of the tourism and travel sectors. Shopping can be an additional motivation to travel and can affect tourists' destination choice. According to the World Trade Organization, shopping is "in some cases the prime travel motivation" and "one of the major categories of tourists' expenditure" shopp. A majority of trips entail tax free purchases because foreign travellers can get VAT refund on goods they purchase.

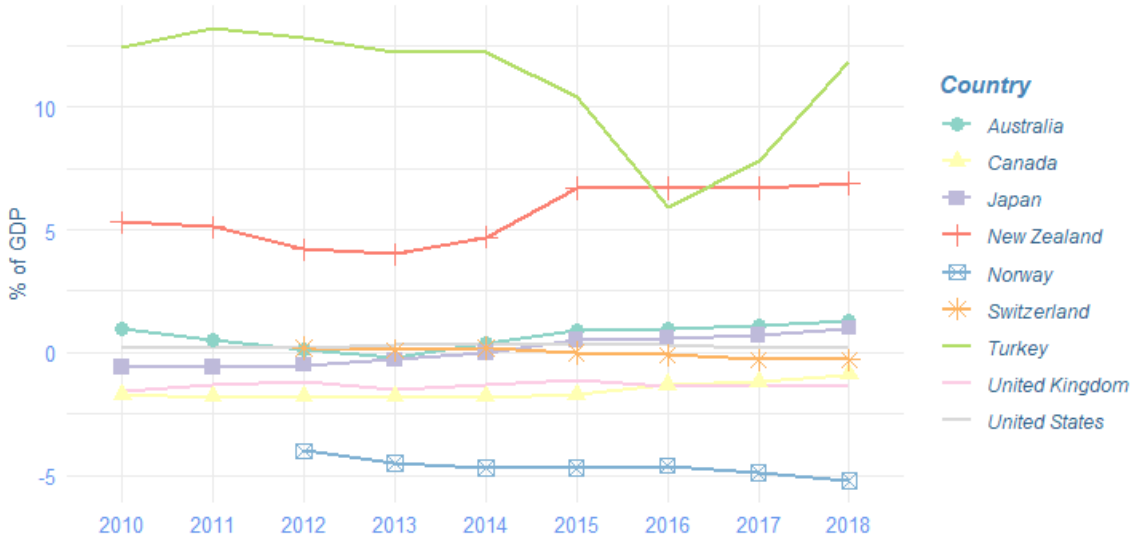
Existing economic literature on tourism shopping and especially on tax free shopping is nonexistent. But there are some recent tourism management literature that recognises shopping as one of the main reasons why consumers travel (Jansen-Verbeke 1991, Timothy and Butler 1995, Lehto et al. 2004), has an influence on the tourists' destination choice (Moscardo 2004) and an activity in which tourists frequently participate while travelling (Kent, Shock, and Snow 1983 and Suh and McAvoy 2005). In particular, some literature put an emphasis on tax free shopping tourists' behaviors (Rosenbaum and Spears 2006). Shopping is one of the larger categories of tourists' expenditure. It is therefore a significant and integral direct and indirect source of income for countries.

Tourism and travel sectors play an important role in boosting economy [1]. They can bring positive economic effects, especially on gross domestic product (GDP). In 2017, tourism contributes to nearly 12 % of Spanish GDP (see Figure 3) and travel for 7.6 % (see Figure 2). In France, tourism and travel contribute respectively to 7.2 % and 1.2 % of French GDP. In Croatia, tourism and travel contribute also a lot to GDP. What is notable in these figures is the increasing tourism and travel contribution to Icelandic GDP these last years. Tourism in Iceland began to grow following the April 2010 eruption of the Eyjafjallajökull volcano. This eruption appeared a real billboard for it's natural beauty. Additionally, expenses for visiting Iceland were affordable because of the Icelandic weak currency. But since 2016, we have seen a decrease in the contribution of travel to Icelandic GDP (see Figure 2). Prices have begun to rise despite the cheap flights that continued to bring travellers to Iceland. Besides, some countries like the United Kingdom have a "travel deficit". The contribution of travel services to the total global GDP is negative. That is, the spending by residents of a country travelling and spending abroad exceeds the amount

1. In the framework of bpmp6, the term "travel" covers expenditures made by individual travelling between different geographic locations and for any purpose. Expenditures made by abroad students, individuals undertaking medical care, seasonal and border workers are included under travel but not the expenditures made by the military or employees (including diplomats and other embassy personnel) of an agency of the government as well as the expenditures made by anyone accompanying them. See the definition of a traveler given on page 19. The term "tourism" is more limited. It does not cover trips lasting one day (same-day visitors). It excludes de facto border workers or students. See the definition of a visitor and a tourist on page 16. Besides, travel data exclude expenditures on international transport of the travel to destination while tourism data include them.

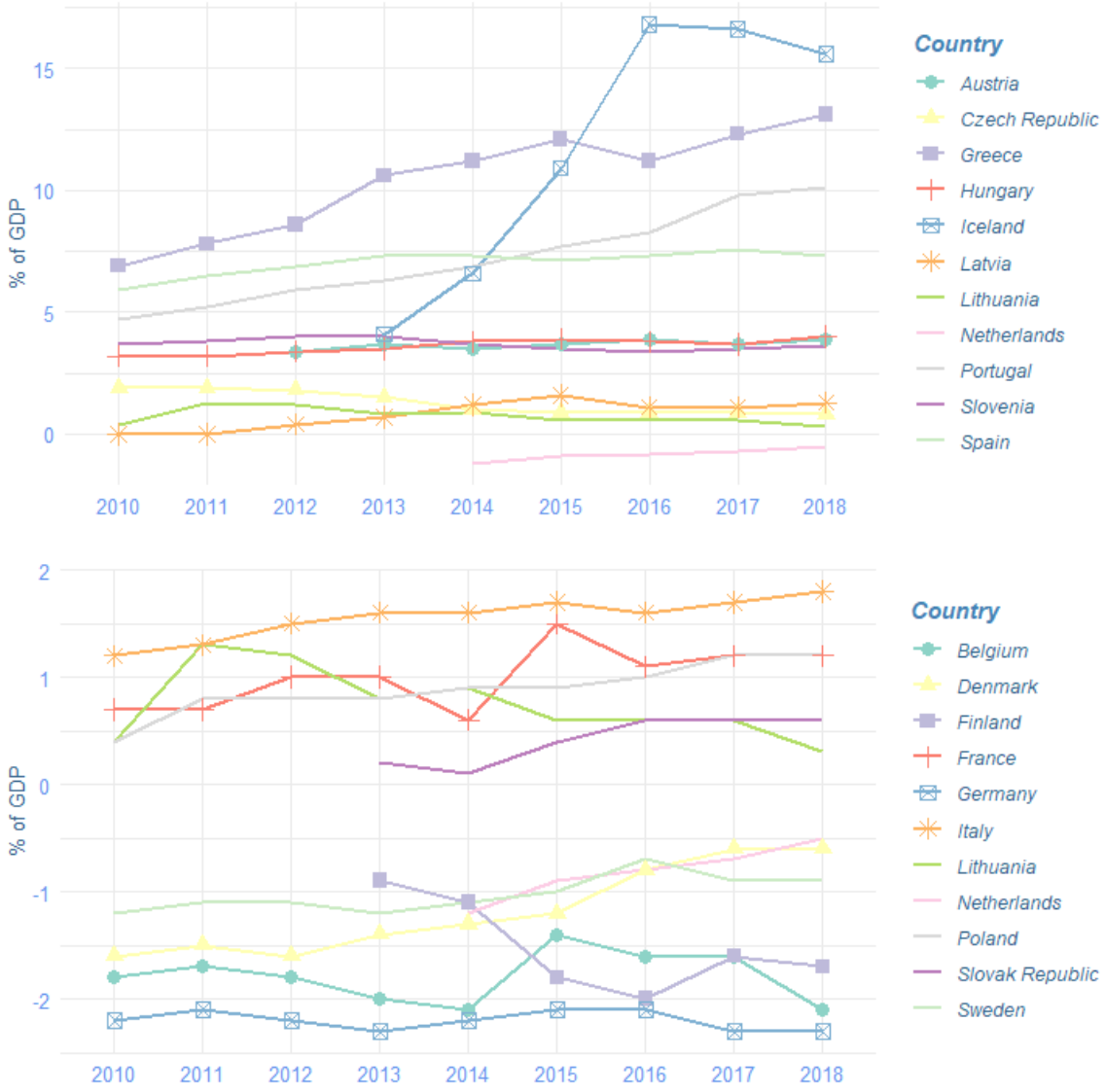
spent by visitors to this country. A possible explanation for British travel deficit is that UK residents made many more visits abroad than overseas residents made to the United Kingdom. According to the UNWTO and OECD figures, in 2018, UK residents made 71.7 million visits, spending a total of $ 69 billion abroad whereas non-residents made 37.9 million visits to the UK, spending $ 48.6 billion. The net result was a $ 20.4 billion deficit in the Travel item of the British Balance of Payments. In its report, british point out aviation capacity constraints, visa application challenges and the Air Passenger Duty as having potential negative effect on inbound travel.

Figure 1: Travel contribution to GDP in some OECD non-European countries



Source : OECD

Figure 2: Travel contribution to GDP in some European countries



Reading : In Italy, the direct contribution of travel services accounted for almost 1.75 percent of the total global GDP in 2018.

Source : OECD

Figure 3: Tourism contribution to GDP in some European and OECD non-European countries

Reading : In Spain, the direct contribution of tourism accounted for almost 12 percent of the total global GDP in 2017.

Source : OECD

Tourism and travel can strongly contribute to GDP. Many countries therefore aim to increase inbound tourism thanks to visa-free policies, promotional activities, improvements on roads infrastructure and air connection services, lower airfares, investments in hotels, etc. In recent years, shopping and in particular tax free shopping have become a core element of the tourist attraction for countries.

Tax free shopping or VAT refund refers to sales exempt from VAT from which travelers can benefit under specific eligibility criteria. Growing all around the world, tax free shopping is a strong asset for a destination in the development of its attractiveness. At the 2017 Tax Free World Association (TFWA) Conference and Exhibition, L'Oréal mentions tax free shopping as a "sixth continent". That is why Paris

aims to integrate shopping in the attractiveness strategy of the Ile-de-France destination in a context of increased competition. In his report, Philippe demonchy said that increase tourist consumption is one of the priorities for the next ten years. France is the first tourist destination in the world but it has not the first place for the level of overall expenditures and for the amount of receipts per tourist. France is going to change is VAT refund legislation in order to entice non-EU residents to buy. In the context of high competition for attracting foreign tourists, many countries also review their position on VAT refund and use tax-free as a fiscal tool to attract tourists and therefore boost their economic activity. But the effects of the VAT reform on tourists' spending can be questioned. Jansen-Verbeke shows that a shopping destination must not be a shopping paradise with a specific fiscal regime to be a tourist attraction (Jansen-Verbeke 1991). Additionally, VAT is one of the most important sources for government revenue, the subject of tax free shopping is therefore of high relevance. The relevance of this master's thesis also lies in the need to uncover the distributional effects of VAT refund. It has something to do with the few tax incidence empirical work dealing with distributional effects of VAT (Besley and Rosen 1999, Caspersen and Metcalf 1994 and Metcalf 1994). But VAT refund receives no attention while total VAT refund for the benefits of foreign tourists is quite high (see Figure 4).

Figure 4: Evolution of French tax-free sales for the benefit of foreign tourists

Années	BVE intégrés	TTC moyen (euros)	TVA moyen (euros)	TTC total (euros)	TVA Total (euros)
2014	**4 127 144**	1 318	219	5 439 752 510	905 500 060
2015	**5 226 789**	1 378	230	7 203 094 247	1 202 382 325
2016	**4 484 110**	1 351	226	6 059 526 230	1 011 237 671
2017	**5 111 605**	1 306	223	6 673 331 815	1 138 700 209
2018	**5 066 174**	1375	230	6 968 391 231	1 164 22 545

Source : Comité d'évaluation et de contrôle des politiques publiques 2019

The present master's thesis aims to contribute to the subject by first providing a comprehensive overview of travel spending across the world. I will focus on extra-EU travellers' and EU travellers' spending in the EU. Extra-EU travellers can benefit from VAT refund in the EU. I will determine if extra-EU travellers spend more than EU travellers in the EU countries. I will also exploit Croatia's entry into the EU as a natural experiment. Then, I will analyse, for each EU country, the effects of its VAT refund threshold on the customers' expenditures. My analysis, built on a consistent database, tries to link VAT refund strategy and customers' behaviours

across countries. This is crucial as the VAT refund strategy varies greatly across countries (and across EU countries), generating an uneven picture of effective VAT rates in the EU. Finally, I will try to estimate who benefits from tax free shopping using the French Budget de Famille survey.

2 Tax free shopping or VAT Refund Scheme

Goods entering a country from another one is not free of tax and in particular from VAT. But VAT may have already been levied in the country from which they came. In order to avoid double taxation, it has become a norm to relieve exports from indirect taxation. Goods are exported at a zero VAT rate. In the case of VAT, either duty-free shops selling to foreign tourists have been able to invoice goods as “exports” without VAT or foreign tourists have been able to reclaim VAT paid as they leave a particular country. In this case the goods have been like commercial exports.

2.1 History of duty free sales

The concept of duty free sales is old. It finds its origin with goods transported on the high seas which were beyond the territorial waters and the tax jurisdiction. Goods were subject to taxation only in the port of arrival. Goods remaining on board were "tax free". The crew and passengers benefited from these untaxed goods. This regime was later extended to air passengers. The 1944 Chicago Convention on International Civil Aviation considered that air passengers had left the national territory as soon as they had passed through customs checks and were therefore, outside national tax jurisdiction. In 1947, Aer Rianta, an Irish group belonging to the public authorities, invented the concept of airport duty-free with the first duty-free shop at Shannon Airport in Ireland (Chevalier and Mazzalovo 2012). But in order to avoid abuse, the 1954 New York Convention concerning customs facilities for touring established thresholds beyond which taxes were dues (United Nations 1954) :

> "Subject to the other conditions laid down in this Convention each of the Contracting States shall grant to the tourist, provided that there is no reason to fear abuse :
>
> a) authorization to import in transit and without a temporary importation permit, travel souvenirs for a total value not exceeding 50 U.S.A. dollars, provided that such souvenirs are carried on the person of or in the luggage accompanying the tourist and that they are not intended for commercial purposes;
>
> b) authorization to export, without the formalities applying to currency controls and free of export duties, travel souvenirs which the tourist has bought in the country for a total value not exceeding 100 U.S.A. dollars, provided that they are carried on the person of or in the luggage accom-

panying the tourist and that such souvenirs are not intended for commercial purposes."

Goods sold by shops located in international areas such airports are exempt of VAT, a national tax. They are not subject to taxes of the country in which they are located since they are in "free zone". A traveller who purchase a good in such a shop will not pay VAT (from the first dollar or euro spent). The price displayed is a price excluding tax. But, travellers from or to European Union countries can no longer benefit from these duty-free purchases. As explained in the following paragraphs, since 1999, the European Union has decided to no longer apply the VAT exemption in international areas between its countries with a few exceptions (such as the Canary Islands or Andorra for instance).

There is also another system to be exempt from VAT. In some shops and under specific conditions, travellers can request for a VAT refund after they purchase. For this, they will have to complete some administrative formalities (like a VAT refund form). European Union travellers traveling in the European Union can also no longer benefit from this system.

2.2 The European tourist VAT refund scheme

2.2.1 The former European tourist VAT refund scheme (before 1st July 1999)

The legal basis for VAT free was the 1969 Council Directive 69/169/EEC which stated that passengers can import limited quantities of products without paying VAT when travelling. Until 1969, EU citizens benefited from the international regime described above without special exemption. However that directive increased the monetary thresholds and quantitative limits for exemptions from VAT for some goods in order to emphasize the nature of the European Common Market to the Inner Six. Under that Directive, a distinction was made between (i) the normal allowances for goods bought in third countries or in duty free shops and (ii) higher allowances for goods bought in another Member State. For travellers between Member States of the European Community, this system broadly applied until the coming of the Single Market at the beginning of 1994. After 1st January 1994, these second allowances theoretically became infinite. For example, once a French tourist has paid Italian taxation on a product, this product is in free circulation. The French tax authorities cannot normally charge any more. But there are rules to govern what a traveller can carry when traveling internationally. For example, purchases by a French traveller who returns from a non-European country by plane or boat are limited to 430 euros per traveler over 15 years old. The limit is 300 euros per traveler for other means

of transport. The limits are individual and not cumulative. You cannot buy an article of 600 euros for two. French children (under 15 years old) have the right to buy products for a maximum value of 150 euros. Additionally, French travellers cannot bring more than 200 cigarettes (or 100 cigarillos or 50 cigars or 250g of smoking tobacco) and one liter measuring 22°or 2 liters grading 22°or less and 4 liters of wine and 16 liters of beer from a non-EU country. For French travellers returning from a European country, there are no franchises in value but only maximum amounts for tobacco and alcohol : 800 cigarettes and 400 cigarillos and 200 cigars and 1 kg of smoking tobacco and 10 liters of alcohol and spirits (whiskey, gin, vodka, etc.) and 20 liters of intermediate products (vermouth, port, madeira, etc.) and 90 liters of wine and 110 liters of beer.

Tax free shopping became a subject of discussion once more when the European Commission published its White Paper on the Single European Market in 1985 (Commission to the European Council 1985). In November 1990, the European Parliament invited the Commission to carry out a study on the economic and social consequences of the abolition of the fiscal borders (Patterson and Boetius 1997). The creation of the European Single Market would require a tax harmonization, that is the abolition of tax frontiers since notions of imports and exports disappeared within the European Union. Following the creation of the Single Market, the European Council decided in 1991 to abolish duty-free sales for intra-Community travellers (including the suppression of duty-free shops in airports for flights within the Community) [2]. In replying to a parliamentary question, the responsible Commissioner for fiscal harmonisation, Christiane Scrivener said that duty-free would automatically end on 1st January 1993 (Patterson 1990) :

> "tax-free shops operate by virtue of the fact that the goods they sell are regarded as being exported from a Member State and are thus relieved of tax at that stage... If there are no longer to be such exports there will no longer be any possibility for them to sell tax-free."

When the end 1993 deadline approached, this view was increasingly challenged. The International Duty Free Confederation, established in June 1988, mounted a vigorous campaign to retain duty-free international journey. In October 1991, when the Council discussed the duty-free sales abolition, the Chancellor, Norman Lamont, asked for a 10 to 15 year extension. The rest of the Community was divided. Denmark and Ireland wanted more than four years, Germany wanted less. A compromise was reached on 11 November 1991 at ECOFIN (the Council of European Finance Ministers). It was agreed that duty-free sales on journeys within the EU

2. The Rapporteur of suprress approved the suppression of duty-free shops in airports for flights within the Community.

would not continue after 30 June 1999. This agreement is consolidated in two European Commission directives : the VAT systems directive 91/680/EEC of 16 December 1991 and the directive on products subject to excise duty 92/12/EEC of 25 February 1992. In order to help some sectors adapt to rules of the single market without tax frontiers, until 30 June 1999, duty-free shops were able to continue selling duty-free goods bought by EU citizens travelling within European Union on board ferries, on aircraft, or at airports. Rail transport did not benefit from the transitional regime and road transport had no access to it. But during the transitional period, duty-free sector has intensified its activities instead of preparing for abolition. When duty-free lobby tried to overturn the decision to get an extension of the transitional period beyond 30 June 1999, the Commission refused. Moreover, the Commission considered that the abolition of duty-free sales would not have a significant long-run negative impact on employment levels overall (European Union Commission 1999).

2.2.2 The current European tourist VAT refund scheme

European rules on the refund of value added tax are laid down by the Eighth Council Directive 79/1072/EEC of 6 December 1979.

EU resident visitors

EU resident private consumers who buy goods in another EU country pay all the duty and VAT due in that country. They are not allowed to apply for a VAT refund. Since the introduction of the Single European Market on 1 January 1993, they can buy as much as they like, provided it is for personal use only. Allowances for imports of tax-paid goods (assuming they are not for commercial use) have been abolished by the EC directive 92/12/EEC. Article 8 of this Directive states :

> "as regards products acquired by private individuals for their own use and transported by them, the principle governing the internal market lays down that excise duty shall be charged in the Member State in which they are acquired."

Each Member State may set indicative levels of alcohol and tobacco purchases to help Customs distinguish between commercial and private use. But the levels are purely indicative.

Extra-EU resident visitors

EU non resident visitors to the EU can be eligible under some eligibility criteria for buying goods free of VAT in special shops or for a VAT refund on the VAT-inclusive

price of goods they purchased. A visitor is any person who permanently lives in a country outside the EU. Individuals living in an EU country for a defined period of time for a specific purpose can be qualified as a visitor if their permanent home is outside the EU. Moreover, EU citizens permanently living in non-EU countries are also eligible for a VAT refund. The main eligibility criteria are : (i) to buy goods in a shop offering a VAT-free facility, (ii) to buy goods eligible to VAT-free - that is goods that can be carried in personal luggage -, (iii) to buy goods above a minimum value for the total purchase (in the same shop), (iv) the VAT-free goods bought must leave the EU by the end of the third month after that in which you buy them and (v) the goods must be in the visitor's luggage since he must be able to demonstrate those goods to the customs officer. The main criterion, I am interested in, is the minimum purchase amount which varies across EU countries (see Table 1).

Table 1: Minimum purchase amount settled by European Union countries

Countries	**Minimum purchase amount (by increasing order)**
Sweden	200 SEK (€ 19)
Ireland	€ 30
United Kingdom	£30 (€ 33)
Estonia	€ 38.01
Denmark	300 DKK (€ 40)
Finland	€40
Lithuania	€ 40
Latvia	€ 44
Poland	200 PLN (€ 47)
Belgium	€ 50 (€ 125.01 since 1st January 2020)
Cyprus	€ 50
Greece	€ 50
Malta	€ 50
Netherlands	€ 50
Germany	€50.01
Slovenia	€50.01
Romania	250 RON (€ 51.5)
Portugal	€ 61.50
Luxembourg	€ 74
Austria	€ 75.01
Czechia	2,001 CZK (€ 77)
Spain	€ 90.15 (€0.01 since July 2018)
Croatia	740 HRK (€ 100)

Slovakia	€ 100 (before € 175.01)
Bulgaria	250 BGN (€ 128)
Italy	€ 154.95
Hungary	59,001 HUF (€ 167)
France	€175.01

Source : Global Blue

Note : In the United Kingdom, there is no legal threshold but we consider the average applied by tax refund operators. Hong Kong is tax free destination so no VAT refund is applicable. Note that in this master' thesis, the United Kingdom is considered as a EU country since it was EU over the entire analysis period.

2.3 The French current tourist VAT refund scheme

According to the second intend of Article 262-I-2°of the French General Tax Code, travellers with a non-EU country primary residence may be eligible for a VAT refund on the price of goods they purchased in France. To get VAT refund, they have to fill in a VAT refund form signed by the retailer. When they leave the EU territory and prior to checking their luggage, they must present their refund form to customs. They must do this before the end of the third month following the month in which they made the purchase(s). Last, in the case of the manual procedure, travellers must send the French Customs stamped form to the retailer. Or in the electronic case, they must use a PABLO terminal [3]. Besides, they need to satisfy the following conditions : (i) being a resident of a non-EU country at the time of purchase[4], (ii) having been in France for less than six month, (iii) being at least 16 years old, (iv) the total amount of their purchases, inclusive of all taxes, must be greater than 175 euros and (v) they must have been bought in the same shop and on the same day (see the latest decree and circular (Arrêté NOR CPAD1928151A du 12 novembre 2019 and Circulaire NOR CPAD1928148C du 15 novembre 2019). Besides, some goods are not eligible for VAT refunds like : all goods subject to commercial embargo ; sales of fifteen identical units of the same good ; tobacco products ; means of transportation for private use except bicycles, beach boats, trailers, caravans ; capital goods except car radio, CD players, GPS, DVD players, etc ; oil products ; explosives ; goods which could be used for torture or inhuman and degrading

3. These terminals, installed in most ports and airports, can read the barcode of the VAT refund form. Tourists no longer need to queue at the customs office. They no longer have to return the second sheet of the VAT refund form to the shop owner in order to benefit from the VAT refund.

4. Article 3 on the transmission of information between administration was adopted in 2018. A draft bill by Nathalie Goulet was also adopted. There is a high risk of fraud. A foreign passport alone is not sufficient to check the residence. But, customs have now access instantly to Public Finances general Directorate (DGFiP) information and can check if buyers asking for a VAT refund are not resident in a EU country.

treatment ; narcotics ; psychotropic drugs ; weapons and munitions of categories A and B ; war material ; expensive or ancient cultural goods ; services.

In November 2016, some French Members of Parliament proposed an amendment but they did not present it before the National Assembly. This amendment proposed to lower the minimum amount of purchase (for a VAT refund) down between 75 and 100 euros. It was almost 100 euros higher than the average of 75.02 euros practiced by Spain, Italy, the United Kingdom and Germany (see Table 1). These MP also wanted to encourage regular consideration in fixing this threshold of changes in the other EU Member States' thresholds as well as cyclical and structural changes likely to impact the attractiveness of France as a tourist shopping destination. According to them, a decrease in the French threshold would improve the competitiveness of France vis-à-vis the main other tourist shopping destinations. It would also encourage non-EU tourists' purchases outside Paris and in non-luxury shops. They also say that foreign tourists who visit France spend on average less than those going to the United-States or Spain. Spain receives 30 % fewer tourists than France but receives 10 % more revenue (see Pascal Got 2016). In December 2016, this amendment was finally presented by Ms. Fabre before the National Assembly but it was rejected.

Later, in 2019, during the 4th "Conseil ministériel du tourisme" (Gouvernement Philippe 2019), the French government announced the lowering of the VAT refund threshold from 175 to 100 euros by 2021 to achieve its goal of increasing the total international tourist spending to 60 billions of euros in 2020 [5]. This measure which could cost between 15 and 30 million euros [6] may simulate the consumption of non-European tourists from the middle classes and foster tourism spending. According to the Alliance du Commerce (Alliance du Commerce 2018), the emerging middle classes now represent the largest part of the tourists fond of shopping. In most cases, they do not buy luxury goods but more quality products (polo shirts, shirts, accessories or small decorative items) which do not reach the 175 euros threshold. With this evolution, France is getting closer to the VAT refund scheme adopted by other European countries. Moreover, during this Council, the French government pledged to take two other measures : (i) to increase the cash VAT refund ceiling from 1,000 to 3,000 euros in 2020 [7] since this cash can be spent in France and (ii) to introduce in 2020 a relaxation of the time unit rule. Tourists will have therefore three days between purchasing and filling the VAT refund form. In the current scheme, purchases must be made on the same day and within the same store or in the same brand.

5. In 2018, the report Alliance du Commerce 2018 advised to remove the VAT refund threshold.

6. See eval.

7. Before 2015, the cash VAT refund ceiling was 3,000 euros. The lowering to 1,000 euros resulted from the publication of decree n°2015-741 of 24 June 2005 relative to the article D. 112-3 of the Monetary and Financial Code relating to the prohibition of the payment in cash of certain debts.

2.4 Other tourist VAT refund schemes

Table 2: Minimum purchase amount settled by some extra-European Union countries

Countries	Minimum purchase amount including VAT (by increasing order)
Turkey	108 TRY (€14.5)
South Korea	30,000 KRW (€22.5)
Norway	315 NOK (€27) (for Non-Scandinavian residents)
Iceland	SK 6,000 (€38)
Japan	5,000 Yen (€41)
Mexico	1,200 pesos (€46.5)
Russia	10,000 RUB (€121.5) (for Non EURASIAN Union residents)
Australia	AUD 300 (€177.15)
Canada	CAN $ 200 (€185)
Switzerland	300 CHF (€285)
Colombia	10 UVT (€306)

Source : Global Blue

Note : The United States does charge sales tax but does not have a refund scheme for visitors.

3 Data sources and construction of databases

In this section, I present in detail data used to conduct my analysis. There are some differences in terms of the coverage between the balance of payments definitions and tourism statistics.

3.1 Travel statistics from the OECD Extended Balance of Payments Services (EPOBS)

The Balance of Payments (BoP) is an accounting record of the transactions and positions between a national economy and the rest of the world. It provides data on the economy's international transactions in goods and services, income, capital and finance, as well as changes in its financial assets and liabilities in relation to the rest of the world. The data on Travel I used come from the Extended Balance of Payments Services (EPOBS) of OCDE statistics. The EBOPS has a more detailed classification than the BoP for international trade in services between residents and non-residents. The EBOPS data are reported within the framework of the most recent edition of the BoP international standard manual published by the IMF, the sixth edition of the bpmp6 [BPM6]. They collect data on Travel services for all OECD Members countries [8], Costa Rica, Hong Kong and Russia by partner countries. Partner countries are made up of more than 200 countries. But the availability of data depends on countries. For example, Australian data on Travel services are available from 2000 to 2018 for many partner countries whereas French data are available only from 2011 to 2018 and for much less partner countries. Few data are available before 2010 and no data for European Union countries are available before that year, I will therefore focus on the 2010-2018 period for most of my analyses.

Travel item (SD) is made up of expenditures by residents of one country that are traveling in another. These expenditures cover a range of goods and services that the consumer acquire in another economy for a personal use during travels. More precisely, the debit side of the item Travel includes goods and services which are acquired by residents who stay abroad for less than one year. The credit side

8. Australia, Austria, Belgium, Canada, Chile, Colombia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom and the United States.

includes purchases made by foreign travellers on the national territory [9]. In my master's thesis, I only focus on the credit side (that is exports of travel services).

The most common goods and services included in Travel are lodging, food, beverages, recreation, entertainment, gifts, souvenirs, local transportation in the country of travel and other articles purchased for their own use. This item excludes goods for resale and expenditures on international transport of the travel to destination. Besides, valuables (such as jewelry), consumer durable goods (such as cars and electric goods) and other consumer purchases for own use that are above a customs threshold by residents traveling abroad are excluded from Travel.

Travel includes goods or services acquired by individuals undertaking study or medical care while outside their territory of residence for a period of one year or more. Acquisitions of goods and services by border and seasonal cross-border workers are also included in travel but not the ones acquired by diplomats, consular staff, military and personnel. Indeed, the fifth edition of the bpmp5 [BPM5] defined a traveler as :

> "an individual staying, for less than one year, in an economy of which he is not a resident for any purpose other than (i) being stationed on a military base or being an employee (including diplomats and other embassy personnel) of an agency of his or her government, (ii) being an accompanying dependent of an individual mentioned under (i), or (iii) undertaking a productive activity directly for an entity that is a resident of that economy. Expenditures made by individuals covered in (i) and (ii) are recorded under government services. Expenditures made by individuals (including seasonal and border workers) covered in (iii) are included under travel. Travelers include tourists, who spend at least one night in the country visited, and same-day travelers or excursionists, who stay less than twenty-four hours and do not remain overnight".

Travel item is also frequently breakdown into business travel (SDA) and personal travel (SDB). According to the *Manual on Statistics of International Trade in Services* manualstat, business travel includes "the goods and services acquired for their own personal use by travellers whose main purpose of travel is for business (including goods and services for which business travellers are reimbursed by employers) but not the sales or purchases that they may conclude on behalf of the

9. Note that the value of Travel credit reported by a country (a) received from travellers of country (b) is not equal to the value of Travel debit from country (a) reported by the importing country (b). This difference is defined as the trade gap. The magnitude of the trade gap depends on incorrect specification of credits and debits from the countries of residence of travellers and country of destination. The difference can also due to different currencies and the fluctuations of their exchange rate to the US dollar. Additionally,the discrepancy can also result from a mismatch in the timing information for credits which are dispatched at the end of year while the debits arrive in the beginning of the following year.

enterprises they represent". That is, when individuals work for less than one year in an country where they are not resident, BPM6 records their expenditure in the host country in the travel item. The purchase of goods and services for personal use by workers who are not resident in the country in which they are employed and whose employer is resident in that country, is classified in the subcomponent seasonal and border workers. All other business travel is included in the subcomponent "other" (SDA1) (see Table 3).

Table 3: EBOPS Travel item

Components and subcomponents	Contents
Travel (SD)	
Business travel (SDA)	"the goods and services acquired for their own personal use by travellers whose main purpose of travel is for business (including goods and services for which business travellers are reimbursed by employers) but not the sales or purchases that they may conclude on behalf of the enterprises they represent"
Business travel, other (SDA1)	
Personal travel (SDB)	"goods and services acquired by travellers going abroad for purposes other than business, such as holidays, participation in recreational and cultural activities,visits with friends and relations, pilgrimage, and education - and health-related purposes"
Health-related (SDB1)	
Education-related (SDB2)	
Personal travel, other (SDB3)	

Countries use different methods to measure theses expenditures. They can collect the information on travel-related expenditure by surveys of travelers (travel debits are measured by surveying residents at the border upon their return from travel abroad and travel credits are measured by surveying nonresidents when they depart from country), through the instruments used for payment (they can consider credit and debit cards used by travellers), by using partner economy data (mirror statistics), etc. They can also measure the total value of the expenditure including the types of goods and services acquired by residents traveling to foreign countries and flows of traveling residents as recorded at the borders, by partial information collected by various transport operators such as airline and bus companies.

3.1.1 The example of French travel data collection

The travel item of France's Balance of Payments is the first item of cross-border services. In 2017, its balance amounted to 17 billion euros. The abandonment of national currencies in the Euro area has some consequences on data collection systems related to the Travel item both within and outside the Euro area. Within the Monetary Union, purchases of goods and services in cash by tourists residing in this area will no longer be distinguished from purchases by residents of the country in which the expense is made. There also might be a geographical misallocation. It has led the Banque de France to implement a new system of data collection based on information provided by credit card issuers. Such information has an advantage over banknotes transactions since these data are not affected by the cash changeover. Additionally,they are reliable because they are fully known and available fairly quickly. Indeed, in France, credit car issuing companies have to report each transaction whatever its amount. The Banque de France combines data from banking system with results from the "Enquête auprès des visiteurs venant de l'étranger" (EVE) and the "Enquête de suivi de la demande touristique" survey (SDT).

The quarterly EVE survey is carried out each year since January 2001 by the Direction Générale des Entreprises (DGE) and the Banque de France. It allows to follow non-resident tourists' behavior during their stay in France. It aims at providing data on credits for the Travel item. The survey is carried out among tourists when they leave the metropolitan territory whatever their mode of transport. It includes a count of flows leaving the territory with a qualification of these flows between resident and non-resident people. In particular, more than one million vehicles are observed at the borders and more than 135,000 air passengers are interviewed when boarding. The survey also includes an interview of 60,000 non-residents in order to find out the characteristics of their stay (duration, reason, expenses…). The methodology adopted by this survey slightly differs from the Balance of Payments' methodology. Foreigners living in France, children under fifteen years old and French people residing in French overseas departments are excluded from the panel. Holiday-makers, cross-border workers and people staying over four months abroad are not asked to describe their expenses abroad.

The SDT survey is implemented since April 1999. It consists in a monthly survey based on a panel of 20,000 French people aged of 15 years old or more. They are representative of the French resident population. Only people who declare to have travelled abroad are questioned. It provides information on expenses within the Travel item. This survey by post is carried out initially by the Tourism Directorate on residents' travels in France and abroad.

3.2 Tourism statistics from the UN World Tourism Organization (UNWTO)

UNWTO provides also annual data on travel expenditure by inbound/outbound tourists for more than 200 countries of destination but not detail data per travellers' country of residence. But the value of travel expenditure spent by all inbound tourists in a country (measured by UNWTO) differs from the value of travel credit received by this country by the World as partner (displayed on the OECD EPOBS) [10]. Consequently, I use these data only for comparison sake.

UNWTO provides also annual data on the number of arrivals of inbound visitors at national border for more than 200 countries of destination as well as on the number of outbound visitors at national border for more than 200 countries of residence. UNWTO uses visitor's definition adopted by the International Conference on Travel and Tourism Statistics (Ottawa, 1991) :

> "a person who travels to a country other than that in which he/she has his/her usual residence and that is outside his/her usual environment, for a period not exceeding one year, and whose main purpose of visit is other than the exercise of an activity remunerated from within the country visited".

Dataset on inbound tourist arrivals is made up of arrivals of non-resident visitors within the countries of reference. It contains (i) arrivals of overnight visitors (tourists) and same-day visitors (excursionists); (ii) arrivals of non-resident tourists at national borders ; (iii) arrivals of non-resident visitors at national borders ; (iv) arrivals by geographical region (Africa, Americas, East Asia and the Pacific, Europe, Middle East and South Asia) and (v) arrivals by main purpose (personal ; business and professional). This dataset can be complemented by a dataset containing arrivals of non-resident visitors by country of residence at national borders.

Dataset on outbound tourism data which focuses on trips abroad by resident visitors to countries of destination. Outbound tourism by country corresponds to arrivals in destination countries. The information is obtained on the basis of data supplied by each of the destination countries (and thus only the countries that provide the information of arrivals from other countries are included).

All the data are compiled from official sources : national tourism administrations, national statistical offices, central banks, the International Monetary Fund and the World Bank. But each country has its own methodology for collecting data. Consequently, the information sources as the availability of information vary from country to country even though UNWTO and the United Nations Statistics Division

10. See Appendix A.1.1 for more details.

now want to harmonize countries' methodological and operational foundations of tourism statistics with IRTS (2008).

3.3 Average spending

This master thesis mainly aims to analyse effects of VAT refund threshold on the customers' expenditure. Therefore, I compute the average expenditure spent by foreigner tourists per country of destination.

3.3.1 Average per capita spending (for all tourists)

I use the EBOPS travel credits item data and UNWTO data on arrivals of inbound visitors at national borders to have a indication on the country of residence of these inbound visitors despite some differences of methodology between the EBOPS and UNWTO. OECD considers travellers and UNWTO visitors. That is, EBOPS travel credits are made up of goods and services purchased by a non-resident during their stay abroad for they personal purpose.

EBOPS data include the expenditures of travellers. The notion of traveller is larger than the UNWTO notion of visitor. For example, spending made by seasonal workers, frequent border-crossers, long-term students and individuals undertaking medical care outside their country of residence are included in travel item but not in UNWTO data.

The combination of these two datasets allows us to have an approximation of average per capita spending for 41 countries (most countries are OECD countries) per travellers' country of residence. The average per capita expenditure is calculted as following :

$$\frac{\text{Travel (SD)}}{\text{Total of arrivals of non-resident visitors at national borders}}$$

Most of the time, the divisor - the total of arrivals of non-resident visitors at national borders - is the sum of tourists and excursionists. But sometimes, it contains only tourists. It is the case for Austria, Belgium, Costa Rica, Finland, Germany, Luxembourg, Netherlands, Norway, Portugal, Slovenia, Sweden and Switzerland. For all other countries, visitors is the sum of tourists and excursionists. Consequently, we need to take additional precautions when we compare average per capita expenditure because the denominator can differ.

For a country of reference, this average per capita expenditure is calculated at the aggregate level for inbound visitors and at a more detailed level : (i) by region (ii) or by country of residence of inbound non-resident visitors or tourists (see section 3.3.2).

Table 4: Correspondance between EBOPS Travel item and UNWTO Tourism item

	EBOPs data	UNWTO data
By region	Africa Americas Asia and Oceania Europe	Africa Americas East Asia and the Pacific + South Asia Europe Middle East
By main purpose	Business travel (SDA) Personal travel (SDB) health-related (SDB1) + education-related (SDB2) personal travel, other (SDB3)	Business and professional Personal other personal purposes holidays, leisure and recreation

3.3.2 Average per capita spending of inbound non-resident visitors according to their country of residence

I use UNWTO data on non-resident tourist arrivals in a destination country per home country and EBOPS data on travel credits. I merge these two datasets on "Country" (destination country) and "Partner" (home country). I divide travel credits by tourist arrivals. I can get average per capita per home country for 12 countries of destination : Canada, Chile, France, Greece, Hong Kong, Hungary, Iceland, Ireland, Italy, Lithuania, Mexico, Spain, Sweden and United States.

3.4 Data from the 2010-2011 "Budget de Famille" survey

The "Budget de Famille" survey aims to reconstruct all the expenses and resources of French households (residing in mainland France and French overseas departments). The total sum of the French households' expenditure, the amount and the nature of their expenditures are recorded and broken down within a nomenclature system comprising around 900 budget items. This survey is conducted every five years by the French National Institute of Statistics (INSEE). It has existed in its current form since 1979. In the last survey, conducted from October 2010 to September 2011, there is a new module called "out of home stays". It is made up of data on the expenditures spent by households during stays of at least four nights away from home.

The 2011 survey took place in 6 waves of 8 weeks each. It used two instruments for collecting information : (i) a computed-assisted survey recording the income of the last 12 months, important or regular expenditures, socio-demographic and economic information on the household and (ii) a self-administered notebook in

which all household members over the age of 14 record all their expenses for seven days. For this survey, in mainland France, 10,342 households were interviewed, i.e. 24,417 individuals.

The sample on "out of home stays" is made up of 7,991 households that is 15,851 observations. 3,248 French households travelled in a foreign countries (accounted for 4,436 observations).

4 Inbound travellers' spending and countries VAT refund strategies

In this section, I study effects of VAT refund on travellers' spending. I focus on EU travel spending and non-EU travel spending from 2010 to 2018 [11]. Extra-EU travellers can benefit from VAT refund. Assuming VAT refund made by EU countries has an effect on travel spending, we expect higher travel spending for extra EU travellers than for EU travellers in European Union countries.

For a country, inbound travel expenditure corresponds to its "tourism receipts" or travel credits. In the balance of payments, "travel" refers only to the value of expenditure of individuals while on visits outside their country of residence. This indicator is measured in 2018 US dollars.

Overall, it is increasing over the 2010-2018 period. For instance, travel exports for France increased by 3.6 % from 3.6 to 4 millions of 2018 US dollars (see Figure 5). In 2015, they reached a peak. It may be a delayed effect of the 2013 "Shopping By Paris" campaign. This campaign offered visitors a 10 % reduction in over 270 stores with the Paris City Shopping Passport. Greece saw a more significant increase from 8.9 to 15 millions of 2018 US dollars, representing an increase of 8.9 % (see Figure 5). In the same period, Turkish travel services exports have fallen dramatically since 2016 as a result of political uncertainty. At the beginning of the period, Turkish travel services account for more than 16 % of Turkish GDP. Turkey has always attracted visitors for trade with the Grand Bazaar in Istanbul and is still developing its shopping attractions by building large shopping malls like the Cevahir Mall. Travellers have probably spilled over into Spain, one of the main competitor of Turkey in the Mediterranean. Indeed, in Portugal and Spain, there has been a steady increase in travel services exports in recent years. As expected (see the introduction), Iceland knew soaring travel services exports (but increasing more slowly since 2016). Last, Denmark and Sweden also experienced an increase in travel services exports these last years. It is not surprising, there is a lot of cross-border travelling within the Scandinavian region.

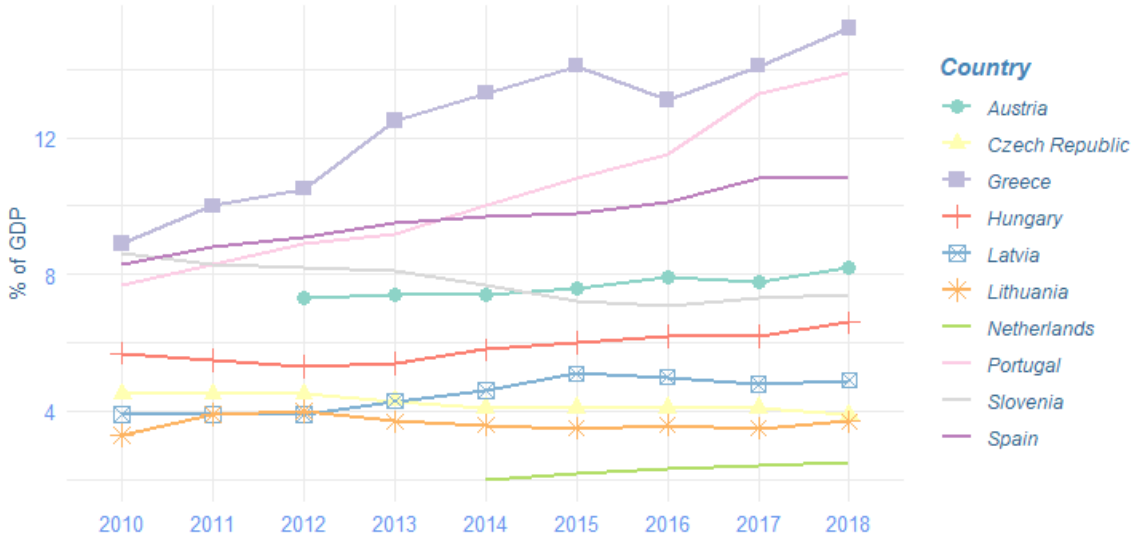
11. Few OECD data are available before 2010. No OECD data for European Union countries are available before 2010. I will therefore focus on the 2010-2018 period for most of my analyses.

Figure 5: Exports of travel services as % of GDP in European countries

Reading : In Greece, the direct contribution of exports of travel services accounted for almost 15 percent of the total global GDP in 2018.

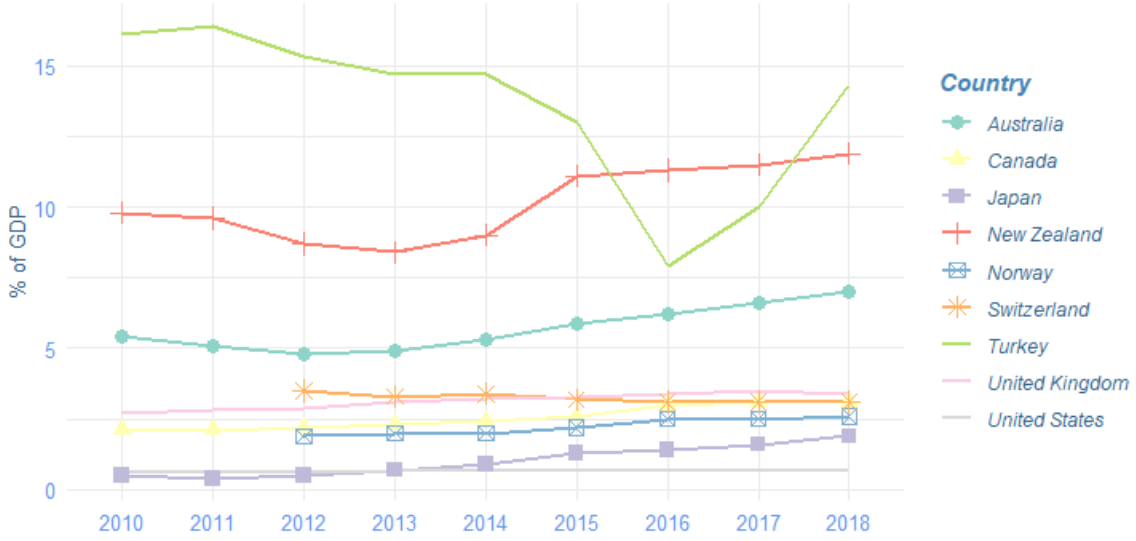
Source : OECD

Zoom on the first graph of Figure 5



Source : OECD

Figure 6: Exports of travel services as % of GDP in some OECD non-European countries



Source : OECD

4.1 Summary statistics of travel credits from 2010 to 2018 for OECD countries and some other countries

To have an overview of total inbound tourists' expenditure, I use OECD EBOPS data on travel credits ("SD" line). I select "World" for the Partner variable. Data are available for 40 countries (see Table 5). For most countries, these data are available from 2010 to 2018. Therefore, there are 9 observations per country (expect for Hong Kong, there is one missing observation ; for Austria, Ireland, Norway and Switzerland, there are two missing observations ; for Finland, Iceland, Slovak Republic, there are three missing observations and for Netherlands, there are four missing observations). This subset is made of 338 observations. Travellers' spending in EU countries are lower than in extra-EU countries of our dataset.

From 2010 to 2018, travellers spent on average 20,801 millions of 2018 US dollars per year in the countries of our dataset whereas they spent on average 15,727 millions of 2018 US dollars in the EU countries. The United States dominates in world travel services receipts with 191,918 millions of 2018 US dollars, followed by Spain (67,352 millions), France (56,550 millions), Italy (42,802 millions) [12]. There are huge differences across countries. In Germany, travellers spent 39,242 millions of 2018 US dollars but they spent on average 68,361 millions in Spain. See tables 22-28 in Appendix A.1.1 for more details on spending by inbound travellers by their residence country.

montaigne"Tourisme en France : le tourisme français en perte de vitesse" (2017)

Between 2010 to 2018, around 30 % of non-resident tourists arrivals in the United-States are Canadians (but their spending represent only 10.6 % of total American travel credits) followed by Mexican (22 %), British (5.9 %) and Japanese (5 %). According to the American Travel Association, shopping and fine dining are among the top leisure travel activities carried out by foreign visitors to the United States. Spain ranks second in the world for travel credits over the period and its exports of travel services as a share of GDP is increasing over the period. Its image as a tourist destination is linked to the sun and beach. According to Tourspain, the Spanish Institute of Tourism, in 2014, almost 85 % of outbound tourists chose Catalunya, the Balearic and Canary Islands, the Valencia autonomous community, and Andalusia. According to a French report (anreport), two factors explain French results : France may be a transit tourist destination and has difficulties in inducing spend-

12. I get the same ranking when I do the same descriptive statistics on travel expenditure by inbound tourists expenditure from UNWTO (see Table 21 on Appendix A.1.1). These data are available for more than 200 countries of destination and for most countries from 1995 to 2018. Unfortunately, they are not broken down by tourist's country of residence. I cannot use it for my following analyses. I need to distinguish between travellers coming from EU countries and extra-EU countries.

ing [13]. As a break on travel spending, they mention the opening of shops on Sundays, tax refund facilities and its lack of price competitiveness. In their study "Les visiteurs étrangers en France" (2009), Antczak and Le Garrec point out that some travellers spend only one night in France. Indeed, in 2007, 82 % of tourists (visitors who spend at least one night in France) have France as their true tourist destination. For a country of equivalent size like Spain, the number of tourist arrivals is lower but being a peninsula, the tourists who come there do not just cross the country and therefore stay there longer. Last, the United-Kingdom has had quite high travel credits over the period with an average of 44,856 millions of US dollars. In Germany, overseas visitors have also spent on average 39,242 millions of US dollars.

Note that the United States has no national VAT. There are only Sales Tax levied by local governments. Indeed, each American state has its own tax policies leading to very different sales tax rates. Some states charge zero sales tax like Delaware, Montana, New Hampshire and Oregon. But, in addition to state sales tax, some counties and city governments charge local sales taxes. For example, although Alaska charges a zero state sales tax, the sales tax is not zero since some local governments levy sales taxes. Additionally, foreign tourists cannot request a refund of the sales tax paid expect in Louisiana and Washington. Since 1988, the city of New Orleans offers "the Louisiana Tax Free Shopping Program" for foreign tourists to the United States. Individuals traveling in the United States for 90 days or less with a foreign transport and who have an international transportation ticket are eligible to a refund of sales tax paid on goods purchased on New Orleans shops taking part in the program. Foreign tourists can apply for a refund only for purchases of goods they permanently removed from the state. Therefore, purchases of food and beverages consumed within the state cannot be eligible for a refund.

13. A lot of French reports and studies on tourism in France pointed out this observation for tourist spending : a 2009 report of Philippe Demonchy, the French Montaigne's Institute estimates that a international tourist generates €490 of income in France whereas €746 in Spain (montaigne). Therefore, some reports mention the need to simplify the tax refund and promote France as a country of shopping in order to increase tourist spending like promo, rapp and assemble. To this, they suggest a digitalization of tax refund operations for extra-EU tourists, a increase in the cash reimbursement ceiling in the context of the tax refund. Tourists buying tax-free goods often encounters difficulties to fill tax refund form due to complexity and very long queues at airports.

Table 5: Travel credits from 2010 to 2018 in millions of 2018 US dollars

	Min	1st Qu.	Median	Mean	3rd Qu.	Max
For all countries confounded	641	4,606	11,006	20,801	22,586	214,680
For EU countries	641	3,611	7,863	15,727	19,248	81,473
Australia	32,584	34,706	35,878	36,956	37,040	45,036
Austria	18,228	19,072	20,231	20,128	20,604	23,087
Belgium	7,642	8,360	11,394	10,742	12,702	13,912
Canada	17,630	20,153	20,913	21,517	22,605	26,375
Chile	1,552	2,150	2,259	2,382	2,665	3,383
Colombia	2,797	3,460	3,825	3,994	4,522	5,556
Costa Rica	2,246	2,529	2,996	3,052	3,648	3,772
Czech Republic	6,057	6,830	7,043	7,039	7,451	8,099
Denmark	5,853	6,682	7,151	7,303	7,624	9,101
Estonia	1,072	1,247	1,537	1,505	1,667	1,858
Finland	2,571	2,830	3,512	3,324	3,657	4,042
France	46,969	54,678	56,550	56,390	58,319	65,452
Germany	34,646	37,430	38,826	39,242	41,268	43,263
Greece	12,729	14,603	15,666	15,600	16,487	18,987
Hong Kong, China	22,200	31,748	33,206	32,922	36,707	38,934
Hungary	5,063	5,366	5,664	5,777	5,978	6,924
Iceland	1,073	1,432	2,006	2,101	2,857	3,140
Ireland	3,883	4,630	4,850	4,994	5,393	6,182
Israel	5,098	5,443	5,766	5,898	5,883	7,245
Italy	38,749	40,219	42,942	42,802	44,123	49,236
Japan	10,967	14,577	18,854	22,727	30,679	42,096
Korea	10,263	13,273	14,392	14,236	15,319	17,460
Latvia	641	774	895	864	944	1,058
Lithuania	966	1,205	1,318	1,282	1,374	1,504
Luxembourg	4,144	4,246	4,861	4,696	4,993	5,361
Mexico	11,869	12,739	16,208	16,445	19,650	22,526
Netherlands	13,856	14,713	14,924	15,891	17,092	18,869
New Zealand	6,522	7,341	8,602	8,642	9,820	11,004
Norway	4,873	5,323	5,558	5,448	5,608	5,843
Poland	9,620	10,674	11,008	11,409	11,824	14,067
Portugal	10,067	11,323	12,871	13,632	14,171	19,878
Russia	7,787	8,830	10,759	10,145	11,486	11,988
Slovak Republic	2,431	2,520	2,652	2,726	2,874	3,199
Slovenia	2,398	2,637	2,780	2,742	2,840	3,192
Spain	58,771	63,317	67,352	68,361	71,488	81,473
Sweden	8,344	10,190	11,317	11,608	12,747	14,949
Switzerland	15,990	16,228	16,481	16,642	16,884	17,801
Turkey	18,744	22,631	25,394	24,895	26,685	29,542
United Kingdom	34,919	40,046	47,539	44,856	48,602	50,812
United States	137,010	161,632	191,918	184,204	206,936	214,680

Reading : From 2010 to 2018, visitors spent on average $ 35,878 millions per year during their stay in Australia.

Note : Data are available from 2010 to 2018 expect for Austria (2012-2018), Finland (2013-2018), Hong Kong (2010-2017), Iceland (2013-2018), Ireland (2012-2018), Netherlands (2014-2018), Norway (2012-2018), Slovak Republic (2013-2018) and Switzerland (2012-2018)

Source : OECD

4.2 Average per capita travellers' spending

After an overview of total travellers' spending, I will estimate the average per traveller spending. It will give the countries where travellers spend the more. It is important to consider the average per traveller spending because some countries like France want to increase it thanks to VAT refund. A large influx of inbound tourists is not sufficient for having a large total travellers' spending. For example, the number of inbound tourist arrivals is higher in France than in Spain, but France ranks after Spain in terms of travel credits.

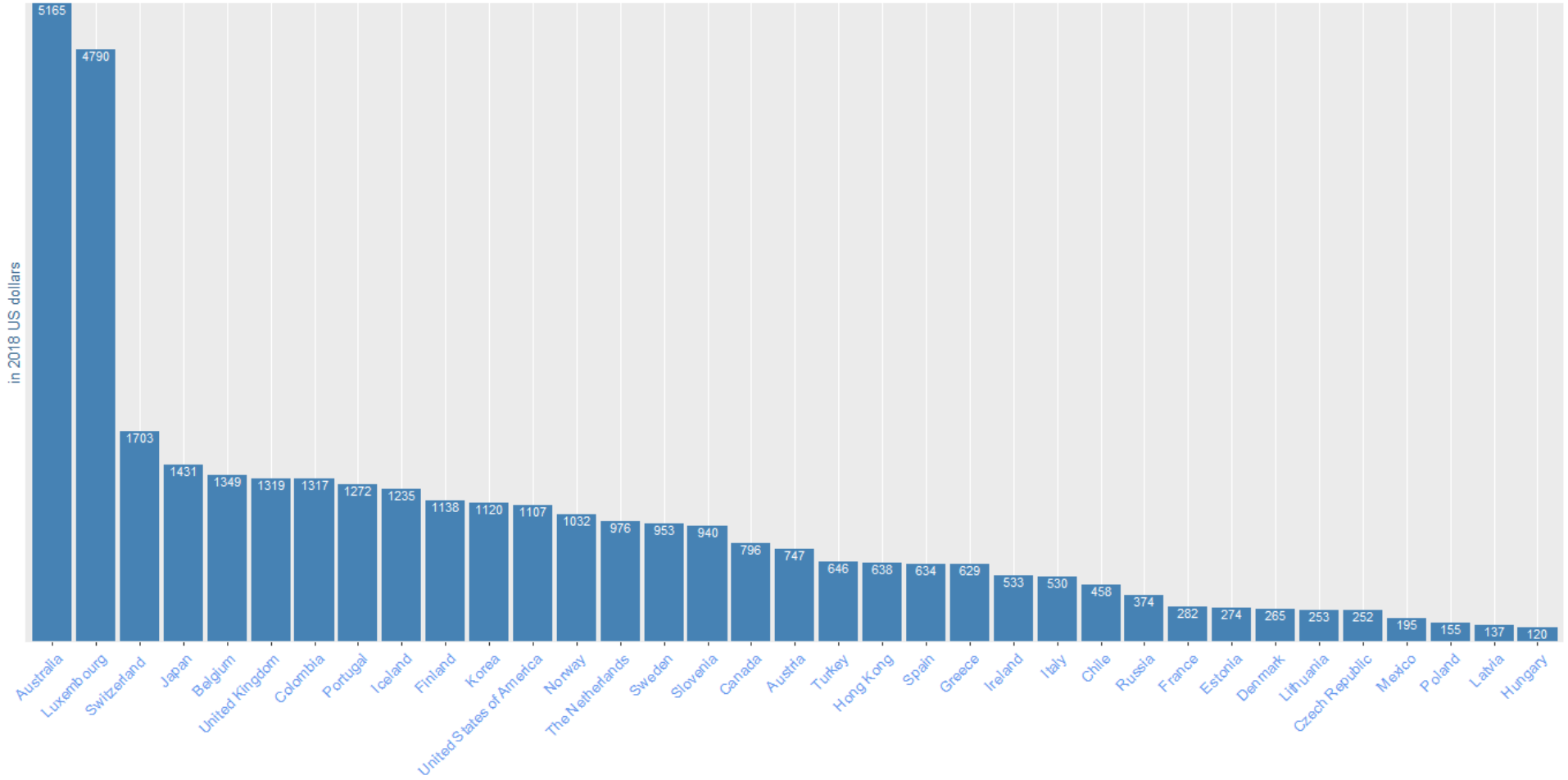
I use travel credits from the EBOPS data and UNWTO data on number of visitors' arrivals. From 2010 to 2018, for each country of destination and each year, I divide the value of travel credits received by countries of destination by the arrivals of non-resident visitors (tourists and excursionists) at their national borders. This gives a rough approximation of average per capita expenditure per country of destination, that is the value that visitors spend on average in the country when visiting it. Note that for some countries, arrivals of excursionists are not available, arrivals of visitors include therefore only arrivals of tourists. I mention it below Figure 7. In these cases, average per capita expenditure may be overestimated.

Australia and Luxembourg are the country of destination with the higher expenditure per non-resident visitors over the 2010-2018 period. On average, non-residents visitors spent $ 5,165 during their stay in Australia over the 2010-2018 period. They spent on average $ 4,790 during their stay in Luxembourg. The five countries having the higher average per capita expenditure are the following : Australia, Luxembourg, Switzerland, Japan and Belgium. And Luxembourg, Belgium, United-Kingdom, Portugal and Finland are the five EU countries having the higher per capita expenditure over the 2010-2018 period. These are countries with moderate or small minimum purchase amount threshold (see Figure 1), less than €75.

The result for Luxembourg can be surprising. But travel services credits for business purposes account for 50 % of Belgian total travel services exports. More precisely, 25 % of the total is made up of acquisitions of goods by seasonal, border and other short-term workers. Additionally, Spain is far behind while it ranks second in the world for travel credits over the same period. A concern already expressed by the Bank of Spain in its bulletin "Spain's balance of payments and international investment position" (2014) . The increase in the number of outbound tourist arrivals was not reflected in revenue because the average spending per tourist decreased.

Figure 12 on Appendix A.2.1 displays the same graph that figure 7 but using UNWTO data.

Figure 7: Average per capita travel expenditure per year from 2010 to 2018



Reading : Over the 2010-2018 period, each visitor spent in Australia $ 5,165 on average during their stay.
Remember as previously that for Belgium, Ireland, Luxembourg and Slovenia, arrivals of excursionists are not available, arrivals of visitors include therefore only arrivals of tourists.
Source : OECD and UNWTO

EBOPS data give information on the region (or country of residence) of visitors coming to a country of destination. I can therefore distinguish between EU travellers' expenditure and extra-EU travellers' spending. This is crucial to see how extra-EU travellers and EU travellers spend in EU countries.

I will focus on the biggest spenders by home region' visitors for each EU country (see Table 6). Among the EU countries, European visitors are the biggest spenders for seven countries : Austria, Denmark, Lithuania, Luxembourg, Netherlands, Slovenia and Sweden. But, the "Europe" term includes also non-EU countries. To have a more detail description of the average per visitor spending by residence country, see Figures 13-20 in Appendix A.2.2.

Table 6: Per capita travel expenditure by home regions visitors from 2010 to 2018 in European countries

	2010	2015	2018	Evolution
Austria				
by Africa		$ 632	$ 648	+12 %
by Americas		$ 583	$ 656	+6 %
by Asia and Pacific		$ 447	$ 508	-13 %
by Europe		$ 727	$ 795	-3 %
Belgium				
by Africa	$ 695	$ 68	$ 79	-89 %
by Americas	$ 509	$ 107	$ 97	-81 %
by Asia and Pacific	$ 426	$ 343	$ 375	-12 %
by Europe	$ 274	$ 58	$ 62	-77 %
Czech Republic				
by Africa	$ 58	$ 464	$ 530	+819 %
by Americas	$ 7	$ 4	$ 3	-53 %
by Asia and Pacific		$ 484	$ 470	-17 %
by Europe	$ 55	$ 24	$ 24	-56 %
Denmark				
by Americas	$ 405	$ 390	$ 471	+16 %
by Europe	$ 665	$ 667	$ 751	+13 %
Estonia				
by Africa	$ 400	$ 2,100	$ 133	-67 %
by Americas	$ 737	$ 1,605	$ 2,166	+194 %
by Europe	$ 687	$ 743	$ 798	+16 %
France				
by Africa		$ 1,243	$ 1,065	-21 %
by Americas		$ 1,418	$ 1,096	-4 %
by Europe		$ 751	$ 861	+0 %

Greece				
by Africa	$ 1,900	$ 1,739	$ 793	-58 %
by Americas	$ 1,560	$ 1,530	$ 1,203	-23 %
by Asia and Pacific	$ 5	$ 1,614		+33464 %
by Europe	$ 705	$ 559	$ 535	-24 %
Hungary				
by Africa	$ 952	$ 716	$ 438	-54 %
by Americas	$ 809	$ 554	$ 582	-28 %
by Europe	$ 125	$ 95	$ 104	-17 %
Italy				
by Africa	$ 1,215	$ 1,291	$ 1,076	-11 %
by Americas	$ 1,430	$ 1,242	$ 1,371	-4 %
by Asia and Pacific	$ 2,012	$ 1,671	$ 1,834	-9 %
by Europe	$ 437	$ 381	$ 415	-5 %
Latvia				
by Africa	$ 371			+88 %
by Americas	$ 171	$ 196	$ 41	-76 %
by Asia and Pacific	$ 297			+10 %
by Europe	$ 1	$ 4	$ 4	+248 %
Lithuania				
by Africa	$ 150	$ 14		-93 %
by Americas	$ 56	$ 2		-81 %
by Europe	$ 665	$ 167	$ 93	-86 %
Luxembourg				
by Africa	$ 433	$ 750	$ 2,425	+460 %
by Americas	$ 731	$ 319	$ 461	-37 %
by Europe	$ 2,663	$ 2,052	$ 2,434	-9 %
Netherlands				
by Africa		$ 445	$ 460	+1 %
by Americas		$ 470	$ 549	+5 %
by Europe		$ 1,032	$ 1,116	-6 %
Poland				
by Africa	$ 165	$ 1,270	$ 220	+33 %
by Americas	$ 690	$ 528	$ 602	-13 %
by Asia and Pacific	$ 584	$ 881	$ 1,377	+136 %
by Europe	$ 158	$ 126	$ 152	-4 %
Portugal				
by Africa	$ 5,933	$ 6,463	$ 3,990	-33 %
by Americas	$ 1,448	$ 891	$ 910	-37 %
by Europe	$ 1,466	$ 1,079	$ 1,309	-11 %

Slovenia				
by Africa	$ 225	$ 125	$ 146	-35 %
by Americas	$ 435	$ 309	$ 356	-18 %
by Europe	$ 1,363	$ 870	$ 787	-42 %
Sweden				
by America	$ 2,556	$ 1,472	$ 1,267	-50 %
by Asia and Pacific	$ 929	$ 194	$ 207	-78 %
by Europe	$ 1,696	$ 2,156	$ 2,675	+58 %
United-Kingdom				
by Africa	$ 2,814	$ 3,262	$ 2,618	-7 %
by America	$ 1,455	$ 1,676	$ 1,662	+14 %
by Asia and Pacific	$ 3,481	$ 4,728	$ 3,451	-1 %
by Europe	$ 832	$ 954	$ 939	+13 %

Reading : In 2018, visitors coming from Africa spent on average $ 648 during their stay in Austria.
Source : OECD and UNWTO

4.3 Effects of VAT refund on per capita tourist spending

The main objective of this master's thesis is to focus on effects of VAT refund on travellers' spending. Extra-EU travellers are eligible to VAT refund in the European Union. Does VAT refund encourage extra-EU travellers to spend more ?

I use EBOPS data on travel credits and UNWTO data on number of tourist arrivals broken down by countries of residence. I divide the value of travel credits received by countries of destination by the arrivals of non-resident tourists at national borders. From 1995 to 2018, I get average per tourist spending by country of residence for 14 countries of destination (countries common to both datasets).

I denote s_{ij} the average per capita spending of country i travellers in country j in dollars over the 1995-2018 period. It corresponds to the average "tourism receipts" (or travel credits) of country j coming from a traveller of country i. That is, per capita spending of tourists coming from country i spent in country j. Note that j $\in$ {Canada, Chile, France, Greece, Hong Kong, Hungary, Iceland, Ireland, Italy, Lithuania, Mexico, Spain, Sweden and United States }.

First, I want to analyze what affects tourist spending. I implement the following regression :

$$s_{ij} = \text{Incomek}_i + \text{Distancek}_{ij} + \text{EUVariable}$$

$Incomek_i$ is a factor variable. It is the average per adult country i's income in 2018 euros ranked in deciles. The letter symbol k shows the decile position. It is extracted from the World Inequality Database. $Distancek_{ij}$ is a factor variable for the distance in kilometers ranked in deciles. It corresponds to the closest distance between the borders of countries i and j (computed using the "maps" and "geosphere" R packages). It might be more accurate than computing the distance between two head cities. Thus, if a border is shared by country i and country j, the distance should be zero. Last, I introduce the factor variable $EUVariable$ to evaluate how EU and extra-EU travellers spend during their trip in a European Union country. It can take four values [14] : (i) if i and j are both EU countries, (ii) if i is an extra-EU country and j a EU country, (iii) if i is a EU country and j an extra-EU and (iv) if both are extra-EU countries. Table 7 displays regression results.

Table 7: Regression coefficients results over the 2010-2018 period

	Dependent variable:		
	Average travel spending per year		
	(1)	(2)	(3)
	2,602 obs.	2,602 obs.	1,775 obs.
Income2$_i$	$-$1,940.506***	$-$1,973.561***	
	(553.208)	(564.118)	
Income3$_i$	$-$2,300.419***	$-$2,343.403***	
	(556.615)	(566.649)	
Income4$_i$	$-$2,855.756***	$-$2,947.865***	
	(526.396)	(534.846)	
Income5$_i$	$-$3,075.435***	$-$3,175.569***	
	(522.006)	(530.736)	
Income6$_i$	$-$2,743.785***	$-$2,823.718***	
	(525.419)	(534.532)	
Income7$_i$	$-$3,230.337***	$-$3,266.853***	
	(523.333)	(533.106)	
Income8$_i$	$-$3,071.523***	$-$3,098.446***	

14. It takes five values when I distinguish the United States to extra-EU countries in the third case : if i is an EU country and j an extra-EU country expect the United States or if i is an EU country and j the United States. Indeed, overall inbound travellers to the United States cannot be eligible to VAT refund. They can in most other extra-EU countries. It may affect their spending.

	(526.745)	(536.582)	
Income9_i	$-3{,}082.295^{***}$	$-3{,}093.653^{***}$	
	(522.063)	(532.562)	
Income10_i	$-2{,}519.737^{***}$	$-2{,}565.243^{***}$	
	(536.344)	(546.253)	
Inequality2_i			-19.920
			(58.634)
Inequality3_i			5.142
			(61.599)
Inequality4_i			15.832
			(64.462)
Inequality5_i			25.694
			(78.319)
Inequality6_i			3.668
			(55.808)
Inequality7_i			310.554
			(193.221)
Inequality8_i			285.980
			(258.905)
Inequality9_i			$1{,}051.646^{***}$
			(227.141)
Inequality10_i			827.760^{***}
			(304.654)
Distance2_{ij}	344.323^{***}	406.836^{***}	646.111^{***}
	(97.540)	(99.716)	(119.618)
Distance3_{ij}	669.917^{***}	653.665^{***}	422.324^{***}
	(92.517)	(90.626)	(125.393)
Distance4_{ij}	$1{,}783.678^{***}$	$1{,}457.459^{***}$	$1{,}112.075^{***}$

	(132.155)	(147.311)	(220.900)
Distance5$_{ij}$	3,022.806***	2,854.166***	2,172.944***
	(218.862)	(225.883)	(272.558)
Distance6$_{ij}$	2,312.324***	2,205.208***	1,745.905***
	(272.078)	(273.621)	(403.307)
Distance7$_{ij}$	1,708.008***	1,762.554***	969.350***
	(214.678)	(209.442)	(330.994)
Distance8$_{ij}$	861.391***	869.354***	176.488
	(132.636)	(129.645)	(172.213)
Distance9$_{ij}$	1,949.060***	1,866.776***	1,554.206***
	(115.503)	(115.325)	(125.943)
Distance10$_{ij}$	1,869.171***	1,801.528***	1,436.259***
	(134.283)	(135.331)	(135.852)
EUVariable			
EU spend. in extra-EU	629.262***		
	(88.211)		
EU spend in extra-EU except the USA		133.181*	289.009***
		(79.494)	(100.271)
EU spend. in the USA		1,287.120***	1,669.501***
		(128.966)	(185.179)
Extra-EU spend. in EU	−807.864***	−750.423***	−454.206***
	(101.019)	(101.008)	(119.274)
Extra-EU spend. in extra-EU	1,353.494***	1,435.151***	2,470.067***
	(103.931)	(105.964)	(182.105)
Constant	3,653.679***	3,693.338***	616.031***
	(520.321)	(530.344)	(47.906)
Note:			*p<0.1; **p<0.05; ***p<0.01

Surprisingly, income has a negative but not linear effect on average per capita travel spending. But countries belonging to the lowest income decile seem to be countries where income inequality is high. There is a negative correlation between the average per adult country i's income and the top 10 $\%$ share in country i. Thus, we can assume that it is the richest who spend abroad. Chinese are the biggest spenders whereas Chinese average income is low and income inequality is high. Over the period, the top 10 $\%$ accounts for almost 41 $\%$ of the whole Chinese population. When I do the following regression :

$$s_{ij} = \text{Inequalityk}_i + \text{Distancek}_{ij} + \text{EUVariable}$$

where Inequalityk_i is the share in the population of the top 10 $\%$ in country i. We can see that the greater the inequality the higher the travel spending. This confirms that the richest are likely to spend more and as a consequence to benefit from a VAT refund. Note that the is ranked in deciles and the letter symbol k shows the decile position. Data on the top 10 $\%$ share are calculated from pre-tax national income and are extracted from the World Inequality Database. Besides, the distance between the residence country i of tourists and the visiting country j has a positive effect. But the more interesting coefficient is the $EUVariable$. We can see that, EU travellers spend more in the extra-EU countries (Canada, Chile, Hong Kong, Iceland, Mexico and the United States) than in EU countries (France, Greece, Hungary, Ireland, Italy, Lithuania, Spain and Sweden). They spend around $\$$ 629 more controlling for income decile and distance. See column (1) of Table 7. It is relatively high. This result is driven by EU spending in the United States (see regression (2) of Table 7). After control, EU tourists spend only $\$$ 750-807 more in extra-EU countries than in EU countries setting aside the United-States. See column (2) of Table 7. Being an extra-EU traveller is a deterrent to per capita travel spending in EU countries. The coefficient is negative. They spend around $\$$ 700 less than EU travellers. VAT refund does not have a positive effect on per capita tourist spending.

Tourists i might be more disposed to spend more regardless of the country of destination j. Conversely, for many reasons tourists to country j can spend more whatever their country of residence. Country j can be a fantastic holiday destination where there is much to see for instance. I therefore try to capture fixed effect for country of destination j (regression 3) and fixed effect for country of residence i (regression 1). I run following regressions :

$$s_{ij} = \mathbb{1}_i \tag{1}$$

$$s_{ij} = \mathbb{1}_i + EUVariable \tag{2}$$

$$s_{ij} = \mathbb{1}_j \tag{3}$$

$$s_{ij} = \mathbb{1}_i + \mathbb{1}_j \tag{4}$$

Table 8 displays results. From columns (1), (2) and (4) of Table 8, we can see that tourists coming from Bahrain, Brunei Darussalam, Cote d'ivoire, Chinese, Indonesia, India, Malaysia, Morocco, Nigeria, Oman, Russia, Saudi Arabia, Senegal, Thailand and Viet Nam are likely to spend more. Chinese tourists seem to spend $ 2,000-2,500 more than others. Conversely,foreign tourists spend much more when travelling in the United States than elsewhere. They spend $ 3,000-3,500 more in the United States than in other thirteen countries. They spend less when travelling in Hungary or Lithuania for instance. They spend $ 335-397 less in Hungary and $ 402-592 less in Lithuania than elsewhere. After control for fixed effect for country of residence i, results are quite different than previous one. The coefficient on "Extra-EU spending in EU countries" is positive that is, in EU countries, extra-EU tourists do not spend significantly less than EU tourists. But it is not significant, so they do not really seem to spend much more in EU countries. However, EU tourists spend more in extra-EU countries (and in the United States) than EU countries . They spend $ 2,684 more in the United States than in other thirteen countries. Similarly, extra-EU spend more in extra-EU countries (see column (2) of Table 8). Accordingly, we conclude that VAT refund might have no effect on average per capita tourist spending.

Table 8: Regression coefficients results over the 1995-2018 period

	Dependent variable:			
	Average travel spending			
	(1)	(2)	(3)	(4)
	4,103 obs.	4,103 obs.	4,103 obs.	4,103 obs.
Fixed effect for i				
Argentina	338.693**	−428.293		−40.883
	(151.575)	(290.521)		(69.362)
Australia	710.187***	110.092		711.362***
	(184.223)	(300.987)		(78.462)
Bahamas	578.918***	−521.852*		772.565***
	(127.307)	(272.223)		(130.117)
Bahrain	3,372.079***	2,271.309***		1,033.385*
	(570.345)	(619.025)		(571.725)
Barbados	−81.676	−1,182.447***		111.971
	(83.876)	(254.821)		(88.083)
Bermuda	964.681***	−136.090		7.263

	(190.461)	(306.877)	(114.149)
Bolivia	−1,340.378***	−2,441.148***	−987.481***
	(29.447)	(242.416)	(52.476)
Brazil	895.417***	128.430	515.840***
	(161.598)	(290.603)	(78.392)
Brunei Darussalam	4,214.576***	3,113.805***	1,875.881***
	(251.863)	(348.330)	(254.974)
Canada	−406.520***	−971.845***	−240.798
	(50.322)	(264.869)	(170.101)
Chile	765.821***	−42.888	24.159
	(167.974)	(286.483)	(79.997)
China	2,538.584***	1,951.133***	2,577.187***
	(421.114)	(464.545)	(297.743)
Colombia	1,158.840***	58.069	384.238**
	(164.329)	(291.380)	(167.105)
Costa Rica	369.924**	−730.847***	−465.193***
	(146.444)	(281.681)	(117.077)
Cote d'ivoire	14,458.880***	13,358.110***	14,652.530***
	(1,886.020)	(1,901.308)	(1,886.212)
Dominican Rep.	960.788***	−139.983	−1,377.907***
	(80.844)	(253.839)	(90.068)
Egypt	932.322***	518.754*	1,383.893***
	(231.394)	(298.552)	(200.535)
El Salvador	633.079***	−467.692	−202.038
	(161.892)	(290.013)	(202.252)
Guatemala	556.050***	−544.720*	−279.066***
	(204.001)	(315.460)	(79.855)
Honduras	798.439***	−302.332	−36.678

	(161.965)	(290.054)	(143.092)
Iceland	−436.088***	20.801	354.761***
	(67.757)	(262.800)	(72.524)
India	2,634.550***	1,759.891***	2,381.541***
	(464.730)	(511.743)	(288.886)
Indonesia	2,826.831***	1,948.583***	2,580.387***
	(468.290)	(511.100)	(288.282)
Israel	478.295**	−622.475**	−479.122***
	(191.048)	(307.242)	(49.445)
Jamaica	−308.738***	−1,409.509***	−115.091
	(108.180)	(263.820)	(111.473)
Japan	165.443	−405.060	245.115***
	(112.077)	(270.348)	(94.774)
Jordan	4,134.130***	3,033.359***	1,795.435***
	(348.156)	(423.215)	(350.413)
Liechtenstein	−414.183***	42.706	418.574***
	(123.126)	(282.193)	(125.767)
Malaysia	2,874.957***	1,986.595***	2,648.517***
	(397.137)	(450.213)	(273.964)
Mexico	−265.405***	−906.866***	−521.592***
	(53.719)	(259.617)	(164.045)
Morocco	2,745.279***	2,281.733***	1,703.997***
	(623.008)	(516.008)	(291.062)
New Zealand	776.745***	−59.517	123.320
	(171.821)	(296.063)	(91.483)
Nicaragua	547.070***	−553.701*	−288.047**
	(158.782)	(288.288)	(123.851)
Nigeria	4,359.458***	3,600.612***	3,890.460***

	(550.796)	(557.514)	(509.014)
Norway	332.200**	−256.463	74.869
	(156.981)	(275.271)	(57.163)
Oman	5,371.223***	4,270.453***	3,032.529**
	(1,460.543)	(1,480.231)	(1,461.082)
Panama	1,553.602***	452.831*	−785.093***
	(128.545)	(272.804)	(134.537)
Peru	375.587	−725.183*	−729.461***
	(318.681)	(399.320)	(66.997)
Philippines	661.175***	−227.187	434.736***
	(208.921)	(317.424)	(69.501)
Russia	1,376.475***	976.651***	1,339.812***
	(234.552)	(295.023)	(140.016)
Saudi Arabia	8,165.652***	7,064.882***	7,060.663***
	(715.174)	(754.567)	(582.854)
Senegal	9,158.646***	8,057.875***	9,352.293***
	(861.757)	(894.720)	(862.177)
Singapore	1,226.986***	335.453	1,007.310***
	(232.168)	(333.357)	(95.334)
Slovak Rep.	229.335	63.682	−39.696
	(291.965)	(133.846)	(126.772)
Switzerland	174.396	−189.418	160.063***
	(128.766)	(261.231)	(48.373)
Thailand	2,049.496***	1,171.249***	1,803.053***
	(351.171)	(415.625)	(171.273)
Turkey	1,259.383***	722.592**	1,113.166***
	(319.910)	(363.099)	(179.140)
United States	−580.473***	−1,008.017***	153.755**

	(52.137)	(260.231)		(64.181)
Uruguay	10.828	467.717		843.586***
	(135.025)	(287.584)		(137.438)
Venezuela	1,230.982***	394.720		577.557***
	(179.706)	(289.735)		(124.839)
Viet Nam	7,134.326***	6,033.555***		6,299.209***
	(897.822)	(929.506)		(707.628)
Fixed effect for j				
France			−105.685**	−245.316***
			(47.736)	(63.025)
Canada			1,376.431***	384.510***
			(85.570)	(46.315)
United States			3,541.111***	2,916.851***
			(84.336)	(54.754)
Iceland			579.094***	351.424***
			(62.048)	(104.125)
Mexico			−346.208***	−302.687***
			(28.172)	(109.878)
Hong Kong			−33.628	−936.192***
			(28.587)	(88.613)
Greece			67.348**	−118.398***
			(33.991)	(43.146)
Chile			57.021	225.259***
			(49.906)	(57.517)
Hungary			−335.225***	−396.817***
			(38.560)	(42.226)
Ireland			−185.357***	−178.661***
			(40.147)	(44.857)

Italy			231.030***	−254.601***
			(34.243)	(45.595)
Lithuania			−401.776***	−592.219***
			(36.859)	(55.033)
EUVariable				
EU spend in extra-EU except the USA		508.711***		
		(19.820)		
EU spend. in the USA		2,684.448***		
		(49.948)		
Extra-EU spend. in EU		320.643		
		(255.722)		
Extra-EU spend. in extra-EU		1,878.302***		
		(242.527)		
Constant	1,457.848***	680.316***	879.691***	879.691***
	(28.342)	(10.854)	(24.867)	(24.867)
Note:				*p<0.1; **p<0.05; ***p<0.01

4.4 Effects of VAT refund on total travel spending

Dataset on average per capital spending is quite narrow. OECD data are available for some countries but UNWTO data are lacking for those countries, and vice versa. Consequently, I will focus on total travel spending. I denote S_{ij} the average total travel spending in millions of dollars over the 2010-2018 period. It corresponds to the total "tourism receipts" (or travel credits) of country j coming from travellers of country i. Data are lacking before 2010 for many countries (especially for all EU countries) so I focus on the 2010-2018 period. I run following regression :

$$S_{ij} = \text{Incomek}_i + \text{Distancek}_{ij} + \text{TransportCost}_j + \text{InboundArrivals}_j + \text{EUVariable}$$

Variables are the same as before. $TransportCost_j$ corresponds to the Consumer Price Index of local transport in country j issued from FMI database. It is the lo-

cal transport cost. I introduce Inbound arrivals$_j$ [15] to control for inbound tourist arrivals. Inbound tourist arrivals may have a huge impact on total spending. The greater tourist arrivals in a country j, the higher the total spending in this country j.

From regressions 1-3, income has a positive but not linear effect on total travel spending. Distance affects significantly and negatively total travel spending. The greater the distance between the country of destination and the country of residence, the smaller total travel spending. Additionally, local transport cost has a slightly negative impact on total travel spending. In EU countries, extra-EU travellers spent around $ 300 millions more than EU travellers controlling for income decile, distance and local transport cost (see columns (1)-(3) of Table 7). It seems to be relatively high. But, over the period, the average total spending of EU travellers is around $ 406 in EU countries whereas extra-EU travellers only spent $ 218 millions (see Table 10). Additionally, the fact that extra-EU travellers spent $ 1,250-1350 millions more in extra-EU countries than EU in EU countries (see columns(1)-(3) of Table 7) suggests that finally, extra-EU travellers did not spent more in EU countries. They spent $ 882 millions in extra-EU countries. This result is driven by extra-EU spending in the United States, they spent $ 3,172 per year in the United States (see Table 10). EU travellers also spent a lot in the United States. After control, EU tourists spent around $ 1,400 millions more in the United States than in EU countries (see columns 2-3 of Table 7). Over the period, they spent $ 1,326 millions in the United States per year (see Table 10).

Table 9: Regression coefficients results for total travel spending over the 2010-2018 period

	Dependent variable:			
	Annual total travel spending			
	(1)	(2)	(3)	(4)
	10,021 obs.	10,021 obs.	9,567 obs.	4,281 obs.
$Income2_i$	464.831***	513.524***	485.179***	7.392
	(130.561)	(131.710)	(137.459)	(104.008)
$Income3_i$	467.048***	485.901***	499.476***	−75.455
	(124.128)	(124.874)	(129.748)	(110.132)
$Income4_i$	459.399***	473.302***	497.063***	−161.071*
	(117.894)	(118.297)	(125.085)	(97.482)
$Income5_i$	275.410***	281.764***	294.600***	−250.524***

15. Inbound arrivals$_j$ are inbound tourist arrivals (or visitors when data on tourist arrivals are not available) in thousands from UNWTO data.

	(79.053)	(79.854)	(84.308)	(77.003)
$Income6_i$	372.962***	383.475***	400.119***	−211.964***
	(87.730)	(88.468)	(93.674)	(79.303)
$Income7_i$	568.617***	583.026***	606.690***	−27.799
	(86.140)	(86.989)	(91.955)	(79.272)
$Income8_i$	923.392***	939.983***	954.327***	90.844
	(112.411)	(112.836)	(118.819)	(85.303)
$Income9_i$	933.621***	955.469***	992.100***	283.198***
	(97.333)	(98.183)	(103.220)	(88.190)
$Income10_i$	512.514***	539.498***	534.532***	63.578
	(77.255)	(78.624)	(81.807)	(87.876)
$Distance2_{ij}$	−267.884***	−284.946***	−261.474***	−291.765***
	(53.943)	(53.639)	(57.855)	(36.766)
$Distance3_{ij}$	−214.443**	−380.800***	−360.603***	−142.804
	(101.064)	(94.385)	(106.229)	(102.342)
$Distance4_{ij}$	−148.124*	−576.000***	−578.247***	−23.219
	(87.590)	(108.419)	(114.044)	(117.456)
$Distance5_{ij}$	−648.704***	−865.608***	−834.617***	−421.331***
	(110.607)	(119.712)	(124.413)	(91.355)
$Distance6_{ij}$	−660.602***	−763.401***	−752.978***	−434.988***
	(71.414)	(74.855)	(77.933)	(59.820)
$Distance7_{ij}$	−633.566***	−698.540***	−692.385***	−591.903***
	(61.291)	(63.065)	(64.902)	(61.631)
$Distance8_{ij}$	−836.494***	−904.303***	−887.488***	−481.383***
	(68.411)	(70.519)	(71.296)	(59.293)
$Distance9_{ij}$	−716.759***	−705.472***	−760.173***	−313.742***
	(77.351)	(78.944)	(82.588)	(89.432)
$Distance10_{ij}$	−822.287***	−772.279***	−790.319***	−712.095***

	(57.042)	(57.549)	(59.485)	(79.549)
$TransportCost_j$			-1.151^{***}	-1.351^{***}
			(0.165)	(0.255)
$InboundArrivals_j$				0.013^{***}
				(0.001)
EU Variable				
EU spend. in extra-EU	227.065^{***}			
	(46.424)			
EU spend. in extra-EU expect the USA		54.883	33.108	134.838^{**}
		(39.419)	(39.956)	(64.477)
EU spend in the USA		$1{,}453.221^{***}$	$1{,}414.909^{***}$	
		(179.418)	(181.666)	
Extra-EU spend. in EU	262.110^{***}	334.372^{***}	324.135^{***}	99.436^{**}
	(52.020)	(53.591)	(56.101)	(47.319)
Extra-EU spend. in extra-EU	$1{,}248.125^{***}$	$1{,}355.523^{***}$	$1{,}388.601^{***}$	480.418^{***}
	(143.493)	(146.803)	(157.517)	(100.138)
Constant	-151.663^{*}	-163.566^{*}	-33.039	327.551^{***}
	(89.603)	(90.395)	(95.342)	(84.949)
Note:				*p<0.1; **p<0.05; ***p<0.01

Table 10: EU/extra-EU total spending in EU and extra-EU countries

	Total travel spending per year (in millions)
EU travellers spending in EU countries	$ 406
EU travellers spending in extra-EU countries	$ 448
EU travellers spending in extra-EU countries (expect the USA)	$ 265
EU travellers spending in the USA	$ 1,326
Extra-EU travellers spending in EU countries	$ 218
Extra-EU travellers spending in extra-EU countries	$ 882
Extra-EU travellers spending in extra-EU countries (expect the USA)	$ 418
Extra-EU travellers spending in the USA	$ 3,172

4.4.1 The Swiss case

The Swiss case is interesting. Switzerland is geographically close to EU countries. The Swiss are eligible to VAT refund in EU countries and EU citizens are eligible to VAT refund when purchasing in Switzerland.

I use EBOPS data and I focus on total travel spending because UNWTO data on arrivals of visitors or tourists in Switzerland per country of residence are not available. In EBOPS data, I select "Switzerland" as Country and I run the following regressions :

$$S_{ij} = Incomek_i + Distancek_{ij} + \mathbb{1}_{EUcountryofresidence} \tag{5}$$

$$S_{ij} = Incomek_i + Distancek_{ij} + \mathbb{1}_i \tag{6}$$

S_{ij} correspond to total travel spending made by foreign travellers each year during their stay in Switzerland. $\mathbb{1}_{EUcountryofresidence}$ is a factor variable equals to 1 when travellers going to Swiss coming from a EU country. On the other hand, I select "Switzerland" as Partner to get the Swiss spending during their travel per year in foreign countries (S_ij). And I run following regressions :

$$S_{ij} = Distancek_{ij} + \mathbb{1}_{EUcountryofdestination} \tag{7}$$

$$S_{ij} = Distancek_{ij} + \mathbb{1}_j \tag{8}$$

$\mathbb{1}_{EUcountryofdestination}$ is a factor variable equals to 1 when travellers going to a EU country. $Incomek_i$ and $Distancek_{ij}$ are the same variables as previously.

Regression results are display in Table 30 on Appendix A.3.1. Income has a positive but not linear effect on travel spending of foreign travellers going to Switzerland. Additionally, travellers coming from a EU country did not spend more than the ones coming from an extra-EU country. The coefficient on the $\mathbb{1}_{EUcountryofresidence}$ variable is positive but not significant. Travellers spending the most live in countries bordering Switzerland. The geographic proximity with Switzerland matters more than the the possibility to get a VAT refund. French, German and Italian travellers spend more than others, the coefficients on fixed effect are positive and significant. According to Table 31, they are the biggest spenders in Switzerland. But, for Austria and Germany, Switzerland is not the country where they spend the most (see Table 32 on Appendix A.3.1). Additionally, French travellers spend more than three times in Spain than in Switzerland and Italian travellers twice in France than in Switzerland.

The Swiss do not seem to spend more during their travel in a EU country. The coefficient on $\mathbb{1}_{EUcountryofdestination}$ is positive but not significant. However, they spend more in France, Germany, Italy and, to a lesser extent, in Austria. During their stay abroad, they spend 5,125 millions of dollars in France, 4,237 millions in Germany, 2,799 millions in Italy, 931 millions in the United States and 1,286 millions

in Austria. That is, they spend the most in neighbouring countries. One wonders whether there is a VAT refund effect on their spending. The Swiss spend less in Austria (their other neighbouring) than in France, Germany and Italy. The VAT threshold is higher in Austria than in Germany but smaller than France and Italy. A regression of EU VAT threshold on the Swiss spending finds no linear effects. Additionally, they spend 1,792 millions in the United States whereas they cannot benefit from a VAT refund on their purchase.

In the two cases, it would be good to divide total spending by the number of tourist arrivals to get average spending. But data on tourist arrivals per country of origin are not available.

4.4.2 The Croat case

On 1 July 2013, Croatia became the European Union's 28^{th} member state. Before, EU travellers to Croatia could request a VAT refund. But they cannot anymore. Henceforth, only extra-EU travelling to Croatia are eligible to a VAT refund. This case is a natural experiment to evaluate the effect of VAT refund on travel spending. There are two time periods for two groups. The idea is to study impact of this new rule on foreign travellers' spending in Croatia using a difference in difference (DiD) design. Assuming VAT refund has a positive effect on travel spending, we may expect a decrease of travel spending from EU travellers to Croatia.

UNWTO data on arrivals of visitors and tourists in Croatia per country of residence are not available. Croat Balance of Payment data on travel services are not available. I use the debit side of the Balance of Payment in order to get value of expenditure made by foreign travellers in Croatia. These data are recorded by partner countries [16] : Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Ireland, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Russia, Slovak Republic, Slovenia, Sweden, Switzerland, United Kingdom and United States. Partner countries are the countries of travellers going to Croatia. Data are available from 2010 to 2018. For some countries, data are lacking for some years.

Extra-EU travellers are the control group denoted g = 1. EU travellers are the treatment group (g = 2). The period before 2013 (or 2014)[17] is the pretreatment period (t = 1). Let $Treatment_g$ a dummy variable identifying observations on both

16. In the Balance of Payment, there are two sides : credit and debit. Each "Country" records its transactions with its "Partners" on both sides. In the debit side, "Country" records imports of travel services that is, the amount of money spent abroad. When I select Croatia for "Partner", I can get Croat exports of travel services.

17. Only yearly data are available whereas the entering of Croatia in EU was on July 2013. Therefore, I perform two DiD. In the first one, I assume the treatment is implemented in 2013 and for the second in 2014.

groups. $Treatment_g$ = 0 [g=1] if control group and $Treatment_g$ = 1 [g=2] if treatment group. $Time_t$ is the time. $Time_t$ = 1 [t=2] indicates observations from posttreatment period. I perform the standard DiD regression :

$$S_{gt} = \beta_0 + \beta_1 Treatment_g + \beta_2 Time_t + \beta_3 (Treatment_g * Time_t)$$

Under the parallel trend assumption (see Figure 21 on Appendix A.3.2), the coefficient on the interaction term (β_3) is an estimate of the treatment effect.

The treatment have a positive effect but the effect is not significant (see Table 33 on Appendix A.3.2). VAT refund seems not to have an effect on travel spending. Croatia's entry into the European Union was not a deterrent to EU travellers' spending in Croatia. It casts doubt on positive effects of VAT refund on travellers' spending.

4.5 Effects of VAT minimum purchase amount threshold on total travellers' spending

I have studied the global effect of VAT refund on travellers' spending. In this subsection, I will focus on the effects of VAT minimum purchase amount threshold on travellers' total spending from 2010 to 2018. This should give a brief outline of extra-EU travellers' behavioral responses to EU countries threshold.

I create a subset made of EU countries of destination. For country of residence, I keep only extra-EU countries from the original dataset. Note that there are some imperfections between data collection across countries. Some countries have very detailed data on the origin of travellers whereas others have sparse data. Thus, there are more observations for some countries than for other ones. For instance, there are 229 observations for Belgium and only 59 for Sweden.

To study effects of threshold on extra-EU travellers' spending, I implement the following regression on 2010-2018 data :

$$S_{ij} = Income_i + Distance_{ij} + Threshold_j \tag{9}$$

where S_{ij}, $Income_i$ and $Distance_{ij}$ are the same variables as previously. $Threshold_j$ is the threshold implemented in EU country j. I choose to introduce this variable as a factor variable since it has a low range.

$Income_i$ has positive effect on travel spending. In general, $distance_{ij}$ has a negative effect on travel spending. Overall, the coefficients on $Threshold_j$ variable are negative and significant. But the effect of threshold on travellers' spending is not linear. The non-linearity of the threshold on travellers' spending is clear on Figure 22 on Appendix A.4 representing the marginal effects of threshold on spending.

That is, travellers' spending in EU countries with high threshold is not always associated with lower spending than in other EU countries with smaller threshold. These findings cast doubt on the relevance to lower VAT refund threshold in order to entice people to spend.

Table 11: Effects of EU minimum purchase amount thresholds on extra-EU travellers' spending (2010-2018)

	Dependent variable:
	Average total travel spending per year
	2,694 obs.
Income2_i	12.907
	(54.385)
Income3_i	97.120*
	(54.669)
Income4_i	99.174*
	(55.225)
Income5_i	173.053***
	(58.951)
Income6_i	105.309*
	(54.249)
Income7_i	127.299**
	(52.058)
Income8_i	−12.364
	(61.896)
Income9_i	116.325**
	(59.044)
Income10_i	457.304***
	(66.760)
Distance2_{ij}	−165.582***

	(43.157)
Distance3$_{ij}$	255.605***
	(89.084)
Distance4$_{ij}$	354.187***
	(96.785)
Distance5$_{ij}$	−70.815
	(54.467)
Distance6$_{ij}$	−66.913
	(43.325)
Distance7$_{ij}$	−273.307***
	(44.280)
Distance8$_{ij}$	−202.452***
	(40.022)
Distance9$_{ij}$	104.566*
	(56.185)
Distance10$_{ij}$	−158.220***
	(54.313)
Threshold$_i$: 33	8.039
	(233.195)
Threshold$_i$: 38.01	−734.327***
	(216.988)
Threshold$_i$: 40	−696.523***
	(217.540)
Threshold$_i$: 44	−836.126***
	(218.039)
Threshold$_i$: 47	−697.087***
	(218.437)

Threshold$_i$: 50	-590.287^{***}
	(219.154)
Threshold$_i$: 61.50	-631.770^{***}
	(215.538)
Threshold$_i$: 74	-831.882^{***}
	(217.881)
Threshold$_i$: 77	-699.627^{***}
	(219.174)
Threshold$_i$: 100	-776.329^{***}
	(218.932)
Threshold$_i$: 154.94	-29.676
	(231.126)
Threshold$_i$: 167	-755.005^{***}
	(219.598)
Threshold$_i$: 175.01	132.524
	(239.945)
Constant	638.875^{***}
	(234.858)

Note:
*p<0.1; **p<0.05; ***p<0.01

Then I analyze travellers' behavioral response variations according to their residence country. Travellers may react differently depending on their country of residence. I study American and Chinese behavioral responses to EU threshold.

Table 12: Effects of EU minimum purchase amount thresholds on American and Chinese travellers' spending from 2010 to 2018

	Dependent variable:	
	Travel Credits	
	United States	China

	(1) 165 obs.	(2) 77 obs.	(3) 151 obs.	(4) 71 obs.
Income_i	0.071^{***}	-0.022	0.042^{**}	0.069^{**}
	(0.026)	(0.016)	(0.017)	(0.033)
Distance_{ij}	-0.194	-0.397^{***}	0.025	-0.128
	(0.120)	(0.054)	(0.029)	(0.332)
$\text{Inbound Arrivals}_j$		0.069^{***}		0.024
		(0.005)		(0.044)
Threshold_j : 33	$4{,}710.956^{***}$		$1{,}827.730^{***}$	
	(281.133)		(244.721)	
Threshold_j : 38.01	-255.417^{*}	84.597^{*}	47.724	48.814
	(140.673)	(50.656)	(56.013)	(103.561)
Threshold_j : 40	-176.830	-169.633^{***}	89.640^{**}	43.363
	(108.348)	(63.598)	(42.188)	(61.606)
Threshold_j : 44	-227.992		40.350	
	(160.353)		(57.202)	
Threshold_j : 47	14.151		91.342^{*}	
	(144.146)		(48.487)	
Threshold_j : 50	664.552^{**}	321.314^{***}	54.831	-352.544
	(277.892)	(103.871)	(45.102)	(677.960)
Threshold_j : 61.50	207.416^{***}		54.123	
	(62.403)		(81.167)	
Threshold_j : 74	-303.953^{***}		13.035	
	(115.407)		(65.241)	
Threshold_j : 77	41.466	-207.001^{***}	126.573^{***}	61.291
	(152.888)	(45.463)	(47.974)	(128.184)
Threshold_j : 100	-196.227			
	(205.279)			
Threshold_j : 154.94	$4{,}707.945^{***}$		503.967^{***}	

	(211.857)		(57.966)	
Threshold$_j$: 167	160.933	-120.070^{**}	104.931^{**}	-79.096
	(201.097)	(59.350)	(49.422)	(278.485)
Threshold$_j$: 175.01	$3{,}023.387^{***}$	$-2{,}403.600^{***}$	$2{,}597.555^{***}$	842.019
	(231.691)	(483.010)	(718.352)	(3,001.128)
Constant	$-2{,}174.596$	$3{,}075.245^{***}$	-605.748^{**}	-405.248
	(1,467.150)	(960.296)	(248.847)	(1,295.731)
Note:				*p<0.1; **p<0.05; ***p<0.01

Note: *p<0.1; **p<0.05; ***p<0.01

The coefficients on the control variable are quite different for both countries. Income has a negative but not significant effect on Chinese spending. The effect is positive on American spending. Distance has a negative effect on American and Chinese spending. But it is only significant for American spending. Last, the relative effects of EU threshold on American and Chinese spending differ since they seem to have an higher impact on Chinese spending than American ones. But as previously, the effect is not linear. It provides further evidence of the irrelevance of lower threshold to entice people to spend. The threshold does not seem to have an effect on travel spending.

A possible explanation of these results is that in China, the cost of living is relatively low. Therefore, Chinese are very price conscious when they travel abroad. According to chine, price is the second key influential factor on the choice of the destination. 16 % of Chinese outbound tourists are price sensitive to their travel expenses when they choose their destination [18]. But when travelling to Europe, they spend 39 % of their total trip budget to shopping. It is their first item of expenditure, before food and beverage (18 % or cultural activities and entertainment 12 %). They may take advantage of their travel to buy luxury goods budget because of the high tax on luxury goods in China and questions on product authenticity at home. tui reveals that on average, Chinese spend 12-20 % of their income on luxury goods and estimates that in 2015, Chinese will consume 22 % of all luxury goods produced in the world.

18. When they search information before travelling, 30 % of Chinese tourists put travel price on the list of priorities and 11 % check the presence of shopping areas.

5 Characteristics of customers likely to benefit from VAT refund

The idea of this section is to analyze which travellers benefit from VAT refund and how VAT refund has or not redistributional effects.

5.1 Characteristics of customers buying in European Union countries

I will analyze which travellers buy during their European Union stay. To this point, I will focus on the per capita expenditure by the the main reason of travel instead of having data on the social and economic characteristics of travellers. When focusing on the main purpose to travel data per partner countries are not available. I just have total travel expenditures per main reason of travel and total number of travellers coming per country of destination. I do not have the country of residence of travellers. I cannot disentangle EU resident travellers and extra-EU travellers. Despite all this and the imperfect and heterogeneous quality of data among countries, it will give an overview of individuals travelling and buying abroad.

First column gives the average per capita expenditure of visitors (or tourists in some case) over the 2010-2018 period. In European union, individuals travelling for holidays spend more than the ones travelling for other personal purposes or business and account for a large fraction of total travel spending. Except for Luxembourg, expenditures of individuals travelling for holidays account for more than 70 % of travel receipts received by countries. Besides, individuals travelling for holidays represent a large fraction of visitors arrivals.

Table 13: Per capita travel expenditure by main purpose from 2010 to 2018 in European Union countries

	Per capita expenditure	Share of total expenditures	Share of total arrivals
Belgium			
by all tourists	$ 1,375	100 %	100 %
travelling for			
personal purposes	$ 1,739	83.1 %	64.7 %
holidays	$ 1,632	77.8 %	64.7 %
business	$ 709	16.9 %	35.3 %
Denmark			
by all visitors	$ 260	100 %	100 %
travelling for			
personal purposes	$ 224	82.8 %	96.2 %
business	$ 1,221	17.2 %	3.8 %

	Per capita expenditure	Share of total expenditures	Share of total arrivals
France			
by all visitors	$ 281	100 %	100 %
travelling for			
personal purposes	$ 688	87.2 %	35.8 %
business	$ 650	12.8 %	5.5 %
Ireland			
by all tourists	$ 533	100 %	100 %
travelling for			
personal purposes	$ 515	83 %	85.9 %
holidays	$ 833	82.1 %	52.6 %
other personal purposes	$ 15	1.0 %	33.2 %
business	$ 638	16.9 %	14.1 %
Italy			
by all visitors	$ 530	100 %	100 %
travelling for			
personal purposes	$ 532	82.9 %	82.5 %
holidays	$ 1,010	79.1 %	41.5 %
other personal purposes	$ 50	3.9 %	41.0 %
business	$ 517	17.1 %	17.5 %
Latvia			
by all visitors	$ 136	100 %	100 %
travelling for			
personal purposes	$ 120	77.6 %	88.1 %
holidays	$ 289	70.0 %	33.6 %
other personal purposes	$ 19	7.6 %	54.6 %
business	$ 253	22.4 %	11.9 %
Luxembourg			
by all tourists	$ 4,830	100 %	100 %
travelling for			
personal purposes	$ 3,221	51.1 %	79.0 %
holidays	$ 3,700	48.4 %	65.3 %
other personal purposes	$ 911	2.8 %	13.7 %
business	$ 11,955	48.9 %	21.0 %
Poland			
by all visitors	$ 156	100 %	100 %
travelling for			
personal purposes	$ 748	77.9 %	16.4 %
holidays	$ 1,596	74.2 %	7.3 %
other personal purposes	$ 65	3.7 %	9.1 %
business	$ 627	22.1 %	5.5 %

	Per capita expenditure	Share of total expenditures	Share of total arrivals
Slovenia			
by all tourists	$ 156	100 %	100 %
travelling for			
personal purposes	$ 1,045	93.8 %	88.0 %
holidays	$ 1,237	90.3 %	71.9 %
other personal purposes	$ 211	3.5 %	16.1 %
business	$ 497	6.2 %	12.0 %

Note : Over the 2010-2018 period, tourists travelling to Belgium for holidays spent on average $ 1,632 during their stay. Expenditures of these travellers represented 77.8 $ of travel expenditures received by Belgium. Tourists travelling to Belgium for holidays accounted for 64.7 % of all tourists going to Belgium.

Source : OECD and UNWTO

5.2 Characteristics of consumers buying in non-European Union countries

In Australia, Canada, Japan, travel spending by visitors travelling for holidays represents less than 50 % of total spending. In Costa Rica, Mexico and Turkey, it accounts for around 80-90 % of total travel spending.

Table 14: Per capita travel expenditure by main purpose from 2010 to 2018 in EU countries

	Per capita expenditure	Share of total expenditures	Share of total arrivals
Australia			
by all visitors	$ 5,217	100 %	100 %
by visitors travelling for			
personal purposes	$ 6,230	93.3 %	78.2 %
holidays	$ 4,779	41.4 %	45.4 %
other personal purposes	$ 8,289	51.9 %	32.8 %
business	$ 1,609	6.7 %	21.8 %
Canada			
by all visitors	$ 784	100 %	100 %
travelling for			
personal purposes	$ 1,239	85.4 %	54.0 %
holidays	$ 1,492	41.4 %	29.4 %
other personal purposes	$ 2,695	29.4 %	24.7 %
business	$ 1,086	14.6 %	10.7 %

	Per capita expenditure	Share of total expenditures	Share of total arrivals
Costa Rica			
by tourists	$ 1,179	100 %	100 %
travelling for			
personal purposes	$ 1,129	90.7 %	87.9 %
holidays	$ 1,269	89.9 %	74.9%
other personal purposes	$ 1,530	17.2 %	13.0 %
business	$ 1,412	16.5 %	12.1 %
Japan			
by all visitors	$ 1,443	100 %	100 %
travelling for			
personal purposes	$ 1,405	85.9 %	88.2 %
holidays	$ 2,495	41.5 %	80.1 %
other personal purposes	$ 2,710	57.9 %	8.1 %
business	$ 1,746	14.1 %	11.8 %
Mexico			
by all visitors	$ 190	100 %	100 %
travelling for			
personal purposes	$ 525	92.3 %	33.3 %
holidays	$ 1,420	90.1 %	12.1 %
other personal purposes	$ 19	2.1 %	21.2 %
business	$ 983	7.7 %	1.6 %
Russia			
by all visitors	$ 376	100 %	100 %
travelling for			
personal purposes	$ 210	59.9 %	79.3 %
holidays			8.9 %
other personal purposes			70.4 %
business	$ 999	40.1 %	20.7 %
Turkey			
by all visitors	$ 651	100 %	100 %
travelling for			
personal purposes	$ 622	90.2 %	93.7 %
holidays	$ 778	86.6 %	71.9 %
other personal purposes	$ 105	3.7 %	21.8 %
business	$ 1,056	9.8 %	6.0 %
United States			
by all visitors	$ 1,078	100 %	100 %
travelling for			
personal purposes	$ 5,108	77.2 %	16.3 %
holidays	$ 5,464	58.1 %	11.5 %
other personal purposes		19 %	4.8 %
business	6,314	22.8 %	3.8 %

Note : Over the 2010-2018 period, visitors travelling to Australia for holidays spent on average $ 4,779 during their stay. Expenditures of these travellers represented 41.4 $ of total travel expenditures received by Australia. Beside, visitors travelling to Australia for holidays accounted for 45.4 % of all visitors going to Australia.

Source : OECD and UNWTO

5.3 Expenditure of French residents during their stay in foreign countries

I aim to identify categories of individuals benefiting from VAT refund. So I determine individuals spending the more during their trip abroad. It can be a first indicator of tourists benefiting from VAT refund.

For lack of European data on travellers' characteristics, I will use French data from the 2010-2011 "Budget de Famille" survey. This survey provides data on the expenditures (in brackets) of French residents during their stay of more than 4 days (trsejour variable) in foreign countries and on income (revtot variable). It consists of 15,851 observations and 7,991 households. A household can make several travels. The dataset restricted to French residents having made a trip abroad is made up of 4,436 observations and 3,248 households. But depending on the variables, there are some missing values. When spending on a item was equal to €999,999 or €999,998, I replaced it by NAs because these outliers spread over all the deciles and drive the results. Note that the survey does not allow to distinguish extra-EU visited countries and EU visited countries. Expenditures correspond to the French total spending made during a stay abroad.

5.3.1 General profile of reference person of the household

Overall, a typical French tourist travelling abroad is a male or female over 40 years old who is an inactive (who has already worked) and earns a monthly income of €30,000–69,999 or over €100,000. Entrepreneurs, executives and higher intellectual occupations are over-represented among travellers making a trip abroad. Individuals travelling abroad travel more than other travellers (see Table 15).

Table 15: Household reference person profile

	Househ. travelling abroad 3,248 househ. %	All househ. 7,991 househ. %
Total income		
Below €19,999	20.6	20.4
€20,000-29,000	17.9	19.4
€30,000-39,000	17.1	18.9
€40,000-49,000	13.4	15.1
€50,000-59,000	9.1	9.3
€60,000-69,000	7.3	6.1
€70,000-79,000	4.3	3.6

€80,000-89,000	2.9	2.0
€90,000-99,000	2.4	1.6
€100,000 and above	5.0	3.6
Occupation		
Farmer	1.0	1.0
Craftsmen, merchants and entrepreneurs	6.9	5.2
Executives and higher intellectual occup.	21.9	17.4
Associate professionals	18.5	19.5
Employees	13.0	15.01
Workers	11.5	13.0
Inactive who have already worked	22.1	24.4
People who have never worked	5.1	4.3
Age		
19 and below	0.3	0.4
20-29	10.0	9.5
30-39	18.7	18.4
40-49	23.2	23.5
50-59	22.0	21.5
60 and above	25.8	26.7
Gender		
Male	65.1	62.8
Female	34.9	37.2
Type of household		
Single person	24.6	24.4
Single parent family	7.9	8.9
Childless couple	27.2	27.7
Couple with at least one child	35.3	34.9
Other type of household	4.9	4.0
Number of stays during the year		
1	40.5	52.1
2	27.2	24.0
3	15.4	11.9
4	9.2	6.6
5	4.7	3.5
6 and more	3.0	1.9

Source : Budget de Famille Survey
Reading : Among 7,991 households having travelled, 20.4 % earn less than €19,999. Among 3,248 households having travelled abroad, 20.6 % earn less than €19,999.

5.3.2 Characteristics of stays

Individuals travelling abroad are more likely to travel for leisure. The majority of these visitors travelled for leisure purpose (67.2 %). About 45.0 % of them chose the sea as holiday destination and about 47.1 % a city. Note that the sum of the percentages is not equal to 100 since French tourists can choose to travel to a city by the sea for instance. They stay less than 15 days and the total amount of money spent during their travel ranged between €800 and €3,000. They spent more abroad (see Table 16).

Table 16: Characteristics of stays

	Foreign stays 3,248 households (4,436 obs.) %	All stays 7,991 households (15,851 obs.) %
Trip purpose		
For professional purposes	3.3	3.6
Visits to the family or friends	25.9	35.0
School trips	2.5	1.6
Stay in the vacation home	1.2	4.7
For leisure	67.2	55.1
Total travel spending	(2,073 obs.)	(7,860 obs.)
$[0; 15[$	1.1	1.9
$[15; 50[$	1.0	2.6
$[50; 100[$	1.4	4.2
$[100; 200[$	4.1	10.0
$[200; 300[$	6.0	9.2
$[300; 400[$	7.8	13.9
$[400; 600[$	10.2	12.6
$[600; 800[$	14.0	15.6
$[800; 1,500[$	19.5	13.1
$[1,500; 3,000[$	21.9	12.6
Over 3,000	13.1	4.3
Length of stay		
4-7 days	38.5	38.2
8-11 days	20.4	23.3
12-15 days	18.1	16.4
16-19 days	3.4	4.1
20-29 days	9.6	8.8
30-39 days	5.4	4.7
40-49 days	1.6	1.3

50-99 days	2.1	2.0
100-199 days	0.4	0.5
200 days and more	0.4	0.6
Environment		
Sea	45.0	39.6
Mountain	12.3	17.9
Countryside	15.1	23.2
City	47.1	30.9
Other	3.8	1.1

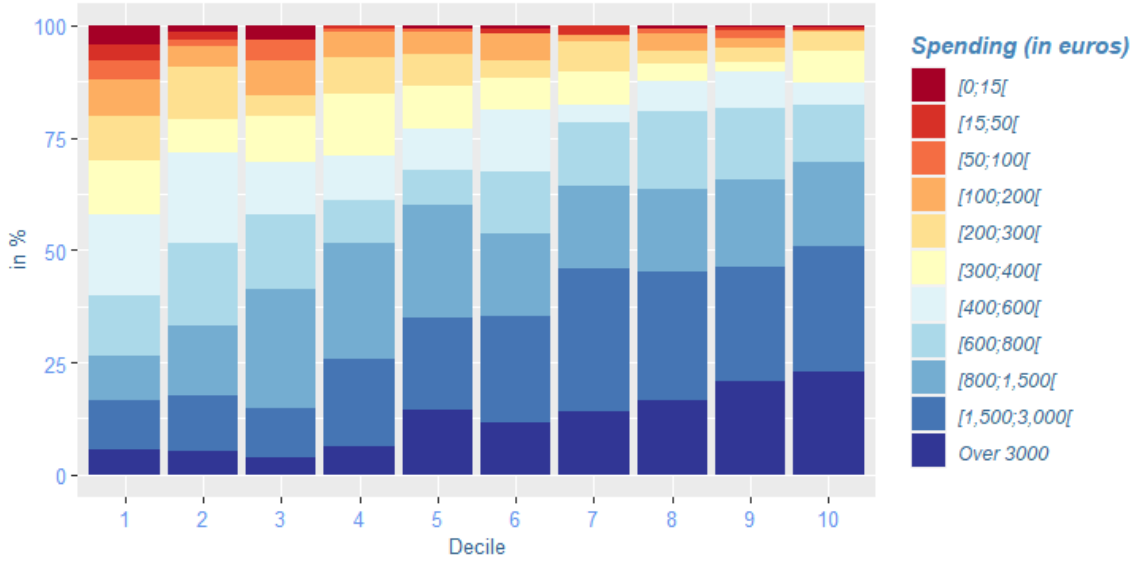
Source : Budget de Famille Survey
Reading : Among 15,851 stays, 55.1 % are made for leisure. Among 4,436 stays abroad, 67.2 % are made for leisure. Among 3,248 having travelled abroad, 38.5 % made a stay of 4-7 days.
Note : One household can make several stays. For each household, I compute the average of total travel spending and length of stay.

5.3.3 Spending preferences among deciles

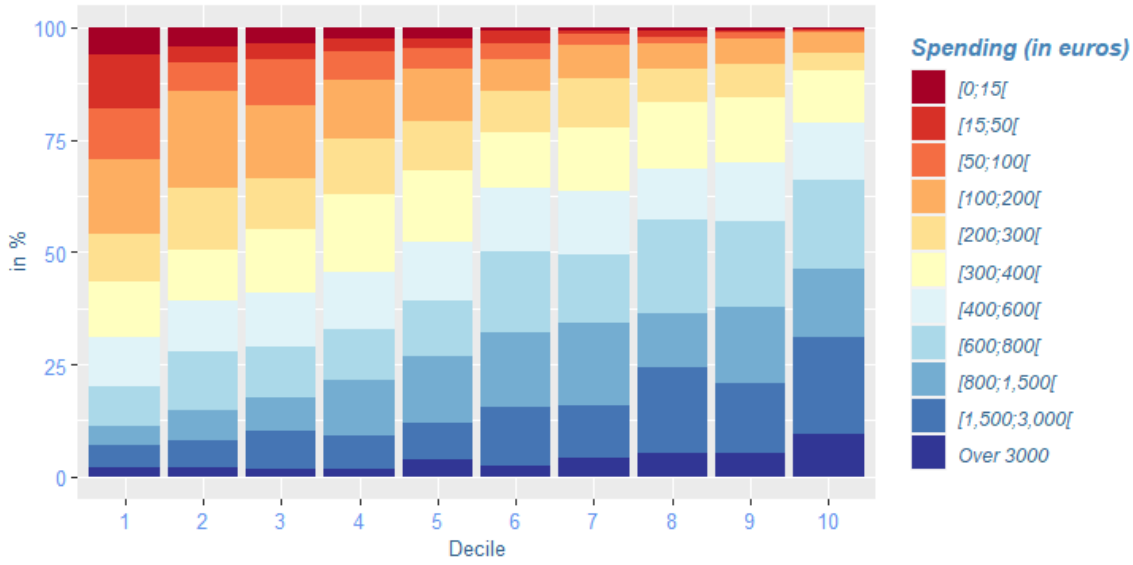
I will analyse travel spending preferences of French tourists per decile. Total spending is higher for foreign stays than for all stays. Additionally, as expected expenditures spent by French tourists during their stay abroad increase with the decile. Overall, the higher the decile, the higher the total expenditure. Only 6.2 % of decile 1 spent over 3,000 euros during their stay abroad whereas 23.9 % of decile 10 spent 3,000 euros.

Figure 8: Average spending in euros per decile in 2010-2011

Foreign stays



All stays



Reading : Only 6.2 % of decile 1 spent over 3,000 euros during their stay abroad.
Note : A household can make several trips abroad. I take therefore the average of total spending of its numerous travel abroad.
Source : Budget de Famille Survey

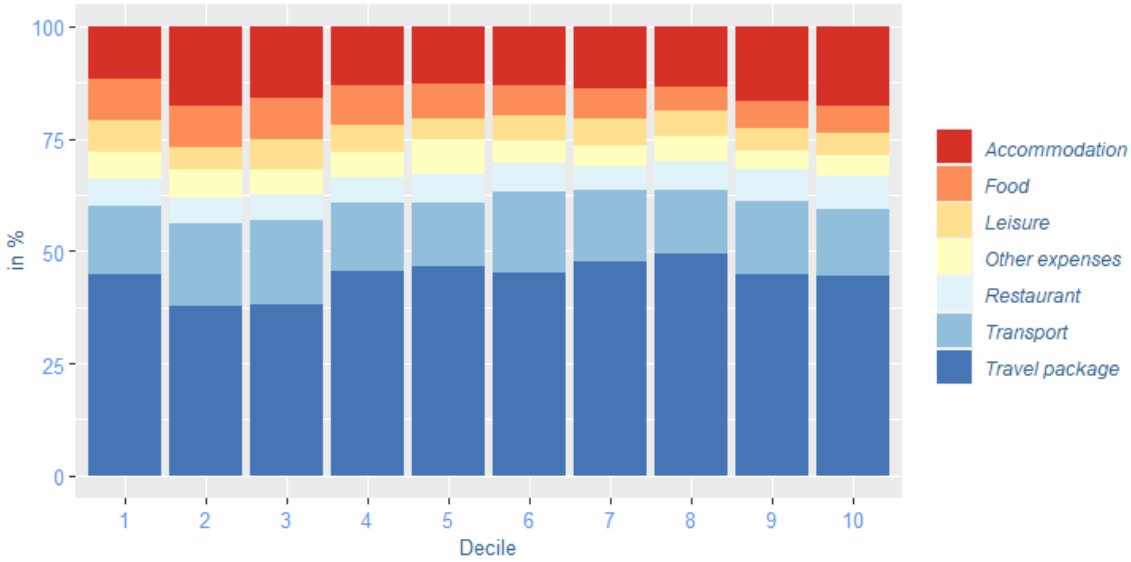
French residents spent more during a foreign trip. But the increase was higher for top deciles. French residents of the top decile spent twice as many as decile 1 for transport during they stay. During their stay abroad, they spent almost 2.5 times more (see Table 34 on Appendix B.1.1). Top decile may go further on holidays. Top decile spent also twice more in accommodation than decile 1. It is 3.5 times more when going abroad. More precisely, decile 1 spent less in accommodation during their foreign stay. Decile 10 spent more in accommodation when travelling abroad. Low income travellers are more likely to go abroad for visiting family of friends. 49.2 % of the first income decile going abroad mentioned visits to the family or friends as trip purpose. Only 11.7 % of the last income decile went abroad to visit family or friends. Low income individuals are younger, are single and have never worked. The average age for decile 1 is almost 39 whereas it is 50 years old for decile 10. 34.1 % of decile 1 have never worked and 52.5 % are single. On the contrary, 54.0 % of decile 10 are executive or have an higher intellectual occupation and 56.4 % are in couple and have at least one child.

But I am interest in other expenses made during foreign stays. They are goods purchased overseas and brought back to France by the tourist himself [19]. Because they can be eligible to VAT refund.

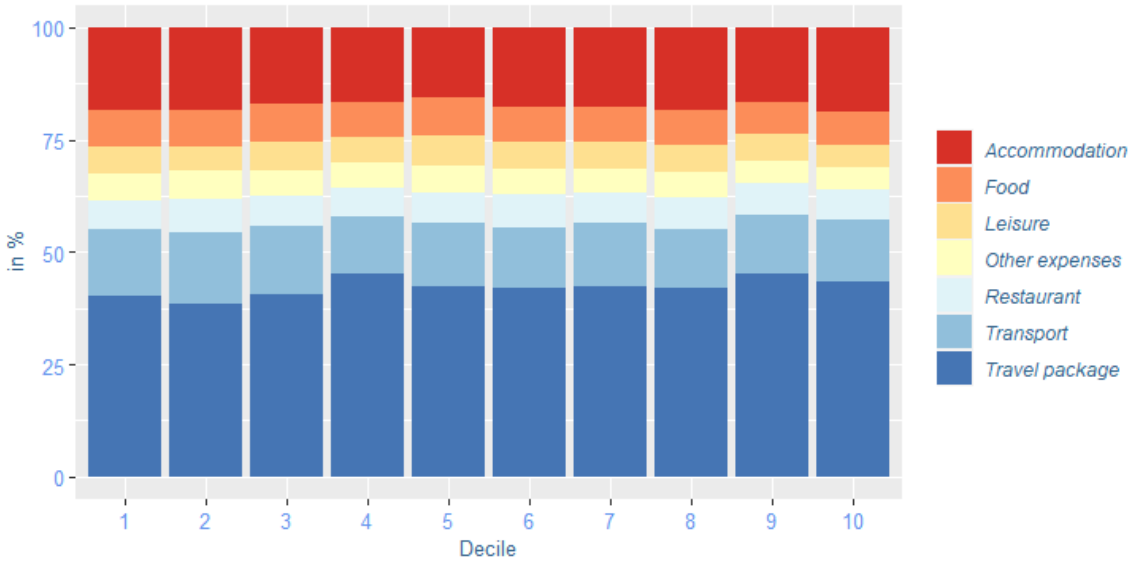
19. These other expenses do not cover money spent on clothes and durables.

Figure 9: Spending structure in euros per decile in 2010-2011

Foreign stays



All stays



Reading : Decile 1 spent 153 euros in other expenses whereas decile 10 spent 265 euros during their stay abroad.
Source : Budget de Famille Survey

The last income decile spent slightly more than the first income decile in other expenses (see Table 34 on Appendix B.1.1). But as a share of their total expenditures, it represents less for the last income decile (see Table 17). Otherwise, the first and two last income deciles are more likely to travel abroad (see Table 18). There is therefore no evidence that VAT refund is progressive with respect to income.

Table 17: Share of "other expenses" in total spending (in percentage)

Foreign stays

Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10
5.90	6.25	5.35	5.79	7.60	5.04	4.71	5.44	4.09	4.46

All stays

Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10
5.89	6.11	5.92	5.91	6.29	5.78	5.14	5.74	4.77	4.70

Reading : As a share of their total foreign travel spending, "other expenses" represented respectively around 5.90 % and 4.46% % for the first and last income deciles.
Source : Budget de Famille Survey

Table 18: Share of individuals travelling abroad (in percentage)

Foreign stays

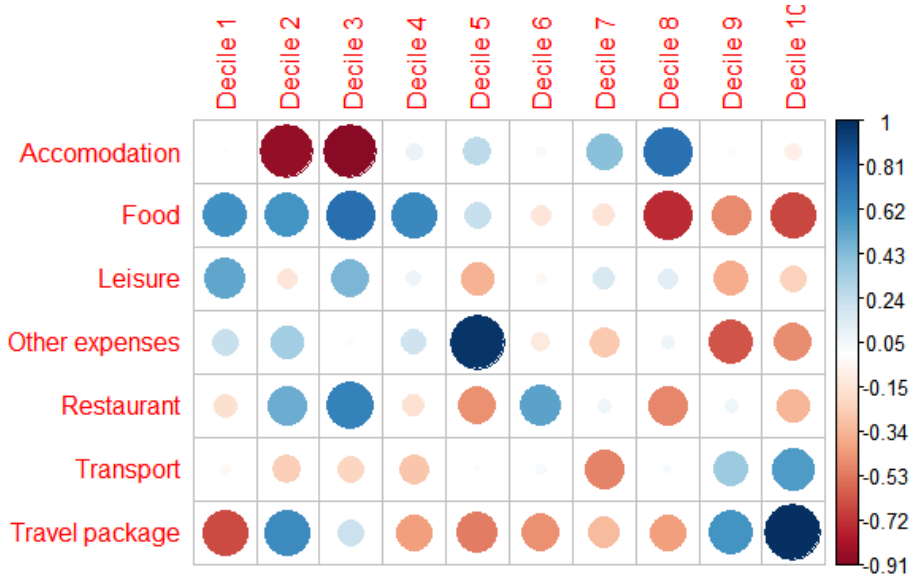
Decile 1	Decile 2	Decile 3	Decile 4	Decile 5
[€-48,769-13,781]	[€13,798-19,800]	[€19,803-24,756]	[€24,790-30,086]	[€30,106-35,086]
36.9	31.0	29.8	29.2	24.5

Decile 6	Decile 7	Decile 8	Decile 9	Decile 10
[€35,087-40,837]	[€40,844-47,049]	[€47,056-56,054]	[€56,063-71,730]	[€71,754-1,807,632]
28.8	26.5	25.2	29.0	34.8

Reading : 36.9 % of the first income decile travelled in a foreign country.
Source : Budget de Famille Survey

To have a more accurate view of spending patterns across deciles, I compute the chi-square on foreign stays data. The decile and the average spending per item are statistically associated. Then I determine the most contributing cells to the total Chi-square score. I compute the Chi-square statistic for each cell, that is the Pearson residuals. When we visualize the Pearson residuals (Figure 10), we can see that spending on food is negatively associated to decile. As Engel's law, consumers increase their expenditures for food in percentage terms less than their increases in income. The last income deciles spend more in transport. For other expenses item, we found a positive relationship between decile and the amount spent from decile 1 to decile 5. For other deciles, the relationship is reverse.

Figure 10: Pearson residuals (foreign stays)



Reading : There is a strong positive association between spending in food and decile 3 whereas there is a strong negative association between spending in food and decile 8.
Source : Budget de Famille Survey

5.3.4 Expenditure behaviours on goods eligible to a VAT refund

I will focus only on "other expenses" item made during foreign stays. It contains all the possible goods eligible to a VAT refund. I delete all observations containing a missing value for spending on this item. The dataset is reduced to of 1,037 households.

French tourists' behaviour expenditure for "other expenses" are examined in relation to their sociodemographic characteristics, as well as to some characteristics of the trip. First I implement a one-way ANOVA analysis based on F-distribution to determine how spending on other expenses are significantly different among the different groups. This test is for the global effect for the question of "any difference. But when a difference is found, I perform a SNK test (multiple comparison) in order to test "what are the differences".

Decile plays a significant role in explaining French expenditure on other expenses made abroad. The p-value is less that 0.05. But performing a SNK test, I found that spending is not significantly different across deciles. The type of household seems to have a significant effect on other expenses overseas. The SNK test finds also that spending according to type of households are significantly different. Single individuals spend logically less than other households. The length of the stay affects spending on other expenses. But the SNK test found that spending on other expenses is not significantly different according to the length of stay. Occupation, age, gender and trip purpose seem not to affect spending on other expenses made abroad.

Table 19: Average spending in euros per sociodemographic characteristics in 2010-2011 : one-way ANOVA tests

	Foreign stays				All stays			
	1,037 househ.				3,070 househ.			
	Mean (in euros)	F value	p value	SNK test	Mean (in euros)	F value	p value	SNK test
Decile		4.856	0.028			13.53	0.000	
Decile 1 [€-48,769-13,781]	152.6				138.2			B
Decile 2 [€13,798-19,800]	161.8				132.2			B
Decile 3 [€19,803-24,756]	150.7				137.9			B
Decile 4 [€24,790-30,086]	198.5				159.2			AB
Decile 5 [€30,106-35,086]	267.4				163.9			AB
Decile 6 [€35,087-40,837]	190.6				157.9			AB
Decile 7 [€40,844-47,049]	190.5				148.1			AB
Decile 8 [€47,056-56,054]	242.7				191.4			AB
Decile 9 [€56,063-71,730]	213.6				180.2			AB
Decile 10 [€71,754-1,807,632]	265.4				232.7			A
Occupation		3.762	0.053			12.76	0.000	
Farmer	223				168.2			
Craftsmen, merchants and entrepreneurs	293.4				259.7			
Executives, higher intellectual occupations	193.9				177.5			
Associate professionals	235.2				178.1			
Employees	208.8				177.8			
Workers	198.4				135.9			

Inactive who have already worked	153.0				138.8			
People who have never worked	182.6				136.7			
Age		0.072	0.788			0.082	0.775	
19 and below	38				29.3			
20-29	143.6				122.0			
30-39	243.9				178.5			
40-49	210.6				173.6			
50-59	217.3				181.5			
60 and above	174.8				150.4			
Gender		1.659	0.198			1.211	0.271	
Male	188.8				160.0			
Female	224.5				175.0			
Type of household		8.105	0.004			13.75	0.000	
Single person	142.7			B	126.9			B
Single parent family	221.8			AB	166.2			AB
Childless couple	192.0			AB	160.4			AB
Couple with at least one child	228.4			AB	180.4			AB
Other type of household	328.0			A	274.6			A
Trip purpose		2.149	0.058			7.31	0.000	
For professional purposes	255				190.0			
Visits to the family or friends	242.8				213.3			
School trips	79.4				107.4			
Stay in the vacation home	412.5				248.0			
For leisure	189.0				144.1			

Length of stay		11.12	0.001		92.93	0.000
4-7 days	144.7			109.6		
8-11 days	195.5			141.1		
12-15 days	219.2			180.1		
16-19 days	358.9			191		
20-29 days	260.4			328.0		
30-39 days	278.9			260.3		
40-49 days	284			371.3		
50-99 days	291.9			356.2		
100-199 days	153.4			131.9		
200 days and more	180			136.5		

Source : Budget de Famille survey

The previous bivariate analysis evaluates the effect of one factor assuming no presence of other factors. Then I carried out a linear regression to see how is the effect of one factor on expenditure in the presence of all other factors.

Income decile and gender affect positively spending on other expenses (see column 2 of 20). But the effect of income decile on other expenses seems to be significant only for the last income deciles (see column 1). Thus, VAT refund seems to have no redistributional effects.

Table 20: Effects of sociodemographic characteristics or trip attributes on other expenses

	Dependent variable:		
	Spending on other expenses		
	(1)	(2)	(3)
	1,503 obs.	1,503 obs.	1,503 obs.
Income decile : 2	14.917		20.488
	(30.344)		(60.599)
Income decile : 3	11.562		12.458
	(43.838)		(60.383)
Income decile : 4	56.930		42.595
	(40.508)		(61.324)
Income decile : 5	144.009		122.855*
	(124.873)		(63.640)
Income decile : 6	53.778		28.947
	(42.738)		(61.857)
Income decile : 7	61.339*		27.672
	(36.567)		(63.789)
Income decile : 8	121.979**		88.859
	(61.612)		(65.934)
Income decile : 9	89.944*		49.619
	(46.054)		(67.347)
Income decile : 10	146.825**		108.321
	(59.659)		(70.676)
Income decile		13.509**	

		(5.398)	
Type of household			29.943**
			(12.461)
Length of stay	0.338	0.314	0.331
	(1.084)	(0.373)	(0.374)
Gender	63.098	58.728**	80.949***
	(41.285)	(27.981)	(28.988)
Occupation	−3.135	−4.184	−3.565
	(5.817)	(8.947)	(9.010)
Trip purpose			
Visits to the family or friends	16.846	22.083	−3.047
	(89.341)	(91.843)	(92.511)
School trips	−167.993**	−155.658	−195.901*
	(79.974)	(116.447)	(117.731)
Stay in the vacation home	182.487	177.605	194.276
	(131.909)	(229.820)	(230.140)
For leisure	−55.993	−50.409	−65.801
	(77.921)	(89.252)	(89.524)
Age	−0.915	−0.742	−0.678
	(1.050)	(1.008)	(1.028)
Constant	140.725	133.199	51.684
	(108.243)	(111.958)	(121.103)
Observations		1,034	
R^2		0.019	
Adjusted R^2		0.010	
Residual Std. Error		424.225 (df = 1024)	
F Statistic		2.204** (df = 9; 1024)	
Note:		*p<0.1; **p<0.05; ***p<0.01	

6 Concluding remarks

This study aimed at analysing the effect of VAT refund on travellers spending across the world and more especially on travel spending across the European countries from 2010 to 2018. Extra-EU travellers can benefit from VAT refund of their goods they purchased in European Union and they bring back home. But they did not spend more than EU travellers in EU countries. VAT refund seems not to affect travel spending. Croatia's entry into the EU has not been a deterrent to EU travellers spending in Croatia, who no longer benefit from VAT refunds for their shopping in Croatia. Additionally, Swiss tourists do not spend more in EU countries. They spend more in Austria, France, Germany and Italy because these countries are neighbouring countries. Besides, the value of EU minimum purchase amount threshold to be eligible to VAT refund has no impact on extra-EU travellers' spending.

When we focus on consumers' characteristics likely to benefit from VAT refund, we find that the last income deciles spend significantly more in other expenses. They are more likely to benefit from VAT refund suggesting any redistributional effect of VAT refund.

But to have a more precise overview on VAT refund strategies on travel spending and on beneficiaries of a VAT refund, it would be necessary to have data of better quality. First, OECD and Budget de Famille Survey data are not only on spending on tax-free goods. Second, quality of OECD data are various due to measurement errors.

A Appendix : inbound travellers' spending and countries VAT refund strategies

A.1 Summary statistics

A.1.1 Summary statistics of total inbound tourists' expenditure from 1995 to 2018 for more than 200 countries - UNWTO data

UNWTO provides also annual data on travel expenditure by inbound/outbound tourists for more countries of destination than OECD, more than 200 countries of destination. These data are also available for most of the countries since 1995 allowing to cover a larger period of study. But there are not detail data per travellers'country of residence. I cannot use it for my analyses. However, I use it to compute average per capita travel spending in order to have an overview of per capita travel spending for more countries.

Additionally, note that the value of travel expenditure spent by all inbound tourists in a country (measured by UNWTO) differs from the value of travel credit received by this country by the World as partner (displayed on the OECD EPOBS). It is mainly due to differences in definitions of tourism and concepts used by UNWTO tourism expenditure statistics and EBOPS statistics. These differences depend on the types of travelers that are considered as tourists and on the types of expenditures considered. First, UNWTO uses the term of "visitors" rather than the term of "travellers" used by the BoP. *The International Recommendations for Tourism Statistics 2008* (IRTS 2008) makes a clear distinction between "travellers" in the BoP sense and "visitors" used by UNWTO :

> "A visitor is a traveller taking a trip to a main destination outside his/her usual environment, for less than a year, for any main purpose (business, leisure or other personal purpose) other than to be employed by a resident entity in the country or place visited. Visitors can then be subdivided into tourists (or overnight visitors) if his/her trip includes an overnight stay, and excursionists (same-day visitors)".

It aims to exclude from tourism statistics individuals who commute regularly between their place of residence and their place of work or study (abroad more than one year), or who visit places as part of their regular life routine. "Visitors" is therefore a subset of "travellers". Besides, the concepts of residence is defined in the same way as in the EBOPS. But tourism statistics make the further distinction between the country of residence and citizenship or nationality. It is a significant difference with EBOPS regarding health services abroad. Some nationals return for treatment to their country of origin where they still hold nationality. But the difficulty comes from the fact that statistics of travellers collected at borders may

often identify only the nationality (as stated in the passport) rather than the country of residence. Second, inbound/outbound tourism expenditure includes expenditures on international transport of the travel to the destination. UNWTO tourism expenditure is therefore approximated the sum of the travel and passenger transport services items of the Balance of Payments.

Travel		+	Passenger transport services		~	Tourism expenditure	
credits	debits		credits	debits		inbound	outbound

In *Collection of tourism expenditure statistics* (World Tourism Organization 1995), UNWTO defines tourism expenditure as "the total consumption expenditure made by a visitor or on behalf of a visitor for and during his/her trip and stay at destination". This definition covers all goods and services bought by the visitor for himself but also for a friend or relative as a gift or souvenir as well as goods and services bought by a person (such as a parent) on behalf of a visitor. Note that in the latter case, UNWTO mentions that "the person undertaking the expenditure may or may not be accompanying the visitor". More precisely, travel expenditure by inbound tourists per tourists' country of residence that I use covers some pre-trip expenditure like certain package tour (which may include transport, accommodation, meals, coach tours, car hire, admission fees to attractions) or international transport expenditure and all on-trip expenditure made abroad. These all on-trip expenditures include the everyday purchase of all goods and services inherent in travel, transport, accommodation, the purchase of small durable goods for personal use (whatever it is used during the travel or at home), souvenirs and gifts for family or friends, other major expenditure items such as major car repairs. They exclude purchases made by residents of border areas crossing regularly into their neighboring country to purchase goods and services at a lower prices [20], purchases for commercial purposes (for resale or purchase made by a visitor on behalf of their employer on business trip) and cash given to family or friends which does not represent payment of tourism goods or services during the trip. In the case of business travel, the employer may pay all or some of the expenditure but only the expenditure related to tourism trip should be included.

Note that when for a country, data are not cover this all period, I mention it with * in Table 21.

20. If such trips are not frequent, this type of purchases is included in inbound tourism expenditure.

Table 21: Average expenditure of inbound visitors per country of destination and year from 2010 to 2018 in millions of 2018 US dollars

Country	Min	1st Qu.	Median	Mean	3 rd Qu.	Max
Albania	27	432	1,195	1,042	1,647	2,186
Algeria	28	101	184	168	220	323
Anglola	8	21	157	398	661	1,589
Anguilla	50	62	97	91	114	141
Antigua and Barbuda	247	288	307	394	337	881
Argentina	1,535	2,707	3,670	3,736	4,962	5,563
Armenia	1	57	427	454	833	1,208
Aruba	521	820	1,155	1,179	1,425	2,024
Australia	8,130	9,503	19,656	21,646	31,563	45,098
Austria	9,899	12,433	17,402	16,262	19,381	23,233
Azerbajian	43	69	170	898	2,323	3,012
Bahamas	1,346	1,716	2,064	2,063	2,292	3,355
Bahrain	247	616	1,042	1,288	1,183	4,245
Bangladesh	25	56	75	104	110	353
Barbados	622	708	938	910	1,075	1,237
Belarus	12	182	305	383	692	883
Belgium	4,529	6,813	8,649	8,927	11,410	13,918
Belize	78	111	252	235	311	487
Benin*	56	89	118	126	151	236
Bermuda	348	420	441	448	487	583
Bhutan*	23	40	61	65	92	105
Bolivia	55	84	260	325	579	823
Bonaire*	37	45	65	72	89	121
Bosnia and Herzegovina*	233	377	615	584	724	1,030
Botswana	93	233	492	417	539	663
Brazil	718	1,790	4,635	3,988	5,863	6,843
Brunei Darussalam*	79	121	166	165	199	254
Bulgaria	369	1,054	2,883	2,527	3,767	4,479
Burkina Faso*	19	41	64	71	103	153
Burundi	0	1	1	2	2	4
Cabo Verde	10	51	244	217	366	492
Cambodia	53	361	1,006	1,415	2,512	4,362
Cameroon	36	85	178	252	419	595
Canada	7,917	10,618	14,150	14,020	16,980	21,978
Chile	799	926	1,301	1,571	2,158	3,383
China	8,730	17,112	35,591	31,026	44,141	51,664
Colombia	657	1,040	1,954	2,341	3,498	5,556
Comoros*	24	32	39	43	51	76
Congo*	9	16	28	32	44	77

Costa Rica	681	1,310	1,969	2,065	2,653	3,903
Cote d'ivoire*	49	86	100	138	176	396
Croatia	1,349	3,191	8,030	6,899	9,389	11,855
Cuba	963	1,694	2,134	2,063	2,325	3,186
Curacao*	327	383	547	499	586	635
Cyprus	1,659	1,955	2,280	2,362	2,709	3,449
Czech Republic	2,880	3,607	5,970	5,454	7,075	8,214
Denmark	3,156	3,927	5,635	5,559	6,397	9,097
Djibouti	4	7	9	16	21	57
Dominica	42	48	73	87	97	216
Dominican Republic	1,571	2,781	3,983	3,999	4,779	7,561
Ecuador	255	405	557	767	1,086	1,871
Egypt	2,565	3,791	6,095	6,530	8,856	12,528
El Salvador	85	221	386	440	574	1,014
Estonia	357	547	1,030	1,018	1,338	1,864
Eswatini	4	15	31	35	47	77
Ethiopia	16	56	175	284	413	968
Fiji	189	296	492	529	726	969
Finland	1,406	1,638	2,477	2,520	3,274	4,041
France	27,402	34,491	46,493	45,608	55,616	65,358
French polynesia*	372	449	466	472	516	537
Gabon*	9	15	20	26	26	86
Gambia*	28	65	75	81	99	154
Georgia*	47	155	416	878	1,643	3,222
Germany	17,616	18,550	33,730	30,118	38,273	43,277
Ghana	11	347	731	595	855	944
Greece	3,723	9,205	13,273	12,263	15,576	18,821
Grenada	71	85	108	173	128	548
Guatemala	213	542	987	966	1,434	1,580
Guinea*	0	1	2	4	6	17
Guinea-Bissau*	1	3	12	12	17	38
Guyana	26	37	65	67	95	112
Haiti	80	107	163	286	457	620
Honduras	80	259	531	464	644	736
Hong Kong	5,493	8,541	12,780	18,076	31,253	39,475
Hungary	2,928	3,781	4,497	4,772	5,722	6,887
Iceland	173	231	514	827	918	3,128
India	2,582	3,174	9,682	11,338	18,078	28,568
Indonesia	4,037	4,931	5,891	7,092	8,523	14,110
Iran*	16	641	1,357	1,730	2,393	4,402
Iraq*	1	16	681	1,025	1,677	3,120
Ireland	2,211	3,021	4,295	4,197	5,023	6,359

Israel	2,132	3,038	4,208	4,204	5,525	7,245
Italy	25,829	29,789	38,354	36,744	42,805	49,066
Jamaica	1,069	1,268	1,890	1,784	2,070	3,099
Japan	3,224	3,997	10,575	12,712	14,709	42,093
Jordan	660	839	2,186	2,413	4,048	5,249
Kazakhstan	122	441	901	1,031	1,689	2,255
Kenya*	276	474	705	657	818	935
Kiribati*	2	3	3	4	4	5
Korea	4,731	5,899	6,875	9,347	13,297	17,460
Kuwait	92	154	215	258	329	600
Kyrgyzstan	4	22	164	217	427	530
Lao	51	102	174	300	487	734
Latvia	20	190	560	517	817	1057
Lebanon*	4,284	5,532	6,523	6,386	6,857	8,400
Lesotho	14	22	24	25	30	48
Libya*	2	22	74	93	183	250
Lithuania	77	494	965	885	1,265	1,419
Luxembourg	1,634	1,759	3,798	3,440	4,492	5,363
Macao*	4205	8,176	22,276	22,544	35,933	43,133
Madagascar	58	98	246	316	564	750
Malawi	18	26	31	32	33	62
Malaysia	2,381	5,679	12,239	12,148	18,210	22,600
Maldives	211	326	1,354	1,306	2,052	3,028
Mali*	23	64	148	138	203	275
Malta	561	655	833	996	1,302	1,845
Marshall Islands*	1	3	4	4	5	9
Mauritania*	4	20	26	26	32	48
Mauritius	430	595	1,063	1,050	1,449	1,891
Mexico	6179	8,374	11,836	12,105	13,515	22,526
Micronesia*	22	22	24	24	26	29
Moldova	33	50	140	144	217	380
Mongolia	10	38	181	177	245	461
Montenegro*	630	793	878	871	914	1,171
Montserrat	5	7	8	8	9	17
Morocco	1,296	2,447	6,122	4,883	6,934	7,775
Mozambique	49	69	130	130	190	242
Myanmar	46	81	159	548	644	2,197
Namibia	160	278	333	335	386	512
Nepal	103	160	215	295	419	640
Netherlands	6,299	7,142	10,811	10,719	12,966	18,640
New Caledonia*	94	115	146	145	164	241
New Zealand	1,857	2,500	6,317	5,784	7,330	10,961

Nicaragua	50	134	263	295	418	841
Niger*	7	27	41	48	70	105
Nigeria	17	54	199	459	569	2,549
North Macedonia	14	39	158	153	246	382
Norway	1,958	2,252	3,995	3,822	5,252	5,842
Oman	192	385	648	778	1,196	1,758
Pakistan	74	105	264	221	316	390
Palau*	40	53	69	79	107	149
Panama	309	472	1,073	1,692	3,071	4,419
Papua new guinea*	1	2	4	6	6	25
Paraguay	62	80	133	174	267	369
Peru	428	843	1,647	1,832	2,582	3,947
Philippines	1,136	1,953	2,571	3,302	4,758	8,255
Poland	4,069	6,253	8,868	8,757	10,979	14,040
Portugal	4,614	5,470	9,061	9,399	11,575	19,807
Qatar*	122	348	1022	2,335	4,702	5,971
Romania	252	490	1,183	1,148	1,635	2,770
Russia	3,429	5,273	7,708	7,722	9,775	11,988
Rwanda	2	25	142	154	285	374
Saint kitts and nevis	57	71	95	140	127	367
Saint Lucia	210	277	306	406	361	989
St Vincent & the Grenadines	53	86	92	113	111	235
Samoa	35	42	95	94	138	191
Sao Tome and Principe*	4	7	9	23	31	72
Saudi Arabia	4,626	5,983	7,432	7,955	9,295	13,791
Senegal*	144	174	250	311	431	543
Serbia*	799	907	1,019	1,056	1,144	1,547
Seychelles	129	154	243	268	389	559
Sierra Leone	6	23	36	35	45	66
Singapore	3,842	5,281	8,339	10,927	18,146	20,416
Sint Maarten	322	476	628	611	685	906
Slovakia	433	665	1,774	1,653	2,474	3,193
Slovenia	958	1,158	2,122	1,983	2,645	3,182
Solomon Islands	1	6	22	29	55	81
South Africa	2,126	2,853	7,772	6,450	8,860	9,996
Spain	25,368	32,680	57,265	51,930	67,189	81,250
Sri Lanka	166	267	420	1,091	1,208	4,381
Palestine	14	92	237	237	354	615
Sudan	2	8	147	340	772	1043
Suriname	2	14	51	45	68	95
Sweden	3,471	4,237	8,072	7,961	10,376	14,926
Switzerland	6,652	8,458	11,486	12,090	16,148	17,842

Syrian Arab Republic*	773	1,031	1,258	1,939	2,025	6,190
Taiwan	2,977	3,713	5,175	7,388	11,906	14,614
Tajikistan*	1	1	2	3	3	9
Tanzania	339	587	1,055	1,148	1,755	2,449
Thailand	6,174	7,890	14,729	20,893	31,696	60,225
Timor Leste*	14	20	26	36	51	78
Togo*	7	13	21	52	105	138
Tonga	6	10	16	22	37	51
Trinidad and Tobago	77	212	390	341	451	531
Tunisia	1,236	1,573	1,789	1,932	2,239	2,953
Turkey	4,957	9,459	18,967	17,279	23,787	29,552
Turkemnistan*	7	14	20	20	27	33
Turks and Caicos Islands*	571	584	619	653	706	787
Uganda	78	165	389	532	946	1,135
Ukraine	191	528	1,353	2,151	3,629	5,768
United Kingdom	20,487	22,902	33,982	34,471	43,873	51582
United States	74,834	86,594	112,089	129,116	165,596	214680
Uruguay	345	611	784	1,220	1,995	2,559
Uzbekistan*	22	27	47	201	116	1,144
Vanuatu	45	56	106	145	231	295
Venezuela*	331	562	722	699	848	1,030
Yemen*	38	71	139	376	831	1,161
Zambia*	29	82	499	390	588	742
Zimbabwe*	118	149	161	155	172	177

Note : Data are available from 1995 to 2018 expect for Benin (1995-2017), Bhutan (2006-2018), Bonaire (1995-2009), Bosnia and Herzegovina (1998-2018), Brunei Darussalam (2001-2009;2012-2018), Burkina Fasso (2000-2017), Comoros (2005-2012;2014-2018), Congo (1995-2016), Côye d'ivoire (1995-2017), Curacao (2007-2018), French Polynesia (2002-2016), Gabon (1995-2005;2007-2018), Gambia (1995-1997;2003-2018), Gerogia (1997-2018), Guinea (1995-2001; 2007-2018), Guinea-Bissau (1997;2001-2018), Iran (1995-2017); Iraq (1995-2002;2005-2018), Kenya (1995-2017), Kiribati (2006-2017), Lebanon (2002-2018), Libya (1995-2010), Macao (2002-2018), Mali (1995-2017), Marshall Islands (2005-2018), Mauritania (1995-1999;2012-2018), Micronesia (2009-2015), Montenegro (2007-2018), New Caledonia (1995-2017), Niger (1995-2017), Palau (1998-2017), Papua New Guinea (1995-2017), Qatar (1999-2006;2011-2018), Sao Tome and Principe (1998-2018), Senegal (1995-2017), Serbia (2007-2018), Syrian Arab Republic (1995-2011), Tajikistan (2002-2018), Timor Leste (2006-2018), Togo (1995-2017), Turkemnistan (1996-1997), Turks and Caicos Islands (2014-2018), Uzbekistan (2000-2010;2016-2018), Venezuela (1995-2016), Yemen (1995-2016), Zambia (1997-2018) and Zimbabwe (2009-2017)
Source : UNWTO

The United States dominates in world inbound tourists' expenditure with 129,116 millions of dollars, following by Spain with 51,930 millions of dollars, France with 45,608 millions of dollars and Italy with 36,744 millions of dollars.

The following tables display for some countries of destination the origin of their travel credits.

France

Table 22: Descriptive statistics on French annual travel credits in millions of 2018 US dollars from 2010 to 2018

	Min	1st Qu.	Median	Mean	3rd Qu.	Max
Argentina	154	190	230	230	248	349
Australia	844	977	1,039	1,010	1,071	1,139
Austria	268	417	458	479	562	731
Belgium	5,877	6,307	6,464	6,696	7,129	7,819
Brazil	779	1,003	1,114	1,126	1,299	1,386
Bulgaria	19	26	36	37	46	61
Canada	867	911	960	966	998	1,144
Chile	79	83	91	97	108	126
China	663	821	2,326	2,612	4,531	4,784
Chinese Taipei	57	71	79	89	104	146
Croatia	16	24	30	31	40	47
Cyprus	7	10	19	20	29	36
Czech Republic	72	133	146	163	183	315
Denmark	302	433	477	486	547	681
Egypt	27	41	57	61	78	110
Estonia	4	12	22	26	30	65
Finland	112	115	139	140	158	174
Germany	4,718	5,553	7,606	7,202	8,730	9,288
Greece	79	86	96	94	102	107
Hong Kong (China)	67	783	86	111	48	190
Hungary	45	66	86	86	98	143
Iceland	6	8	11	20	25	54
India	118	171	291	262	313	410
Indonesia	49	51	57	66	61	139
Ireland	289	326	373	390	393	649
Italy	3,608	3,813	4,043	4,006	4,147	4,505
Japan	388	498	880	1,005	1,344	1,932
Korea	90	110	142	196	294	352
Latvia	13	19	31	40	63	78
Liechtenstein	2	3	7	13	14	42
Lithuania	19	19	20	24	27	42
Luxembourg	499	751	802	789	842	994

Malaysia	51	64	81	88	115	134
Malta	8	12	22	26	41	47
Mexico	208	241	270	342	471	543
Morocco	495	531	559	566	588	659
Netherlands	1,833	2,198	2,987	2,938	3,555	4,236
New Zealand	86	106	127	126	148	165
Nigeria	15	23	28	34	39	71
Norway	191	227	285	295	357	417
Philippines	39	42	49	57	62	104
Poland	191	226	243	254	272	328
Portugal	474	618	650	648	692	819
Romania	115	144	154	169	197	246
Russia	492	642	718	723	847	888
Singapore	49	65	92	98	115	176
Slovak Republic	11	19	23	268	33	49
Slovenia	18	30	45	55	80	109
Spain	2,997	3,113	3,209	3,445	3,386	5,000
Sweden	363	398	434	450	476	629
Switzerland	4,029	4,574	5,062	5,125	5,356	6,668
Thailand	54	68	84	102	122	215
Turkey	90	132	167	181	208	356
United Kingdom	6,011	6,158	6,253	6,341	6,482	6,817
United States	2,711	2,866	3,457	3,495	4,097	4,360
Uruguay	17	18	22	22	25	29
Venezuela	17	27	54	75	99	191

Reading : Argentine tourists spent on average a total of 230 millions of dollars per year in France.
Source : OECD

Italy

Table 23: Descriptive statistics on Italian annual travel credits in millions of 2018 US dollars from 2010 to 2018

	Min	1st Qu.	Median	Mean	3rd Qu.	Max
Argentina	155	243	404	376	434	631
Australia	906	1,185	1,250	1,212	1,261	1,384
Austria	1,683	1,874	2,059	1,978	2,092	2,226
Belgium	681	783	897	885	979	1,084
Brazil	401	531	703	674	812	879
Bulgaria	89	124	151	157	202	221
Canada	801	957	1,096	1,146	1,270	1,829

Chile	56	66	78	83	88	130
China	264	407	476	488	621	739
Chinese Taipei	9	21	25	27	34	44
Croatia	160	193	195	199	217	236
Cyprus	7	19	32	25	35	36
Czech Republic	502	506	530	533	539	6025
Denmark	385	401	463	454	473	527
Egypt	22	45	59	57	73	83
Estonia	27	28	39	37	44	46
Finland	155	165	193	194	220	242
France	3,648	3,981	4,082	4,166	4,337	5,094
Germany	6,065	6,325	6,806	6,848	7,171	8,378
Greece	173	194	247	255	289	385
Hong Kong (China)	28	42	56	60	80	94
Hungary	177	200	240	244	282	345
Iceland	4	6	12	13	13	40
India	208	286	319	324	323	513
Indonesia	16	16	22	25	29	46
Ireland	262	270	286	317	350	441
Japan	715	742	968	923	1,034	1,155
Korea	64	94	106	113	136	174
Latvia	34	50	55	59	74	89
Liechtenstein	10	5	7	9	15	16
Lithuania	64	91	102	97	111	122
Luxembourg	71	79	83	94	98	143
Malaysia	23	33	38	39	40	60
Malta	48	55	58	63	68	84
Mexico	109	151	174	164	181	195
Morocco	16	29	45	47	58	82
Netherlands	1,145	1,235	1,350	1,341	1,442	1,556
New Zealand	94	111	128	127	137	176
Nigeria	12	19	29	28	34	50
Norway	193	245	275	275	309	338
Philippines	17	22	27	26	29	37
Poland	718	736	823	799	845	880
Portugal	144	209	224	209	228	229
Romania	381	398	460	459	490	584
Russia	918	1,099	1,215	1,308	1,530	1,809
Singapore	25	42	46	57	63	112
Slovak Republic	175.1	198	244	242	281	313

Slovenia	184	221	229	255	264	381
Spain	1,269	1,479	1,512	1,572	1,800	1,871
Sweden	344	400	412	415	418	577
Switzerland	2,586	2,611	2,824	2,799	2,877	3,028
Thailand	14	23	25	33	47	55
Turkey	159	199	215	210	232	251
United Kingdom	2,720	3,100	3,206	3,271	3,413	4,189
United States	3,957	4,658	5,045	4,976	5,313	5,938
Uruguay	11	15	18	19	24	25
Venezuela	10	56	71	62	77	105

Source : OECD

Luxembourg

Table 24: Descriptive statistics on Luxembourg annual travel credits in millions of 2018 US dollars from 2010 to 2018

	Min	1st Qu.	Median	Mean	3rd Qu.	Max
Argentina	1	1	1	1	1	1
Australia	1	2	2	2	3	3
Austria	6	6	7	12	8	32
Belgium	1,126	1,139	1,321	1,270	1,330	1,462
Brazil	2	3	3	3	3	4
Bulgaria	1	1	2	2	3	4
Canada	3	3	4	4	4	4
China	8	11	13	13	14	15
Chinese Taipei	1	1	1	1	1	1
Croatia	1	1	1	1	1	2
Cyprus	1	1	1	1	1	1
Czech Republic	2	2	23	3	3	4
Denmark	19	20	21	21	22	27
Estonia	1	1	1	1	1	1
Finland	2	2	3	3	3	3
France	1,475	1,568	1,735	1,710	1,839	1,956
Germany	956	987	1,127	1,101	1,168	1,291
Greece	3	3	3	3	3	5
Hong Kong (China)	1	1	1	1	1	1
Hungary	2	2	3	23	3	4
Iceland	1	1	1	1	1	1
India	4	5	8	7	8	9

Ireland	3	3	4	4	4	5
Italy	15	18	19	20	23	25
Japan	3	3	3	4	4	5
Korea	1	1	1	1	1	1
Latvia	1	1	1	1	1	1
Lithuania	1	1	1	1	1	1
Malaysia	1	1	1	1	1	1
Malta	1	1	1	1	1	1
Mexico	1	1	1	1	1	1
Morocco	1	1	1	1	1	1
Netherlands	197	224	236	231	246	259
Norway	1	1	2	2	2	3
Poland	8	9	10	9	10	11
Portugal	10	11	12	12	13	17
Romania	4	4	6	5	7	7
Russia	4	5	5	6	7	8
Singapore	1	1	1	1	1	1
Slovak Republic	1	1	1	1	1	1
Slovenia	1	1	1	1	1	1
Spain	12	12	13	13	14	16
Sweden	5	6	6	6	6	8
Switzerland	11	13	13	13	14	17
Thailand	1	1	1	1	1	1
Turkey	3	3	5	5	6	7
United Kingdom	129	132	150	147	161	165
United States	5	20	21	20	23	25

Source : OECD

Spain

Table 25: Descriptive statistics on Spanish annual travel credits in millions of 2018 US dollars from 2010 to 2018

	Min	1st Qu.	Median	Mean	3rd Qu.	Max
Belgium	2,092	2,126	2,216	2,279	2,384	2,612
France	8,409	8,675	9,354	9,494	10,310	10,772
Germany	9,277	9,941	10,820	10,425	10,870	11,096
Italy	2,722	2,789	2,917	2,932	3,010	3,247
Netherlands	2,845	2,912	3,074	3,261	3,540	4,016
Portugal	1,094	1,126	1,200	1,303	1,481	1,648

United Kingdom	12,444	13,453	14,044	14,276	15,042	16,491

Source : OECD

United Kingdom

Table 26: Descriptive statistics on British annual travel credits in millions of 2018 US dollars from 2010 to 2018

	Min	1st Qu.	Median	Mean	3rd Qu.	Max
Argentina	74	91	98	135	140	288
Australia	1,643	1,865	1,948	1,990	2,074	2,339
Austria	227	252	272	266	284	292
Belgium	501	532	674	638	700	761
Brazil	280	386	494	465	558	558
Bulgaria	104	146	150	168	189	246
Canada	944	968	1,005	1,054	1,076	1,263
Chile	36	38	47	70	97	138
China	1,147	1,363	1,524	1,828	2,436	2,746
Chinese Taipei	37	41	48	84	138	172
Croatia	36	38	44	64	93	98
Cyprus	242	246	283	294	338	356
Czech Republic	229	243	294	290	309	386
Denmark	422	521	670	650	769	862
Egypt	104	120	145	155	194	208
Estonia	37	40	44	46	46	68
Finland	172	195	229	221	240	255
France	1,989	2,166	2,386	2,374	2,587	2,695
Germany	2,100	2,324	2,580	2,496	2,680	2,746
Greece	196	242	269	262	283	309
Hong Kong (China)	389	442	577	565	608	768
Hungary	104	147	151	179	188	294
Iceland	36	38	46	69	93	144
India	861	981	1,044	1,119	1,305	1,473
Indonesia	74	92	93	96	98	138
Ireland	1,443	1,540	1,602	1,598	1,614	1,873
Italy	2,801	3,126	3,864	3,745	3,916	5,118
Japan	348	360	429	424	457	532
Korea	206	309	339	458	454	1,381
Latvia	93	104	138	130	148	160
Lithuania	104	188	191	188	199	247

Luxembourg	36	38	45	64	93	98
Malaysia	308	344	429	459	585	668
Malta	68	77	93	109	97	288
Mexico	68	138	145	142	152	198
Morocco	35	40	93	86	135	151
Netherlands	1,429	1,485	1,681	1,626	1,730	1,862
New Zealand	222	255	314	320	333	484
Nigeria	543	545	562	565	564	609
Norway	593	680	905	828	967	1028
Philippines	36	44	47	56	74	93
Poland	626	765	926	887	991	1,117
Portugal	177	202	229	251	294	386
Romania	202	283	403	459	619	926
Russia	293	336	539	481	606	643
Singapore	312	360	439	452	458	722
Slovak Republic	74	92	97	105	138	138
Slovenia	36	38	44	42	47	48
Spain	1,436	1,562	1,726	1,674	1,770	1,946
Sweden	771	962	1,036	1,049	1,158	1,342
Switzerland	629	763	857	896	956	1,389
Thailand	188	242	283	288	342	356
Turkey	242	314	360	363	405	481
United States	3,919	4,614	5,302	5,248	5,923	6,673
Uruguay	45	45	45	45	45	45
Venezuela	37	38	42	43	49	49

Source : OECD

Germany

Table 27: Descriptive statistics on German annual travel credits in millions of 2018 US dollars from 2010 to 2018

	Min	1st Qu.	Median	Mean	3rd Qu.	Max
Austria	2,515	2,644	2,898	2,880	3,054	3,227
Belgium	1,276	1,402	1,424	1,451	1,533	1,560
Bulgaria	283	315	341	347	367	433
Croatia	60	73	84	86	93	120
Czech Republic	552	675	803	790	858	1,075
Denmark	1,680	1,725	1,950	1,913	2,085	2,112
Egypt	44	48	56	56	64	70

France	2,932	3,138	3,245	3,280	3,518	3,589
Greece	251	263	304	304	332	372
Hungary	150	189	206	207	223	269
Italy	1,324	1,411	1,553	1,536	1,661	1,694
Luxembourg	659	681	701	711	746	760
Netherlands	3,794	3,902	4,425	4,331	4,722	4,848
Norway	252	275	302	301	330	343
Poland	1,400	1,801	2,086	2,112	2,327	2,847
Portugal	226	241	266	267	280	332
Slovenia	81	91	100	95	102	103
Spain	1,118	1,142	1,195	1,219	1,274	1,367
Sweden	716	729	742	743	757	773
Switzerland	3,739	4,054	4,271	4,237	4,489	4,561
Turkey	223	275	307	299	324	351
United Kingdom	1,481	1,497	1,616	1,638	1,669	1,952
United States	2,488	2,569	2,687	2,680	2,780	2,896

Source : OECD

The United States

Table 28: Descriptive statistics on American annual travel credits in millions of 2018 US dollars from 2010 to 2018

	Min	1st Qu.	Median	Mean	3rd Qu.	Max
Argentina	557	940	1,724	1,812	2,531	3,709
Australia	1,403	1,986	3,797	4,509	7,166	8,571
Austria	389	511	561	558	619	696
Bahrain	12	31	37	41	58	67
Belgium	412	546	667	667	804	908
Bermuda	31	49	62	91	151	197
Brazil	1,285	2,025	3,968	5,112	7,934	10,642
Indian British Ocean Territory	146	147	159	163	180	195
Brunei Darussalam	40	70	70	7	90	90
Bulgaria	91	118	132	127	139	141
Canada	7,733	9,433	15,272	14,473	18,030	22,219
Chile	271	390	518	676	866	1,408
China	1,700	2,213	5,606	11,912	20,362	32,828
Chinese Taipei	1,363	1,717	1,843	1,868	2,147	2,253
Colombia	1,471	1,608	1,828	2,096	2,673	2,862
Costa Rica	363	393	453	555	710	905
Croatia	38	48	71	67	85	97

Cyprus	26	28	32	36	44	51
Czech Republic	202	259	291	297	345	396
Denmark	618	804	911	910	1,059	1,174
Dominican Republic	526	574	650	694	757	1,005
El Salvador	244	255	300	388	577	660
Estonia	36	47	52	66	102	110
Finland	263	345	382	384	436	477
France	1,875	2,507	3,330	3,425	4,412	5,132
Germany	3,205	3,832	5,421	5,102	6,127	7,180
Greece	172	193	208	238	291	335
Guatemala	502	584	698	702	810	916
Honduras	312	333	385	454	589	684
Hong Kong (China)	566	726	793	762	835	863
Hungary	165	195	220	228	274	314
India	1,443	2,864	5,590	6,067	7,598	14,407
Indonesia	408	516	548	644	824	1,009
Ireland	1,031	1,179	1,316	1,389	1,582	1,845
Israel	619	943	1,053	1,064	1,172	1,371
Italy	1,178	1,694	2,341	2,219	2,624	3,286
Japan	9,082	10,268	11,003	11,160	11,605	14,818
Jordan	65	75	97	149	246	256
Korea	1,811	2,808	4,775	5,188	7,034	9,871
Latvia	41	52	58	63	83	85
Lithuania	46	49	56	70	94	113
Luxembourg	48	58	65	64	69	89
Malaysia	249	349	412	483	646	772
Malta	12	15	16	17	19	22
Mexico	9,131	12,354	14,186	13,831	15,303	17,884
Morocco	99	109	123	145	185	204
Netherlands	729	1,051	1,320	1,396	1,667	2,086
New Zealand	309	473	571	717	909	1,371
Nicaragua	102	109	127	149	202	216
Nigeria	371	567	678	868	1,319	1,362
Norway	335	416	750	813	1,227	1,428
Oman	11	13	14	67	136	172
Panama	281	306	349	401	494	564
Peru	459	496	567	690	956	996
Philippines	568	728	832	886	976	1,359
Poland	339	423	477	501	598	698
Portugal	215	269	296	321	373	452

Romania	150	213	231	234	252	296
Russia	684	924	1,172	1,111	1,237	1,541
Saudi Arabia	206	447	817	1,577	2,966	4,144
Singapore	407	539	758	722	922	1,019
Slovak Republic	93	96	115	118	145	154
Slovenia	41	50	57	60	69	81
Spain	629	928	1,688	1,534	2,106	2,309
Sweden	515	752	1,140	1,158	1,517	1,861
Switzerland	787	933	1,416	1,399	1,747	2,058
Thailand	445	508	594	592	682	707
Turkey	599	751	967	934	1,103	1,159
United Kingdom	8,284	9,455	10,148	10,511	11,658	13,427
Venezuela	991	1,632	2,047	2,012	2,378	3,305
Viet Nam	436	685	757	915	1,195	1,587

Source : OECD

A.2 Average per traveller spending

A.2.1 Average per capita travel spending over the 1995-2018 period (UNWTO data)

I use only UNWTO data on travel expenditure and on arrivals of inbound visitors at national border. It has the advantage to provide data for more than 200 countries of destination. For each country of destination and each year, I compute average per capita expenditures over the period as follows :

$$\frac{\text{Travel expenditure by inbound visitors}}{\text{Total of arrivals of non-resident visitors at national borders}}$$

This gives a rough approximation of average per capita expenditure per country of destination. Travel expenditure by inbound visitors from UNWTO data includes passenger transport services - which don't be eligible to VAT refund. But it gives a first approximation of travel per capita expenditure by inbound visitors, that is the value that visitors spend on average in the country when visiting it for more than 200 countries. Note that for some countries, arrivals of excursionists are not available, arrivals of visitors include therefore only arrivals of tourists. I mention it with a * next to the country name on Table 29 and on Figure 11. In these cases, average per capita expenditure may be overestimated. Besides, for some countries, data are lacking for some years, see Table 29 on Appendix A for more details.

Table 29: Average per capita travel expenditure from 1995 to 2018

Country	Period	Average per capita spending (in dollars)
Lebanon*	2002-2018	4,544
Luxembourg*	1995-2018	3,767
Australia	1995-2018	3,536
New Zealand	1995-2018	2,271
French polynesia	2007-2018	2,184
Moldova	1995-2018	2,107
Comoros*	2005-2012;2014-2018	2,032
Bosnia and Herzegovina*	1995-2018	1,738
Solomon Islands*	1995-1998;2000;2003-2018	1,664
Israel	1995-2002;2004-2018	1,627
India	1995-2000	1,611
Maldives*	1995-2018	1,536
Taiwan	1995-2018	1,457
Switzerland*	1995-2018	1,446
Madagascar*	1995-2018	1,426
Tanzania	2006-2009	1,407
Sweden*	1995-2014	1,391
Seychelles	1995-2018	1,357
Colombia	1995-2008-2012	1,264
Japan	1995-2018	1,261
Belgium*	1995-2018	1,255
Germany*	1995-2018	1,227
Korea	1995-2004;2006-2018	1,194
Qatar*	1999-2006;2011-2018	1,187
Sao Tome and Principe*	1998-2011;2015-2018	1,177
Mauritius	1995-2018	1,161
United Kingdom	1995-2018	1,128
Serbia*	1995-2018	1,127
United States	1995-2018	1,068
Panama	1995-2018	1,024
Indonesia	1995-2018	1,013
Iceland	1995-2018	,1001
Samoa	2006-2018	990
Mali*	1995-2017	975
Costa Rica	1995-2018	971
Netherlands*	1995-2018	955
Philippines*	1995-2018	954
Singapore	1995-2018	950
Venezuela	2010-2016	925

Cuba	1995-2018	924
Dominican Rep.	1995-2018	915
Ghana*	1995-2015	886
Cyprus	1995-2018	881
Sri Lanka	1995-2018	881
Bhutan*	2006-2018	866
Thailand	1995-2018	860
Aruba	1995-2018	845
Palau*	1995-2017	841
Argentina*	1995-2018	834
Macao	2002	821
Barbados	1995-2018	811
Egypt	1995-2018	803
Fiji	1995-2005;2007-2018	784
Bermuda	1995-2018	778
Brazil*	1995-2018	753
Armenia*	1995-2018	750
Austria*	1995-2018	749
Iraq	1995-2001; 2008-2013	738
Turkey	1995-2018	734
Uganda*	1995-2018	733
Sierra Leone	1995-2018	730
Marshall Islands*	2005-2012;2014-2018	726
Peru	1995-2018	721
Timor Leste*	2006-2018	721
Montserrat	1995-2018	718
Trinidad and Tobago	1995-2018	714
Yemen	2010-2015	709
Vanuatu	1995-2018	704
Anguilla	1995-2018	703
Albania	1995-2018	701
Guatemala	1995-2018	700
Ecuador	1995-2018	698
Sudan*	1995-2018	682
Guinea-Bissau*	2005-2016	678
New Caledonia	1995-2018	673
South Africa	1995-2018	670
Cabo Verde*	1995-2018	663
Morocco	1995-2018	650
Montenegro*	2007-2018	648
Micronesia*	2009-2015	637
Greece	1995-2006;2013-2018	634

Jamaica	1995-2018	631
Niger*	1995-2017	627
Ethiopia*	1995-2018	622
Bonaire	1995-2018	616
Iran	1995-1998;2007-2017	615
Norway	1998-2011	592
Hong Kong	1995-2018	577
Chile*	1995-2018	567
Cambodia*	1995-2018	565
Guyana*	1995-2018	563
Spain	1995-2018	562
Congo*	1995-2016	558
Ireland*	1995-2018	552
Malta	1995-2018	548
Gambia*	1995-1997; 2003-2018	546
Curacao	2007-2018	530
Italy	1995-2018	528
Antigua and Barbuda	1995-2018	520
Nepal*	1995-2018	510
Kenya	1995-2017	505
Oman	2001-2018	493
Turks and Caicos Islands	2014-2018	490
Saint Lucia	1995-2018	487
Saudi Arabia	2004-2018	486
North Macedonia*	1995-2018	482
Cote d'ivoire	2007-2017	480
Zambia*	1997-2018	468
Jordan	1995-2018	466
St Vincent and the Grenadines	1995-2018	464
Azerbajian	1995-2018	463
Bolivia*	1995-2018	462
Cameroon*	1995-2002;2004-2005;2008-2012	461
Finland	1995-2018	448
Canada	1995-2018	445
Uruguay	1995-2018	440
Mongolia	1995-2018	435
Senegal	2003-2017	423
Bahamas	1995-2018	422
Grenada	1995-2018	420
Honduras	1996-2017	388
Kazakhstan	1995-2018	387
Syrian Arab Republic	1995-2011	385

Georgia	1997-2018	372
Tonga	1995-2018	372
Bangladesh*	1995-2017	371
Namibia	1995-2017	362
Burkina Faso*	2000-2017	360
Malaysia	1995-2009	358
Sint Maarten	1995-2018	352
Haiti	1995-2018	351
Russia	1995-2018	340
Myanmar*	1995-2018	335
Tunisia	1995-2011	331
El Salvador	2000-2018	324
Kiribati	2006-2008;2014-2017	310
Bulgaria	1995-2018	305
Djibouti*	1995-2013	300
Suriname	1995-2001;2006-2017	291
Togo*	1995-2017	291
Benin	1995-2008;2011-2017	289
Nicaragua	1995-2018	282
France	2004-2018	270
Saint kitts and nevis	1995-2018	270
Belize	1995-2018	269
China	1995-2018	268
Pakistan*	1995-2012	267
Rwanda	1995-2018	267
Dominica	1995-2018	265
Czech Republic	2003-2017	258
Libya	1995-2003;2006-2008	245
Portugal	1995-2006	245
Botswana	1995-2008;2016-2017	244
Denmark	2003-2018	241
Estonia	1995-2003;2008-2018	231
Lithuania	1995-2003;2007-2018	189
Palestine	1996-2000; 2007-2018	187
Bahrain	1995-2018	169
Brunei Darussalam	2001-2003;2005-2007;2017-2018	162
Croatia	1995-2018	149
Lao	1995-2018	147
Romania	1995-2018	147
Kyrgyzstan	1998-2018	134
Mexico	1995-2018	133
Guinea*	1996-2001;2007-2008;2010-2013;2014-2017	126

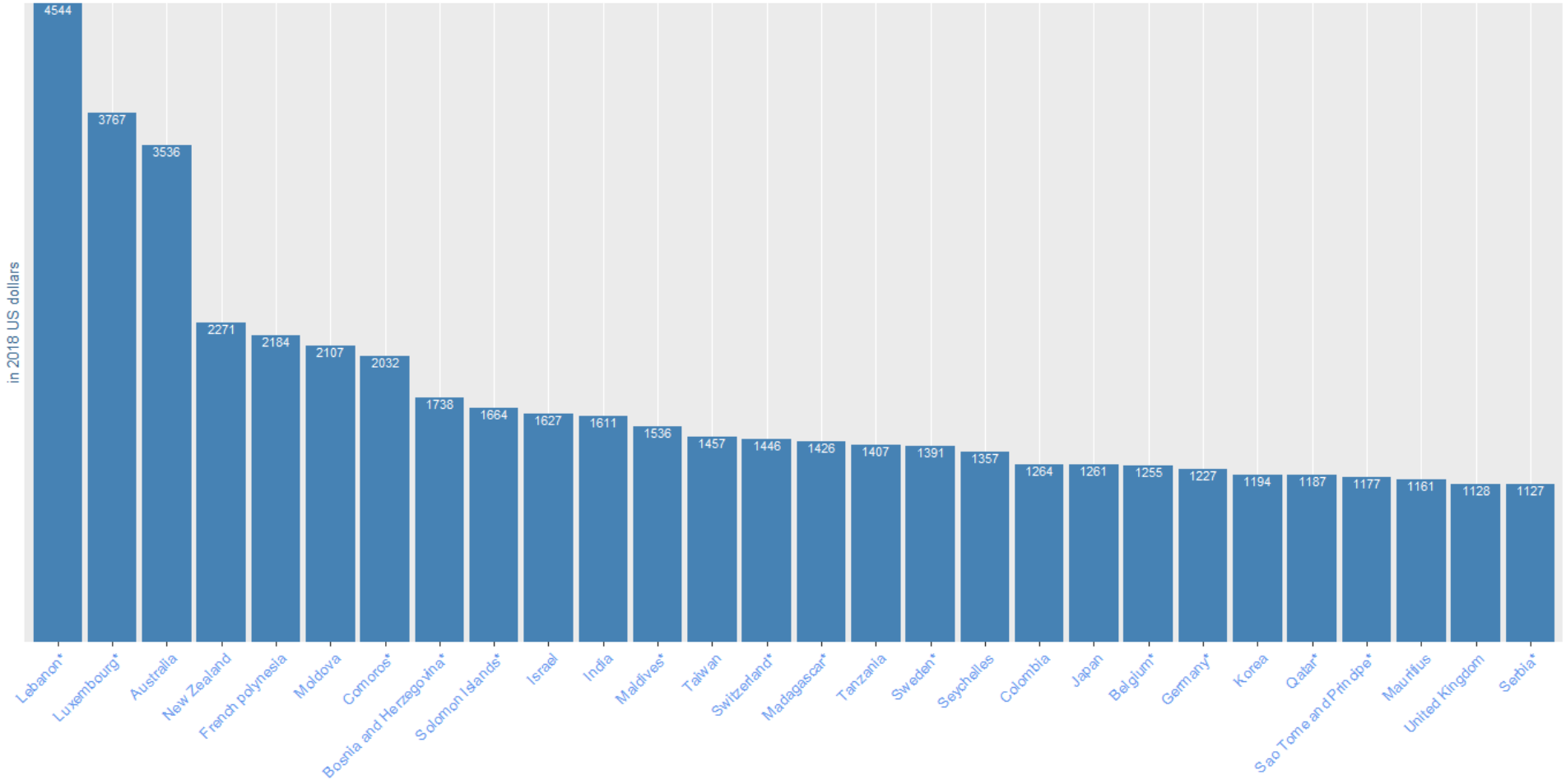
Poland	1995-2018	124
Hungary	1995-2018	120
Slovakia	2003-2016	118
Uzbekistan	2000-2010;2016-2018	117
Algeria	1995-2017	109
Latvia	1995-2018	109
Mozambique	2001-2018	107
Ukraine	1995-2017	105
Belarus	2000-2018	97
Zimbabwe	2009-2017	75
Malawi*	1995-2018	74
Nigeria	1995-2016	72
Lesotho	1995-2018	67
Kuwait	1995-2018	65
Turkemnistan	1996-1997	62
Gabon	1995-2005	61
Paraguay	1995-2018	44
Eswatini	1996-2003;2005-2018	25
Slovenia	1995-2007	22
Burundi*	1995-2017	18
Papua new guinea	2008-2017	15
Tajikistan	2008-2009	9

Reading : Over the 1995-2018 period, a traveller spent on average $ 4,544 during his stay in Lebanon.
*Note : There are no data on excursionists' arrivals for countries mentioned with a *. Figures include only tourists' arrivals.*
Source : UNWTO data

In the dataset, Lebanon knew the higher average per capita expenditure from its non-resident tourists over the period. They spent on average 4,544 US dollars during their trip in Lebanon. The four other countries having the higher per capita expenditure are the following : Luxembourg, Australia, New Zealand and French Polynesia. The high average per capita expenditure spent in Luxembourg can be surprising. But travel services credits for business purposes account for 50 % of total travel services exports. More precisely, 25 % of the total is made up of acquisitions of goods by seasonal, border and other short-term workers. Surprisingly, Spain is far behind while it ranks second in the world for travel credits over the same period. This concern is already expressed by the Bank of Spain in its bulletin spainb. The increase in the number of outbound tourist arrivals was not reflected in revenue. The average spending per tourist decreased.

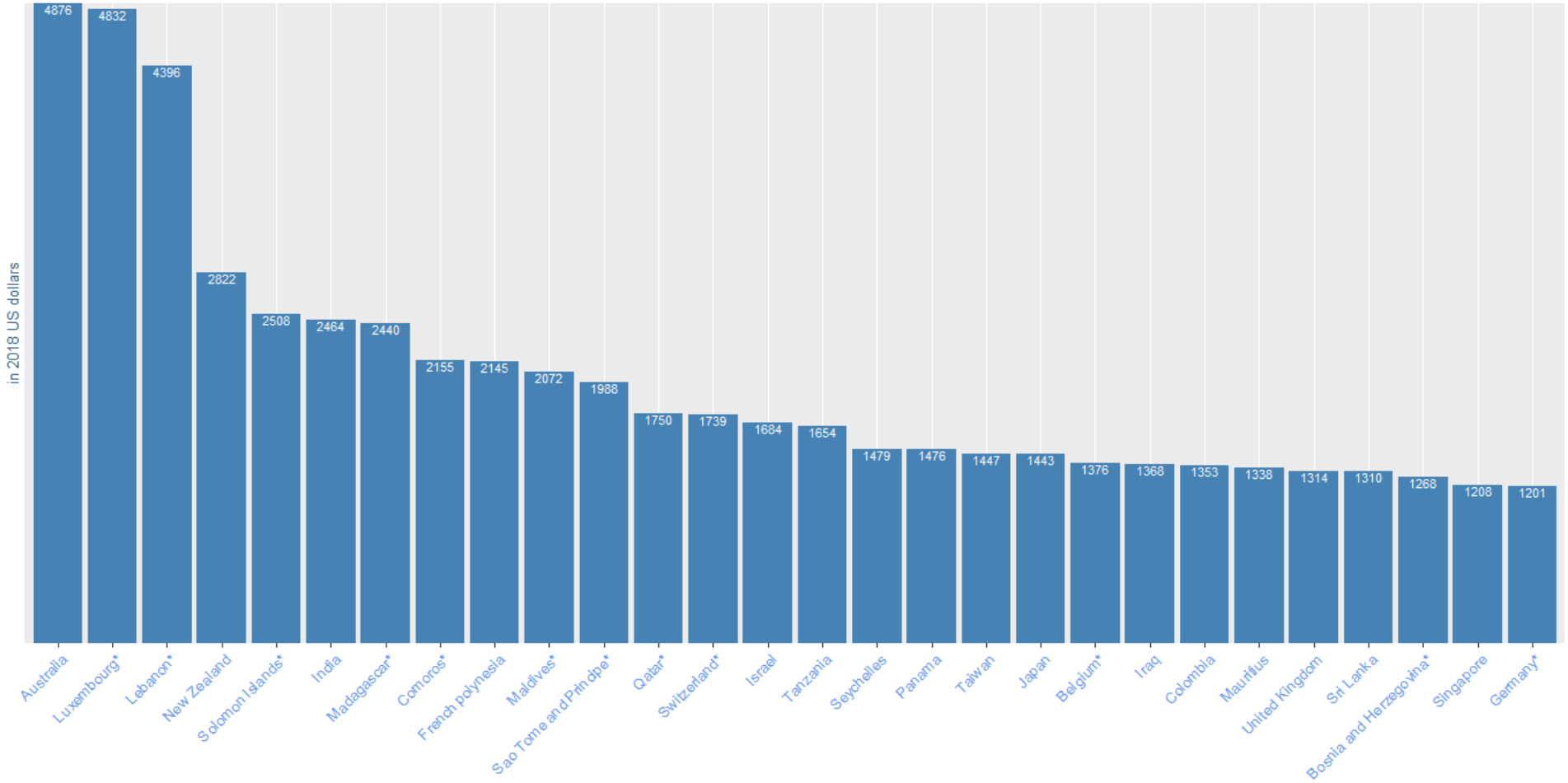
For the sake of comparison with OECD data, figure 12 displays the same graph that figure 11 but for the 2010-2018 period.

Figure 11: Average per capita travel expenditure per year from 1995 to 2018



Reading : Over the 1995-2018 period, each visitor spent in Australia $ 3,536 on average during their stay.
Source : UNWTO

Figure 12: Average per capita travel expenditure per year from 2010 to 2018

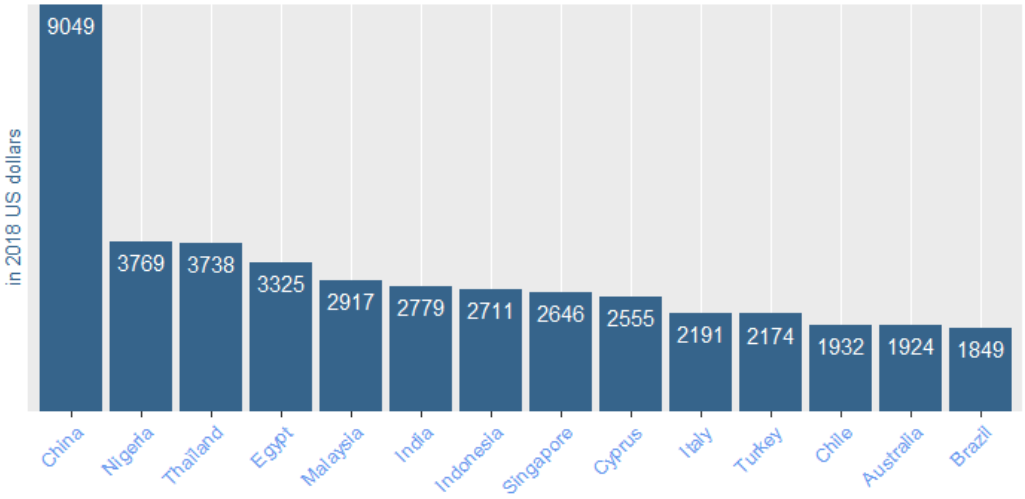


Reading : Over the 2010-2018 period, foreign travellers spent on average $ 4,876 in Australia.
Source : UNWTO

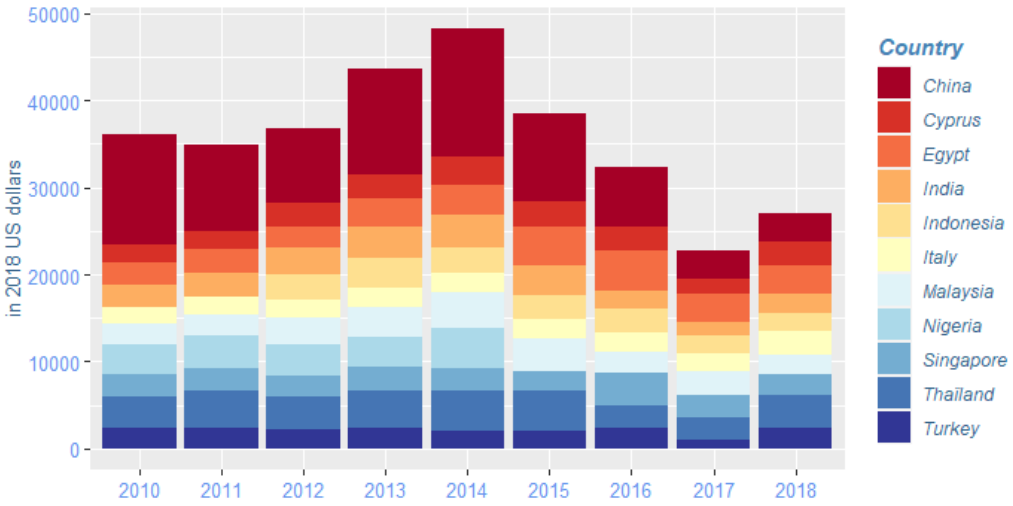
A.2.2 Average per capita travel spending by country of residence

Average per capita travel expenditure in Central European Union countries

Figure 13: Average per capita travel expenditure per year and its evolution by visitors in the United-Kingdom (2010-2018)



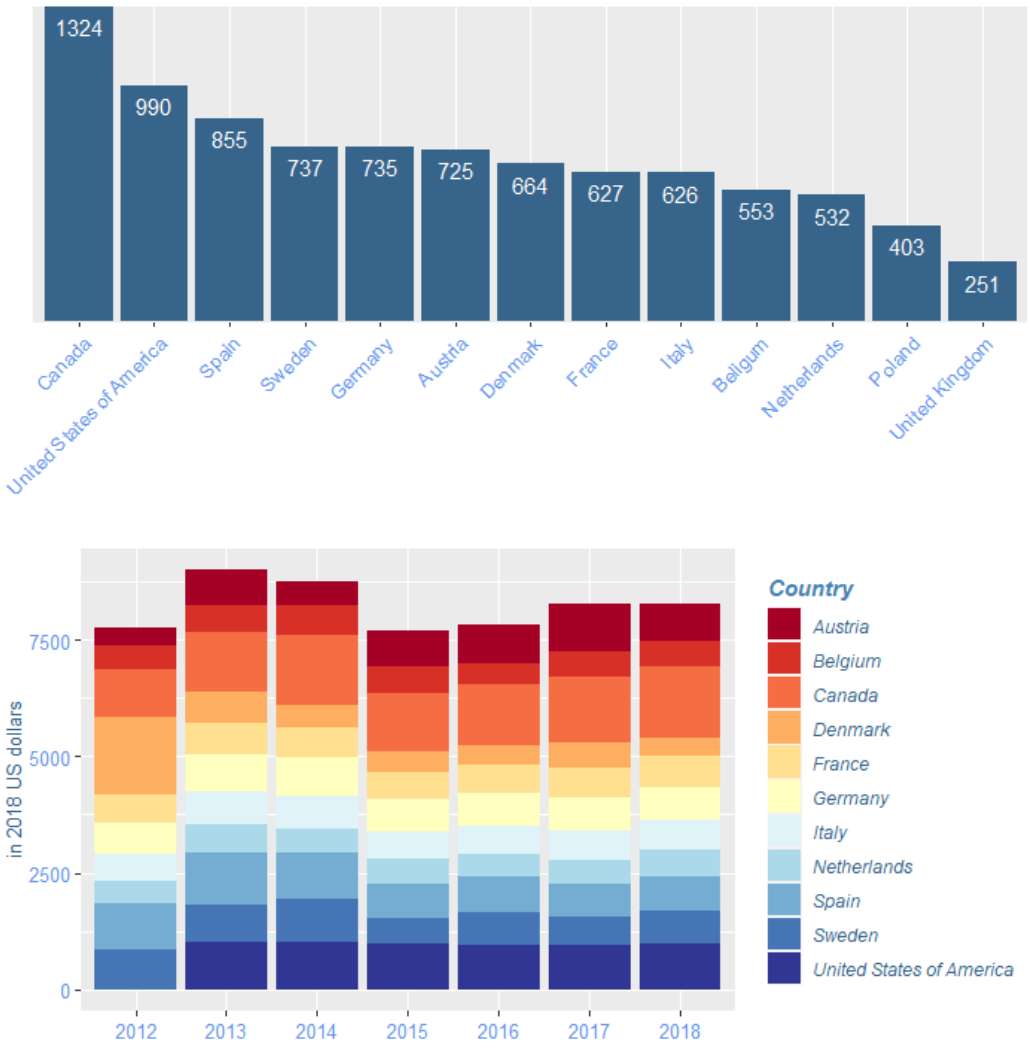
Reading : From 2010 to 2018, Chinese visitors spent on average $ 9,049 during their stay in the United-Kingdom.



Reading : In 2017 and 2018, Chinese travellers spent less than before during their stay in the United-Kingdom.

Source : UNWTO and OECD

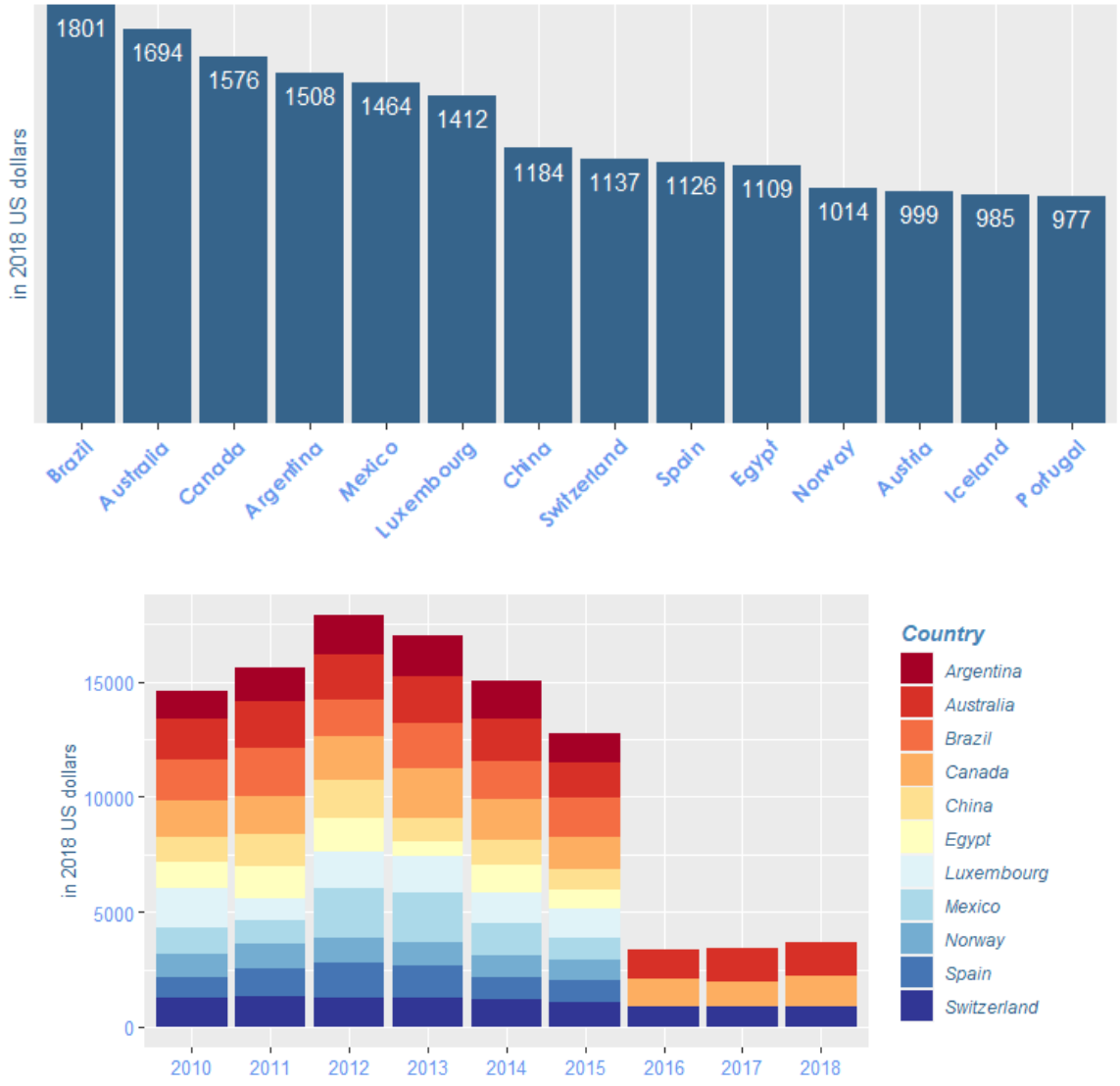
Figure 14: Average per capita travel expenditure per year and its evolution by visitors in Ireland (2012-2018)



Source : UNWTO and OECD

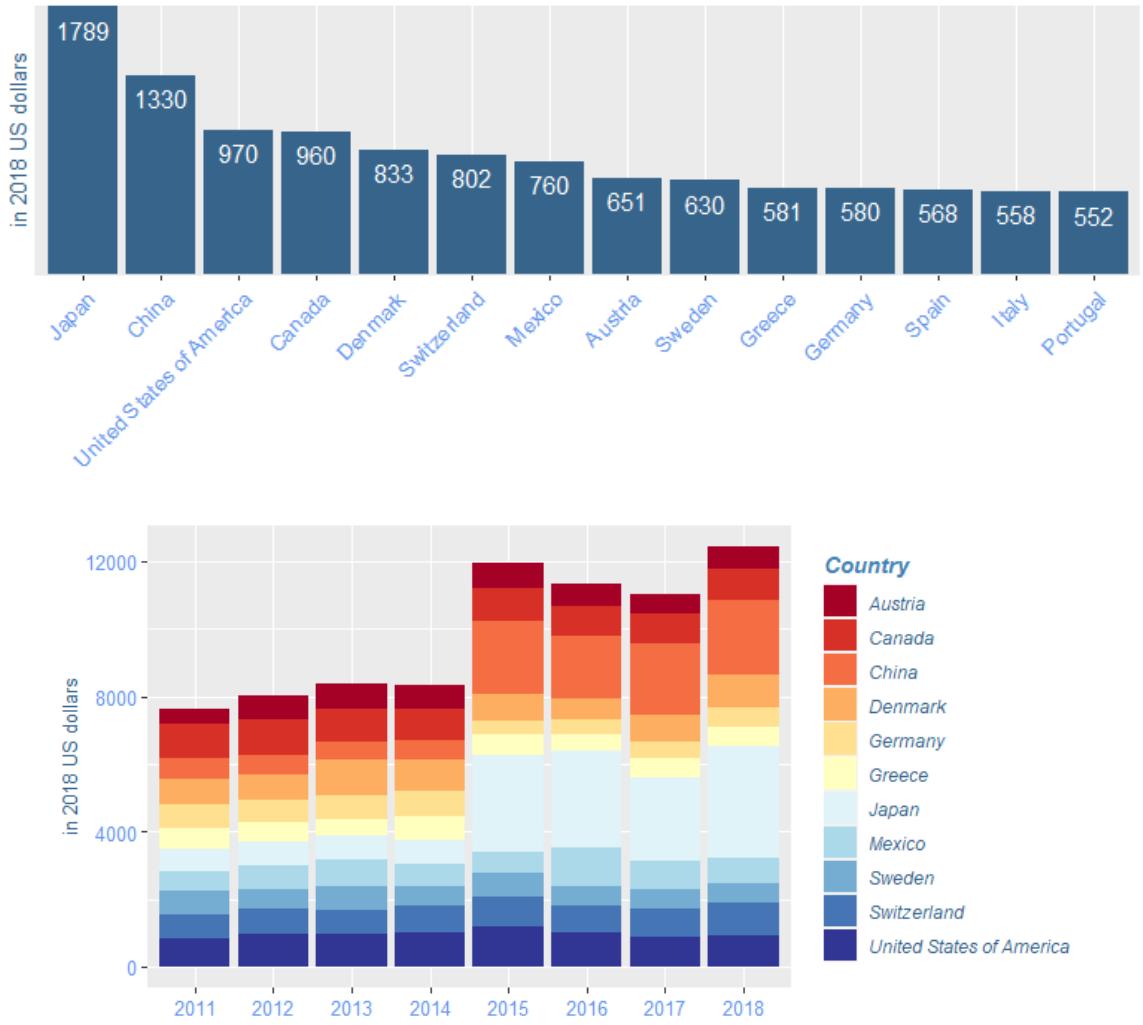
Average per capita travel expenditure in Southern European Union countries

Figure 15: Average per capita travel expenditure per year by visitors in Greece (2010-2018)



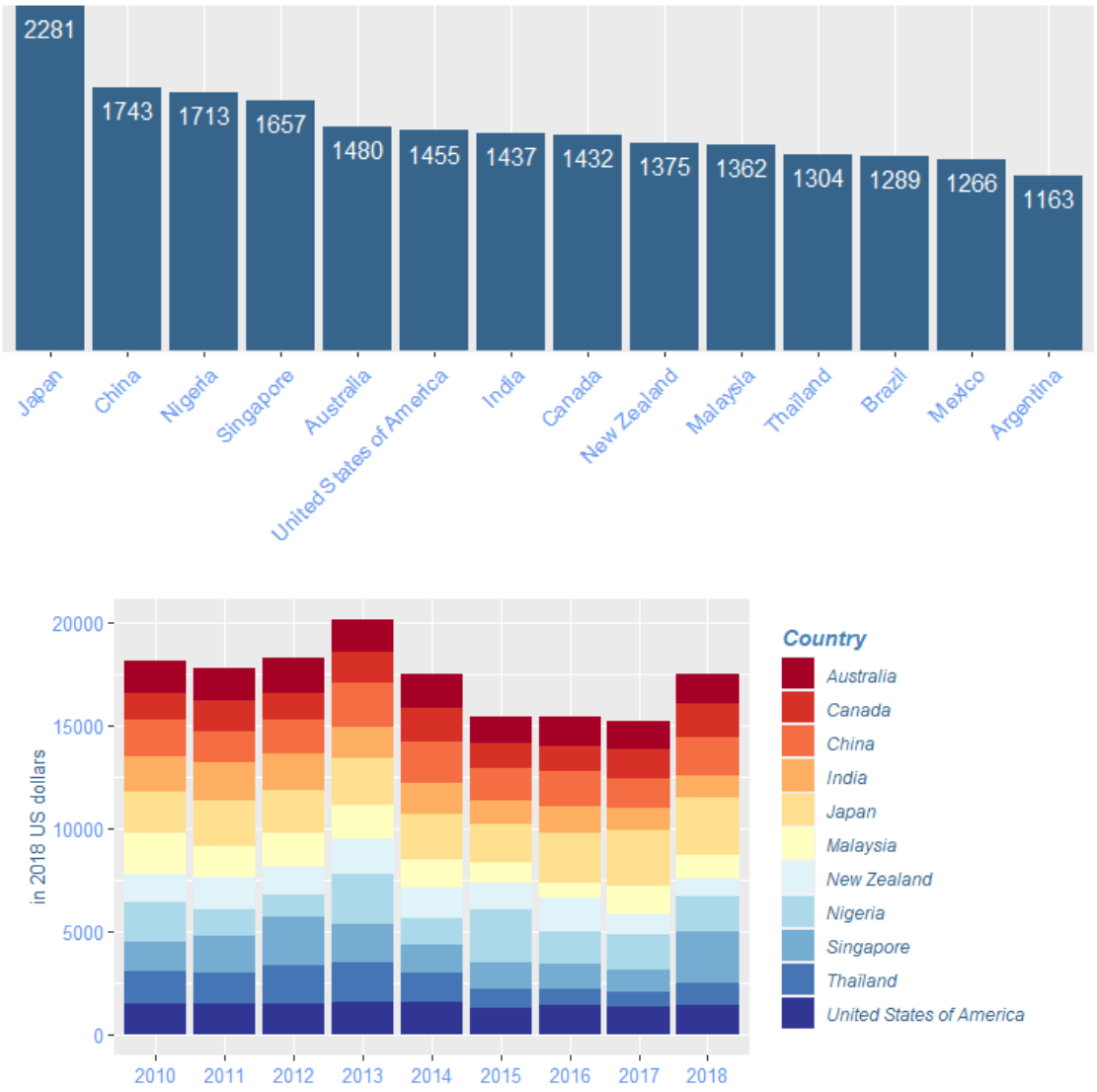
Source : UNWTO and OECD

Figure 16: Average per capita travel expenditure per year by visitors in France (2011-2018)



Source : UNWTO and OECD

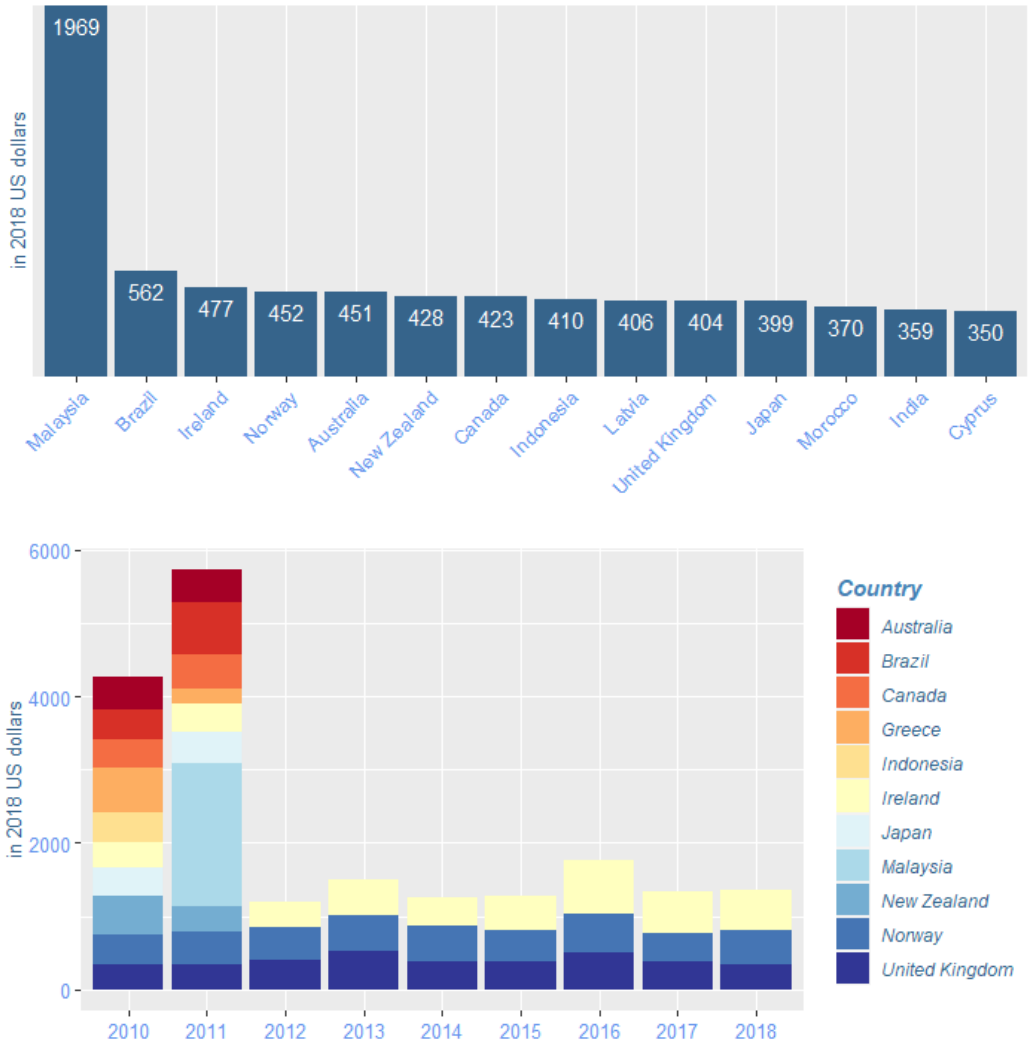
Figure 17: Average per capita travel expenditure per year by visitors in Italy (2010-2018)



Source : UNWTO and OECD

Average per capita travel expenditure in Northen European Union countries

Figure 18: Average per capita travel expenditure per year by visitors in Latvia (2010-2018)



Source : UNWTO and OECD

Figure 19: Average per capita travel expenditure by visitors in Lithuania (2010-2018)

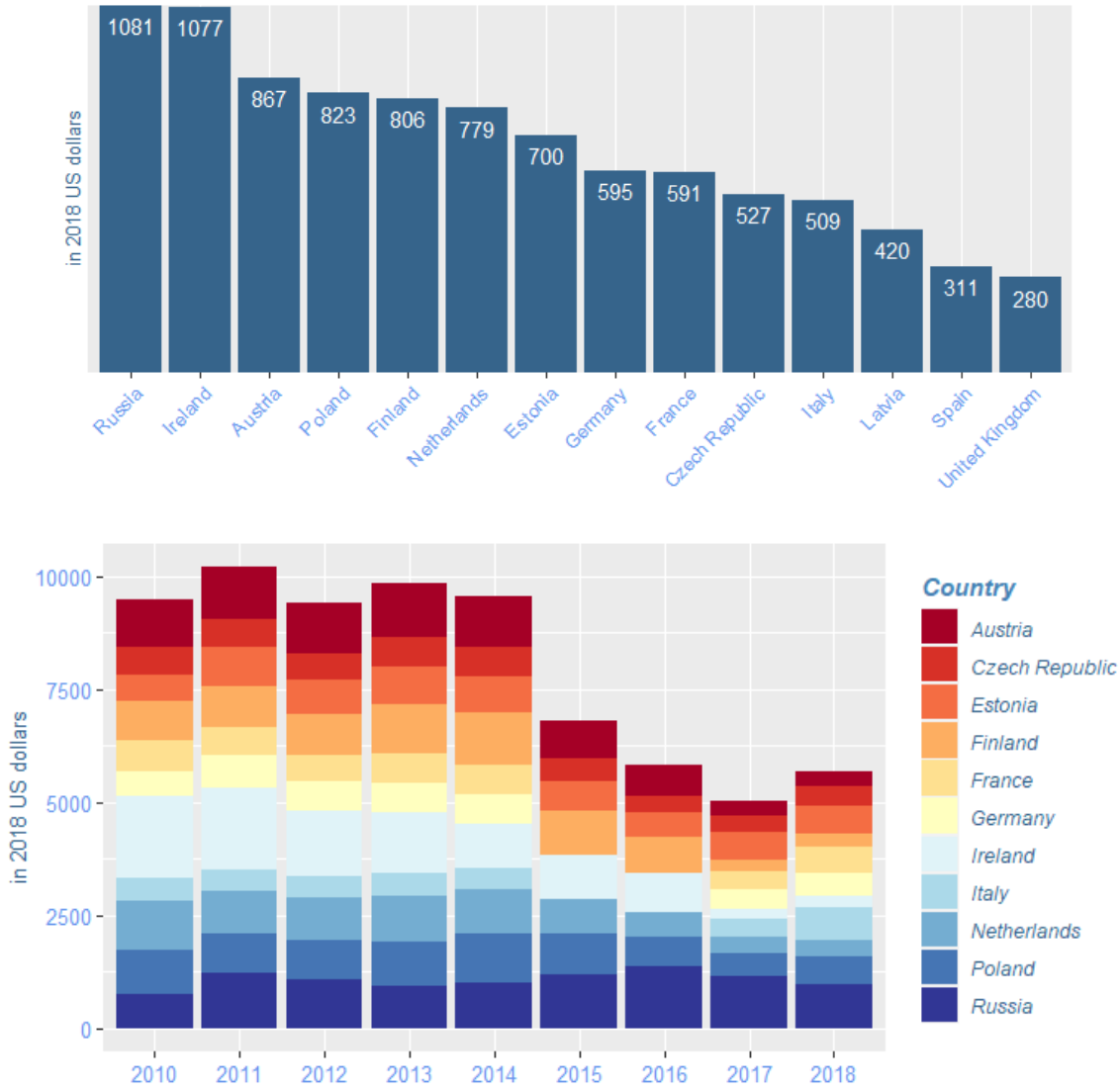
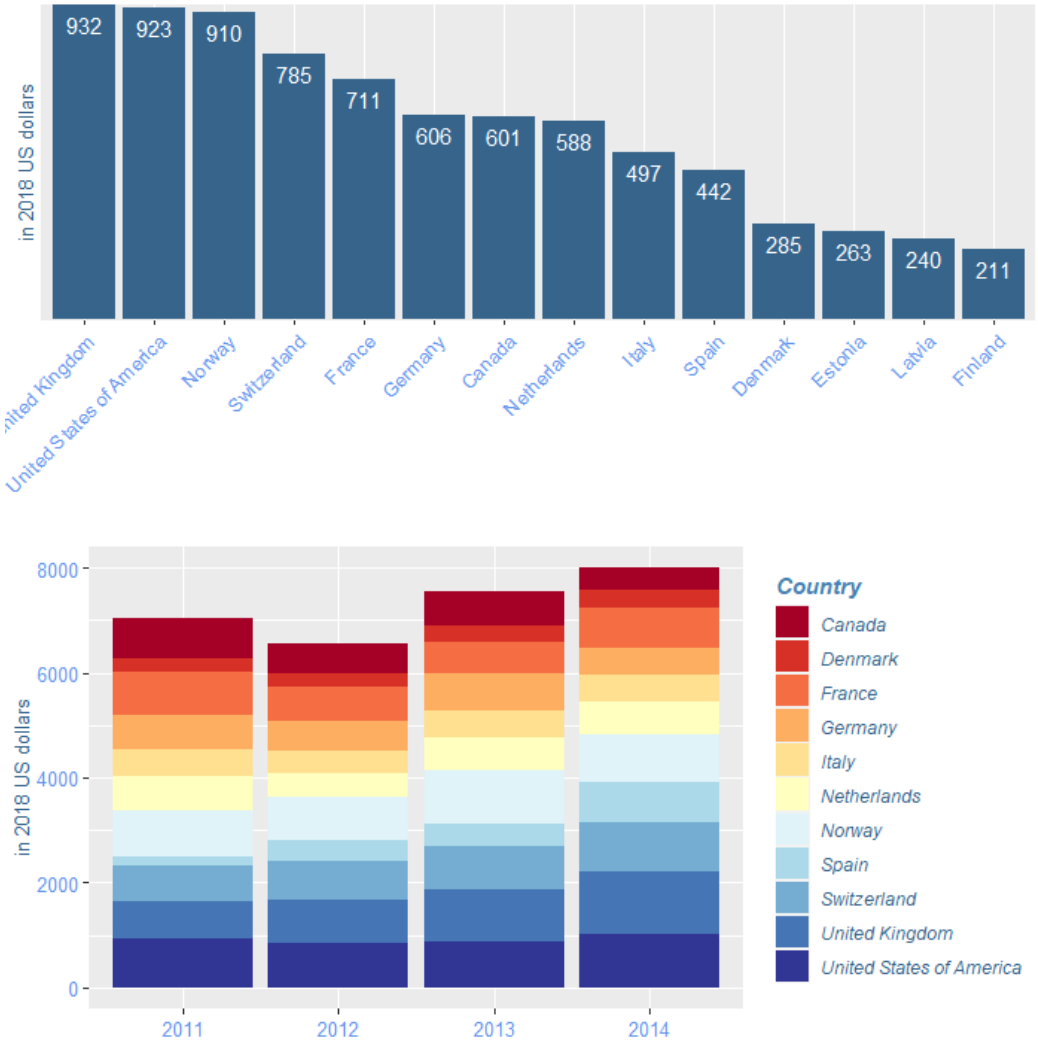


Figure 20: Average per capita travel expenditure per year by visitors in Sweden (2011-2014)



Source : UNWTO and OECD

A.3 Effects of VAT refund on total travel spending spending

A.3.1 The Swiss case

Table 30: Regression coefficients results for Switzerland over the 2010-2018 period

	Dependent variable:			
	Swiss travel credits (Switzerland as country of destination)		Swiss travel spending (Switzerland as country of residence)	
	(5)	(6)	(7)	(8)
	238 obs.	238 obs.	231 obs.	231 obs.
$Income3_i$	77.540	137.178		
	(107.803)	(115.231)		
$Income4_i$	142.095	154.819		
	(115.710)	(118.165)		
$Income5_i$	138.559	153.211		
	(110.706)	(117.916)		
$Income6_i$	172.734	154.702		
	(115.748)	(117.980)		
$Income7_i$	918.914***	121.992		
	(250.756)	(119.212)		
$Income8_i$	1,214.368***	590.935***		
	(345.755)	(119.286)		
$Income9_i$	665.193***	589.545***		
	(187.413)	(119.170)		
$Income10_i$	144.225	586.955***		
	(109.417)	(119.616)		
$Distance2_{ij}$			−532.514***	−833.076***
			(165.754)	(77.402)
$Distance3_{ij}$	−670.943**	−393.186***	−388.783**	−689.344***
	(263.735)	(13.401)	(165.744)	(77.381)

Distance4$_{ij}$	980.211***	407.713***	1,196.995***	896.433***
	(88.888)	(62.336)	(182.436)	(108.626)
Distance5$_{ij}$	175.280*	18.135		
	(98.789)	(20.571)		
Distance7$_{ij}$	−90.908	−60.151***	−526.814***	−827.376***
	(157.272)	(13.016)	(165.819)	(77.541)
Distance8$_{ij}$	80.751	−434.973***		
	(81.683)	(15.933)		
Distance9$_{ij}$	−352.914*	−388.177***	−366.094**	−666.656***
	(182.881)	(13.045)	(165.610)	(77.092)
Distance$_{ij}$10			−525.638***	−826.200***
			(165.563)	(76.992)
EU country of residence	132.570			
	(103.583)			
EU country of destination			157.859	
			(200.727)	
Fixed effect for i				
Austria		−270.877***		
		(12.129)		
Belgium		−376.734***		
		(16.692)		
Bulgaria		−69.708***		
		(20.363)		
Chile		352.244***		
		(20.185)		
China		461.587***		
		(90.625)		
Croatia		−79.019***		

	(12.448)
Czech Republic	−58.408***
	(13.013)
Denmark	−492.193***
	(11.982)
Finland	−502.883***
	(12.223)
France	2,570.803***
	(48.204)
Germany	2,493.980***
	(141.351)
Greece	−53.815***
	(12.429)
Hungary	−65.629***
	(12.827)
Ireland	−501.891***
	(11.496)
Italy	2,172.519***
	(64.631)
Japan	278.324***
	(33.825)
Luxembourg	−488.073***
	(16.317)
Netherlands	−386.307***
	(15.682)
Norway	−488.959***
	(15.790)
Poland	−33.028***

	(12.563)
Portugal	−17.754
	(12.666)
Romania	−64.088***
	(12.467)
Russia	161.956***
	(29.626)
Slovenia	−77.650***
	(12.893)
Spain	49.671***
	(9.472)
Sweden	−469.391***
	(12.196)
Fixed effect for j	
Austria	390.787***
	(108.788)
Belgium	−740.411***
	(77.239)
Czech Republic	−833.744***
	(76.853)
Denmark	−807.467***
	(77.127)
Estonia	−886.489***
	(76.855)
Finland	−843.722***
	(76.870)
France	4,229.769***
	(328.332)

Germany	3,341.111***
	(122.682)
Greece	−474.467***
	(78.628)
Hungary	−809.500***
	(76.924)
Italy	1,903.967***
	(96.204)
Latvia	−886.533***
	(76.853)
Lithuania	−893.122***
	(76.846)
Luxembourg	−881.967***
	(76.847)
Netherlands	−725.516***
	(77.488)
Poland	−862.800***
	(76.940)
Portugal	−469.833***
	(97.583)
Russia	−838.278***
	(76.940)
Slovak Republic	−873.539***
	(76.876)
Slovenia	−868.944***
	(76.854)
Sweden	−721.333***
	(78.107)

Constant	−174.736	−63.825	594.894***	895.456***
	(132.798)	(118.580)	(165.495)	(76.844)

Note: *p<0.1; **p<0.05; ***p<0.01

Table 31: Average total travel spending for Switzerland per year (over the 2010-2018 period)

	Spending of foreign travellers during their Swiss stay (in millions of dollars)	Swiss spending during their foreign travel (in millions of dollars)
Australia	138	229
Austria	255	1286
Belgium	149	155
Brazil	97	
Bulgaria	9	
Canada	133	206
Chile	7	
China	867	
Croatia	11	
Czech Republic	27	62
Denmark	33	88
Estonia		9
Finland	24	52
France	3,098	5,125
Germany	3,020	4,237
Greece	36	421
Hungary	22	86
Iceland		62
India	359	
Ireland	24	
Israel	92	
Italy	2,231	2,799
Japan	286	68
Latvia		9
Lithuania		2
Luxembourg	35	13
Malaysia	37	
Mexico	31	

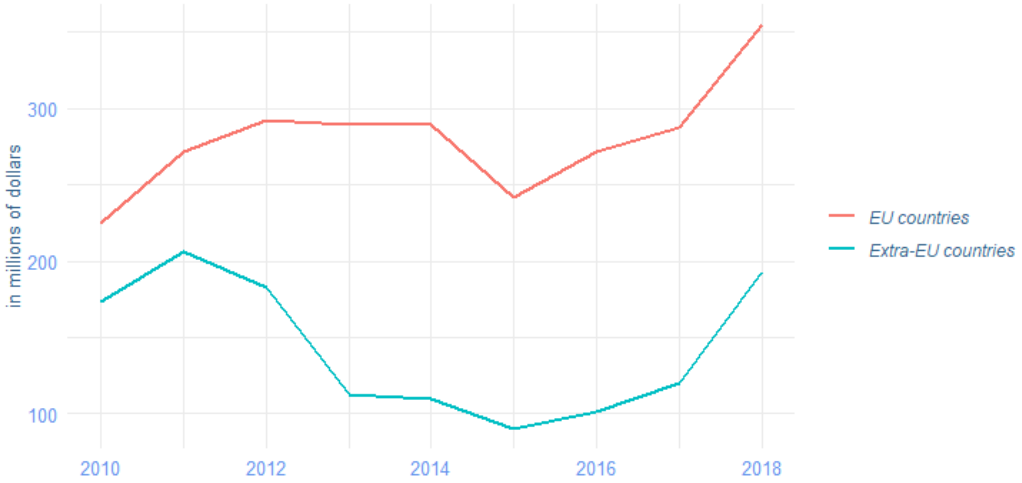
Netherlands	139	170
New Zealand		69
Norway	34	
Poland	57	33
Portugal	72	426
Romania	26	
Russia	251	57
Singapore	88	
Slovak Republic		22
Slovenia	8	27
Spain	122	
Sweden	56	174
Turkey	72	
United Kingdom	527	895
United States	931	1,792

Table 32: Average total travel spending per year for neighbouring countries of Switzerland over the 2010-2018 period

Origin of travellers	Country of destination	Highest spending during their foreign travel (in millions of dollars)
Austria	Germany	2,880
	Italy	1,978
	Hungary	642
	United States	595
	France	479
France	Spain	9,494
	United States	4,502
	Italy	4,166
	Germany	3,280
	Switzerland	3,098
Germany	Spain	10,425
	Austria	9,562
	France	7,202
	Netherlands	7,134
	Italy	6,848
Italy	France	4,006
	United Kingdom	3,745
	Spain	2,932
	United States	2,792
	Switzerland	2,231

A.3.2 The Croat case

Figure 21: Parallel trend assumption



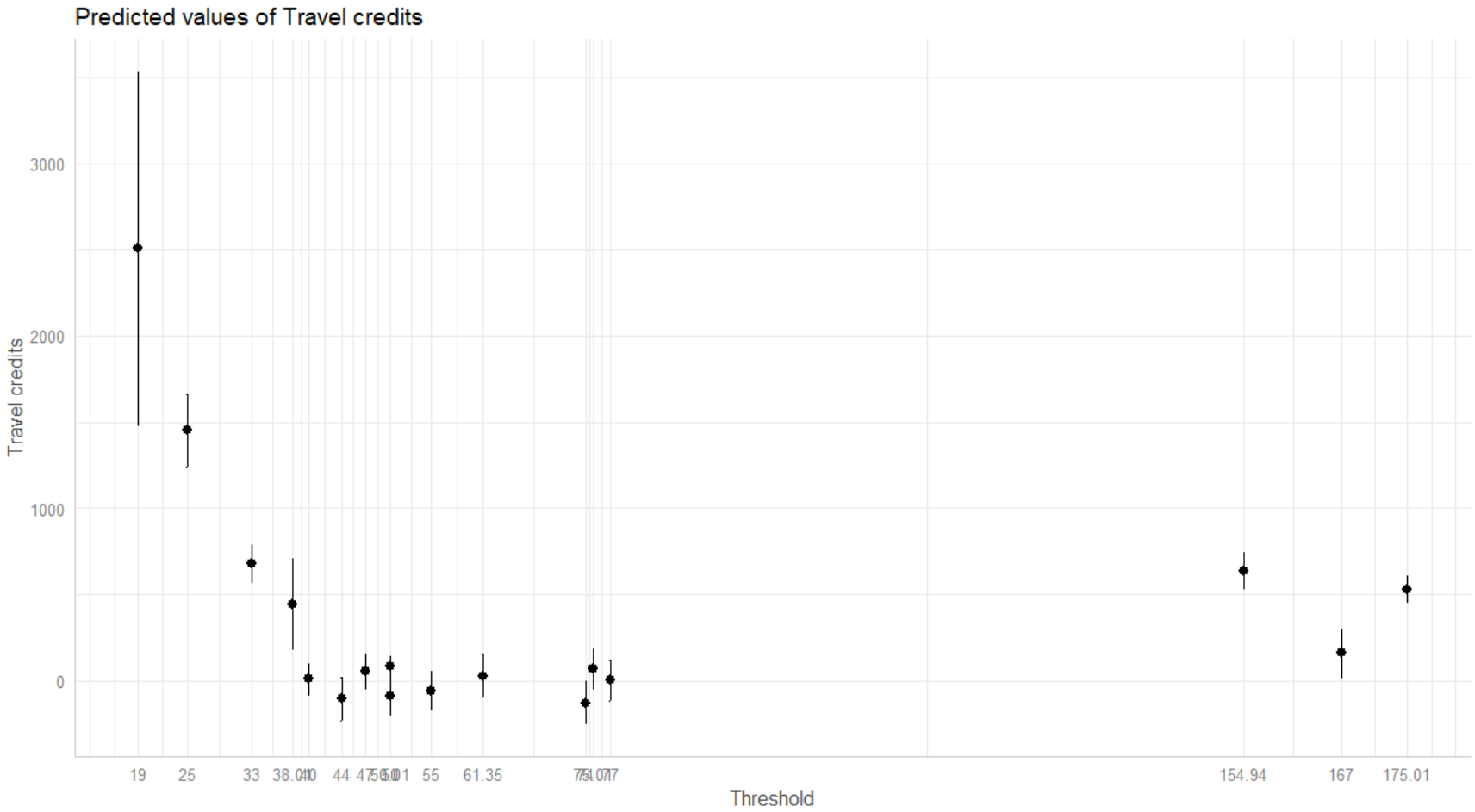
Source : OECD

Table 33: Difference in differences regression results

	Dependent variable:	
	Travel spending	
	2013 as the treatment year	2014 as the treatment year
	(1)	(2)
	209 obs.	209 obs.
Treatment	137.360	112.036*
	(84.580)	(65.016)
Time	−1.155	−40.854
	(103.883)	(30.363)
Treatment*Time	18.120	58.153
	(111.550)	(81.957)
Constant	134.839*	159.827***
	(81.115)	(24.368)
Note:	*p<0.1; **p<0.05; ***p<0.01	

A.4 Effects of VAT minimum purchase amount threshold on total travellers' spending

Figure 22: Marginal effects of EU threshold on extra-EU travellers' spending



B Appendix : characteristics of customers likely to benefit from VAT refund

B.1 Expenditure of French residents during their stay in foreign countries

B.1.1 Spending preferences among income deciles

Table 34: Average spending in euros per decile and item in 2010-2011

Foreign stays

Items	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5
Accommodation	306	459	445	452	450
Food	235	234	266	306	272
Leisure	183	135	192	198	167
Other expenses (except clothing and durables)	153	162	151	199	267
Restaurant	163	147	163	195	224
Transport	391	472	535	523	493
Travel package	1,161	982	1,072	1,565	1,642
	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10
Accommodation	495	554	596	875	1,059
Food	257	274	238	317	341
Leisure	208	241	261	254	307
Other expenses (except clothing and durables)	191	191	243	214	265
Restaurant	246	211	289	375	447
Transport	681	653	630	840	880
Travel package	1,709	1,928	2,206	2,352	2,638

All stays

Items	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5
Accommodation	431	400	399	450	407
Food	1190	177	195	207	219
Leisure	141	113	146	150	173
Other expenses (except clothing and durables)	138	132	138	159	164
Restaurant	148	163	149	171	176
Transport	352	348	360	342	367
Travel package	941	828	945	1,212	1,102
	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10
Accommodation	487	507	611	634	922
Food	205	232	255	262	371

Leisure	167	169	200	232	260
Other expenses (except clothing and durables)	158	148	191	180	233
Restaurant	201	193	234	264	334
Transport	371	414	436	494	680
Travel package	1,143	1,219	1,402	1,711	2,162

Reading : The first income decile spent on average €307 for accommodation during their stay abroad.
Source : Buget de Famille Survey

Bibliography

Articles

Antczak, Marie, and Marie-Anne Le Garrec. 2009. “Les visiteurs étrangers en France.” *Insee Références* (April).

Besley, Timothy, and Harvey S. Rosen. 1999. “Sales Taxes and Prices: An Empirical Analysis.” *National Tax Journal* 52 (2): 157–78.

Caspersen, Erik, and Gilbert E. Metcalf. 1994. “Is a Value Added Tax Regressive? Annual Versus Lifetime Incidence Measures.” *National Tax Journal* 47, no. 4 (December): 731–746.

Jansen-Verbeke, Myriam. 1991. “Leisure shopping.” *Tourism Management* 12, no. 1 (March): 9–14.

Kent, William E., Patti J. Shock, and Robert E. Snow. 1983. “Shopping: Tourism’s Unsung Hero(ine).” *Journal of Travel Research* 21, no. 4 (April): 2–4.

Lehto, Xinran Y., Liping A. Cai, Joseph T. O’Leary, and Tzung-Cheng Huan. 2004. “Tourist shopping preferences and expenditure behaviours: The case of the Taiwanese outbound market.” *Journal of Vacation Marketing* 10, no. 4 (October): 320–332.

Moscardo, Gianna. 2004. “Shopping as a destination attraction: An empirical examination of the role of shopping in tourists’ destination choice and experience.” *Journal of Vacation Marketing* 10, no. 4 (October): 294–307.

Rosenbaum, Mark S., and Daniel L. Spears. 2006. “An Exploration of Spending Behaviors among Japanese Tourists.” *Journal of Travel Research* 44, no. 4 (May): 467–473.

Suh, Yong Kun, and Leo McAvoy. 2005. “Preferences and trip expenditures—a conjoint analysis of visitors to Seoul, Korea.” *Tourism Management* 26, no. 3 (June): 325–333.

Timothy, Dallen J., and Richard W. Butler. 1995. “Cross-boder shopping.” *Annals of Tourism Research* 22, no. 1 (January): 16–34.

Books

Chevalier, Michel, and Gérald Mazzalovo. 2012. *Luxury brand management: a world of privilege.* 2. ed. Singapore: Wiley.

United Nations Department of Economic and Social Affairs. 2010. *International Recommendations for Tourism Statistics 2008.*

World Tourism Organization. 1995. *Collection of tourism expenditure statistics.* World tourism organization technical manuals.

Reports

Alliance du Commerce. 2018. *Propositions de l'Alliance du Commerce relatives à la détaxe,* July.

Arrêté du 12 novembre 2019 (NOR CPAD1928151A). 2019, November.

Capet, André. 1998. *Rapport au Premier Ministre sur la suppression des ventes hors taxes en Europe "Impact et propositions".*

Code général des impôts (CGI). *Article article 262-II 4 °.*

Comité d'évaluation et de contrôle des politiques publiques. 2019. *Rapport d'information n° 2105 sur la mise en oeuvre des conclusions du rapport d'information (n° 2936) du 2 juillet 2015 sur l'évaluation de la politique d'accueil touristique,* July.

Commission to the European Council. 1985. *Completing the Internal Market. White Paper from the Commission to the European Council. COM (85) 310 final,* June.

Eighth Council Directive 79/1072/EEC of 6 December 1979 on the harmonisation of the laws of the Member States relating to turnover taxes — Arrangements for the refund of value added tax to taxable persons not established in the territory of the country. 1979, December.

European Union Commission. 1999. *Communication from the Commission to the Council concerning the employment aspects of the decision to abolish tax- and duty-free sales for intra-community travellers. COM(1999) 65 final,* February.

Goulet, Nathalie. 2018. *Amendement n° COM-36 - Projet de loi relatif à la lutte contre la fraude,* June.

Gouvernement Philippe. 2019. *Dossier de presse, 4e Comité interministériel du tourisme,* May.

Ministère de l'action et des comptes publics. 2019. *Circulaire du 15 novembre 2019 sur la procédure des bordereaux de vente à l'exportation (NOR CPAD1928148C),* November.

Pascal Got, et al. 2016. *Amendement n° II-883 - PLF 2017 - (N° 4061),* November.

Patterson, Ben, and Christel Boetius. 1997. *The Economic and Social Consequences of Abolishing Duty Free with the EU.EP's Directorate General for Research's Working Paper,* October.

Patterson, George. 1990. *Written Question No.2289/90 to the Commission of the European Communities - Duty free allowances,* October.

The Bank of Spain. 2014. *Spain's balance of payments and international investment position,* July.

United Nations. 1954. *New York Convention concerning customs facilities for touring,* June.