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Tourism Data Collection

Analysis at the sub-national level in Iceland

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1. Introduction

Tourism in Iceland has grown substantially over recent years. The number of foreign visitors to the country has more than doubled in the last ten years and the industry has acquired increasing recognition as a central pillar of the national economy. Over the last two decades Iceland's inbound tourism has grown at a faster pace than international world tourism in general and it has mainly been driven by five key factors; global tourism growth, volcanic eruptions, airline route development, promotion and the devaluation of the Icelandic krona (Boston Consulting Group, 2013; Icelandic Tourist Board, n.d.c.; Statistics Iceland, n.d.d.).

The rising importance of tourism in the economy calls for a thorough and systematic assembling of tourism statistics in order to regulate and organise this industry. The need for tourism statistics is not only required by the National Tourism Administrations (NTAs), but also by various groups of interest, such as local communities, industries, industry associations and academia. Tourism has to be measured at a destination level as well as *en route* and in tourism generating areas (World Tourism Organization, 1999). Tourism is also a seasonal phenomenon. That stresses the importance of a place and space-specific research framework for regional evaluation (Saarinen, 2003). Common language and international definitions are indispensable in this matter. Much work has been done in this relation worldwide. The World Tourism Organization (UNWTO) has published international guidelines and recommendations for tourism statistics which is important for each country to follow. International definitions and methods permit countries to measure and understand the scope of the industry at each place, enabling global comparison (Eurostat, 2012; United Nations, 2010b; World Tourism Organization, 1999).

In order to control tourism growth in a promising and profitable manner, decisions have to be based on reliable data and professional analysis. In the Parliamentary Resolution on a Tourism Strategy for 2011-2020 in Iceland, tourism growth is met by four main objectives; to increase the profitability of the sector, engage in its systematic development, enhance quality, safety, professionalism and environmental awareness as well as to define and maintain Iceland's uniqueness as a tourism destination (Alþingi, 2011b; OECD, 2014).

The main aim of this report is to study the tourism data availability at regional level in Iceland, based on international methodological framework. In addition, an attempt is made to present a possible application on measuring the regional economic effects of tourism in

Iceland based to the extent possible on a framework provided for Tourism Satellite Accounts (TSA) (United Nations, 2010b). These effects are experientially measured through an ongoing research in a region in North Iceland; Þingeyjarsýslur. In this report, the main emphasis will be on data sources in the research, whereas calculation methods and results will be described in a later report at the end of the research period.

The methodology presented in this report is also aimed at operationalising and optimizing information from all the data sources available at the sub national level in Iceland. This is accomplished through compiling and analysing data produced within Statistics Iceland as well as from other data sources.

The first chapter in this report describes the statistical territorial division in Europe and Iceland especially with main focus on tourism statistics. Chapter two discusses the regional tourism data availability in Iceland based on the UNWTO International Recommendations for Tourism Statistics 2008. In chapter three, an example is taken from the UK on evaluating the regional economic effects of tourism. Chapter four describes an ongoing research on the regional economic effects of tourism in North-East Iceland, followed by a conclusion in chapter five, summarizing the results of this analysis.

1.1. Tourism at sub-national level in Europe

The European Union has introduced a legal framework for the territorial division of EU, EFTA and candidate countries in order to harmonise the collection, transmission and publication of national and community statistics. The Nomenclature of Units for Territorial Statistics (NUTS) is a geocode standard for referencing the subdivisions of countries for statistical purposes. If sub-national statistics are to be comparable, the geographical areas need to be of similar size in population terms. Their political, institutional and administrative arrangements should also be defined (European Union, n.d.). A hierarchy of three NUTS levels is established followed by two levels of local administrative units (LAUs). The LAUs are generally the lowest administrative division of a country and can also designate municipalities, communes, cities and counties (table 1) (Eurostat, n.d.b.).

Table 1. NUTS and LAUs in Europe
Source: European Commission, 2003

Level	Minimum	Maximum
NUTS1	3 million	7 million
NUTS2	800.000	3 million
NUTS3	150.000	800.000
LAU1	Regions, districts, counties, municipalities	
LAU2	Municipalities, cities, communes, councils	

Eurostat presented a change in European tourism statistics in 2012. The adoption of Regulation of the European Parliament and of the Council concerning European statistics on tourism ((EU) 692/2011) created a base for the collection of regional tourism statistics, in addition to the European Commission implementing regulation ((EU) 1051/2011). This new regulatory basis requires EU Member States, EFTA countries and candidate countries to provide a regular set of comparable tourism statistics where regional data shall be at the NUTS2 level. As a consequence, small countries like Iceland will have limited territorial division in that matter (Eurostat, 2014a).

Figure 1 presents countries and regions in Europe at the NUTS2 level. The total number of nights spent in tourist accommodation is ranked by regions on this figure and shows Iceland as one region whereas most Mid-European countries are divided into smaller areas according to higher population rates.

Regulation (EU) 692/2011 presented also two new analyses for accommodation statistics, i.e. by degree of urbanisation (thinly populated areas, intermediate density areas and densely populated areas) and by coastal or non-coastal locality. Coastal areas are defined by local area units (LAU2) or municipalities. If a municipality borders the sea, it is defined as coastal. If it is not bordering the sea but has half of its surface within a distance of 10 km from the sea, it is also classified as coastal. All other municipalities are non-coastal (Eurostat, 2014a).

In 2013, a total of 4.280.685 nights were spent at tourist accommodation establishments in Iceland, whereof 3.781.972 (88%) were in coastal areas (Eurostat, n.d.a.). Of the 74 municipalities on the LAU2 level in Iceland, 65 are in coastal areas of which 64 border the sea (Statistics Iceland, 2015a).

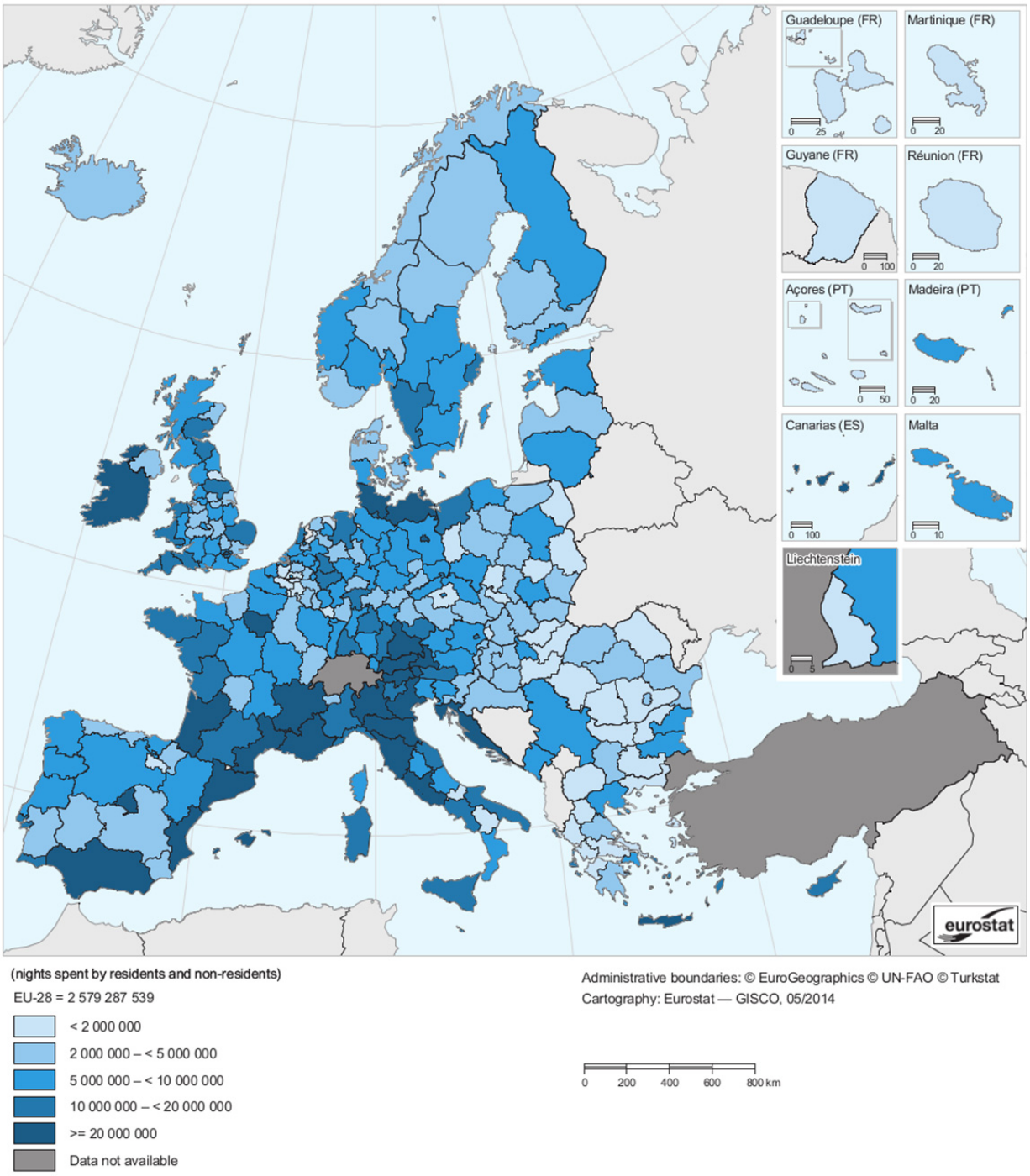

Figure 1. Total nights spent in tourist accommodation establishments in Europe by NUTS2 regions, 2012
Source: Eurostat, 2014a.

1.2. Territorial units in Iceland

Iceland is one of the most sparsely populated countries in the world with 325.671[1] inhabitants on an area of approximately 103.000km^2 (3.2 per km^2). The country is divided into 74 municipalities in 8 regions. Statistics Iceland has classified counties and municipalities together in 8 regions, based on ancient traditions of division in counties and land quarters. Some changes have occurred within these regions in the last decades, mainly due to municipal mergers and demographic change (National Land Survey of Iceland, n.d.; Harðarson and Sindradóttir, 2012; Sverrisson and Hannesson, 2006).

Icelandic conditions have made the implementation of a proper statistical territorial division in the country problematic. The sparse and imbalanced population by regions encumbers statistical work and comparison between regions. Aggregation of regions is indispensable for future statistical work. This is complicated to achieve and has to be based on acknowledged values such as balance between regions, statistical continuity, topography, jurisdictional assessment, homogeneity within areas and heterogeneity between areas. Statistics Iceland has started to work towards a new regional demarcation of Iceland on these terms (Harðarson and Sindradóttir, 2012; Statistics Iceland, n.d.f.).

The statistical territories in Iceland are classified as in table 2.

Table 2. NUTS and LAUs in Iceland
Source: Icelandic Association of Local Authorities, n.d.; Harðarson and Sindradóttir, 2012; European Union, n.d.

Level	Iceland	Number of entities
NUTS1	IS0 Iceland	1
NUTS2	IS00 Iceland	1
NUTS3	IS001 Capital Region IS002 Rest of country	2
LAU1	Regions in Iceland	8
LAU2	Municipalities in Iceland	74

As already mentioned, there is no territorial division in Iceland on the NUTS1 and NUTS2 level. On the NUTS3 level, there are two partitions, the capital area and the rest of the country. On the LAU1 level, there are eight statistical territorial units in Iceland, as can be seen in table 2 but also in figure 2. These regions are mainly used for administrational and

[1] Population 1st January 2014 (Statistics Iceland, n.d.f.)

statistical purposes and the district court jurisdictions also follow this division and are numbered in accordance with table 3. The red lines in figure 2 divide the country up in 74 municipalities which represent the LAU2 level.

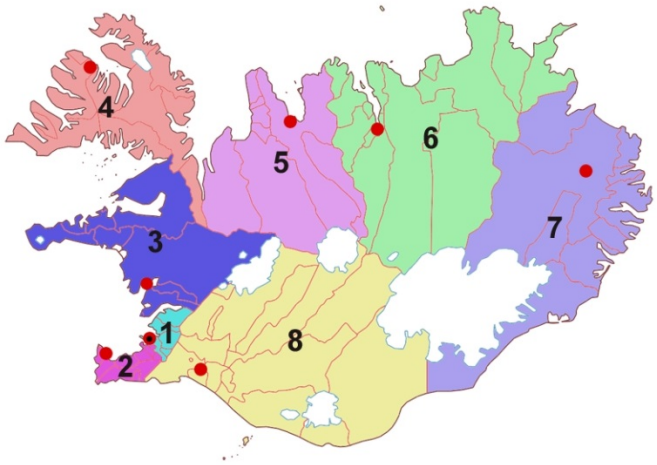

Figure 2. Regions of Iceland
Source: Administrative divisions of Iceland, n.d.; Harðarson and Sindradóttir, 2012.

Table 3 presents the population and geographical size of each LAU1 territory unit. As can be seen, 64% of all inhabitants in Iceland live in the capital area which represents only 1% of the total geographical area of the country. The smallest areas, population wise, are the North-western region and the West fjords.

Table 3. Regions of Iceland and some characteristics
Source: Administrative divisions of Iceland, n.d.; Statistics Iceland, n.d.f.; Harðarson and Sindradóttir, 2012.

#	Name	Popu-lation	Area (km²)	Pop./Area	Popul. Ratio	Administrative centre
1	Capital Region	208.752	1.044	199,95	64%	Reykjavík
2	Southern Peninsula	21.560	816	26,42	7%	Reykjanesbær
3	Western Region	15.441	9.527	1,62	5%	Akranes
4	West fjords	6.972	9.357	0,74	2%	Ísafjörður
5	North-western Region	7.245	12.591	0,58	2%	Sauðárkrókur
6	North-eastern Region	29.091	22.687	1,28	9%	Akureyri
7	Eastern Region	12.524	22.013	0,57	4%	Egilsstaðir
8	Southern Region	24.086	24.677	0,98	7%	Selfoss
		325.671	**102.712**			

As stated before, Iceland is a small country in European context and according to the Regulation of the European Parliament and of the Council concerning European statistics on

tourism ((EU) 692/2011) the country has no regional division for tourism statistics as NUTS2 represents Iceland as one area.

However, in order to build up a strong and well-functioning tourism industry in this country, statistical analysis by regions is indispensable. The nature of tourism has to be understood in order to rationalise decision making and fulfil the following objectives of the parliamentary resolution on tourism for 2011-2020:

- Increased profitability of the sector.
- Systematic development of tourist destinations and products, promoted with the aim of lengthening the tourist season and reducing seasonal fluctuations.
- Enhanced professionalism, quality and safety in the tourism sector.
- Iceland's uniqueness as a tourism destination defined and maintained (Alþingi, 2011b).

In the following sections, an attempt will be made to propose the best use of available tourism data in Iceland in order to get a clearer picture of regional division of tourism.

1.3. Defining a destination

A destination is difficult to define. The reason is the miscellaneous permutations and implications associated with the term (Wang, 2011). However using a systems approach, supported by consumption patterns, Pike (2008, p. 24) defines *destination* as "a geographical space in which a cluster of tourism resources exists, rather than a political boundary". *Cluster* is defined by Rubies (2001, p. 39) as "an accumulation of tourist resources and attractions, infrastructures, equipments, service providers, other support sectors and administrative organisms whose integrated and coordinated activities provide customers with the experiences they expected from the destination they chose to visit".

According to UNWTO International Recommendations for Tourism Statistics (IRTS, 2008), the main destination of a tourism trip is:

> *The place visited that is central to the decision to take the trip. However, if no such place can be identified by the visitor, the main destination is defined as the place where he/she spent most of his/her time during the trip. Again, if no such place can be identified by the visitor, then the main destination is defined as the place that is the farthest from the place of usual residence* (United Nations, 2010a, p. 13).

In a report on tourism resource mapping published by the Tourist Board of Iceland (2002), an approach was made to define the concept of destination. According to this report, a destination is the equivalent of an accessible attraction within a certain distance from tourist services. Five main regions were outlined (capital area and four other areas around the country) and each of them included sub regions based on their uniqueness (figure 3) (Sigurbjarnarson and Gíslason, 2002).

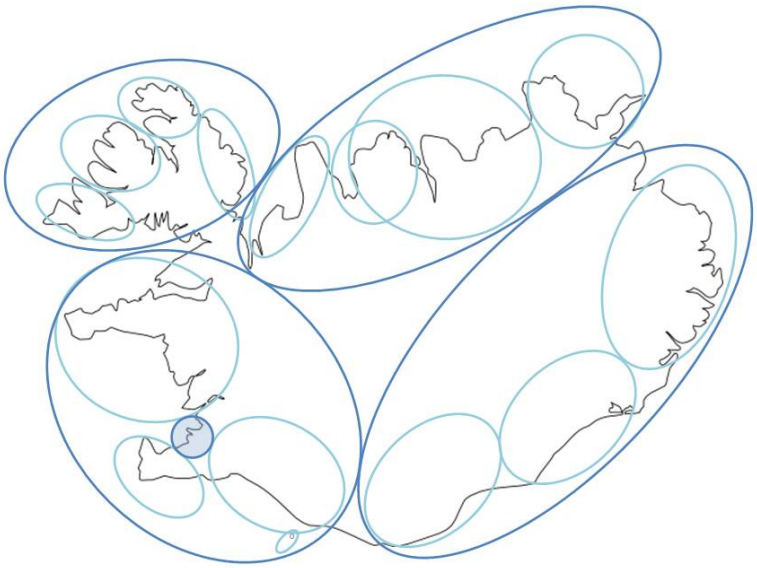

Figure 3. Tourism resource mapping in Iceland
Source: Clker.com, n.d.; Sigurbjarnarson and Gíslason, 2002, p.15.

No matter where the borderlines can be drawn with the intention of defining a destination, it can never be clear-cut as the destination changes continuously with the actions and relations of the visitors and locals. Perceptions of a destination can be formed on the part of tourists as well as by other factors that affect the formation of a destination image (Cai, 2002; Huijbens and Jóhannesson, 2013). Defining destinations in Iceland and demarcating them around the country therefore continues to be a challenge for Icelandic policy makers, analysts and scholars of tourism.

Industry clusters have been identified and defined as the main driving force of regional economies through the Icelandic regional development policy (Alþingi, 2014; Prime Minister's Office, 2011). This policy has been delineated through special regional growth agreements in the eight regions of the country as defined in figure 2. The main concern of these agreements is to bring increased authority and greater responsibility to these regions in Iceland in order to ensure future growth and versatility in employment. Tourism is one of

these specified clusters (Huijbens *et al*., 2014; Government Offices of Iceland, n.d.). Tourism in Iceland is different from most other industries in the country as it is usually tied with natural attractions. These are resources that cannot be transferred from the destination, such as the case of fishing rights in Iceland, which has affected many coastal communities. This gives rural areas in Iceland a certain advantage in the case of resource and destination management (Benediktsson and Karlsdóttir, 2011; Bjarnason and Huijbens, 2014).

2. Regional tourism data availability in Iceland

The UNWTO *Compendium of Tourism Statistics* is a comprehensive statistical compilation of tourism data, based on the UNWTO International Recommendations for Tourism Statistics 2008 (United Nations, 2010a). The compendium contains internationally comparable indicators and data on tourism, divided into six categories: Inbound, Domestic and Outbound tourism, Tourism industries, Employment and Complementary macroeconomic indicators (UNWTO, 2014a).

Statistics Iceland's data sources mostly cover the measurement of the supply side of tourism, in other words the ensemble of industries grouped by Statistical classification of economic activities in the European community (Eurostat, 2008). Statistics Iceland is also responsible for accommodation statistics in the country (Statistics Iceland, n.d.g.).

On the demand side, there is a lack of data. The Icelandic Tourist Board (ITB) is responsible for the tallying of tourists who pass through the airport terminal at Keflavík International airport and has been involved in several inbound visitor surveys at a semi-regular basis. ITB has also conducted an annual survey on Icelanders' travel behaviour in a domestic and outbound survey. Statistics Iceland carried out a household tourism survey in 1996 and 2007-2008 (Frenţ, 2013; Icelandic Tourist Board, n.d.d.).

2.1. Inbound tourism

Inbound tourism encompasses the activities of a non-resident visitor in the country of reference on an inbound tourism trip. Expenditures made by these visitors are considered as inbound tourism expenditures. The data sources and indicators for inbound tourism are listed in table 4.

2.1.1. Arrivals and other related data

Understanding the spatial behaviour of visitors is essential for effective tourism management. Inter-destination movements from tourist-generating regions to one or more destinations and intra-destination movements within a destination are both necessary subjects of analysis. Studying the flow of visitors enables more effective planning, budgeting, determination of demand trends, tourism impact analysis, measurement of social, political and economic importance of tourism at each place (Lau & McKercher, 2007; Orellana, *et al.,* 2012; Wolf, Hagenloh, & Croft, 2012).

Table 4. Inbound tourism data and indicators proposed by UNWTO
Source: UNWTO, 2014a, p. 5

INBOUND TOURISM	**Arrivals**	• Overnight visitors (tourists) • Same-day visitors (excursionists) − of which, cruise passengers • Arrivals by country of origin • Arrivals by mode of transport
	Arrivals by region	• Africa • Americas • East Asia and the Pacific • Europe • Middle East • South Asia • Other not classified

	Arrivals by main purpose of visit	• Personal
		  − holidays, leisure and recreation
		  − visiting friends and relatives
		  − education and training
		  − health and medical care
		  − religion/ pilgrimage
		  − shopping
		  − transit
		  − other
		• Business and professional

	Arrivals by mode of transport	• Air
		• Water
		• Land
		  − railway
		  − road
		  − other

	Arrivals by form of organization of the trip	• Package tour • Other forms
	Accommodation	• Total guests • Total overnights • Guests in hotels and similar establishments • Overnight stays in hotels and similar establishments
	Expenditure	• Travel • Passenger transport
	Expenditure by main purpose of the trip	• Personal • Business and professional

	Indicators	• Average size of travel party
		• Average length of stay
		  − For all commercial accommodation services (of which "hotels and similar establishments")
		  − For non-commercial accommodation services
		• Average expenditure per day

The flow of international visitors to the country of reference includes both tourists (overnight visitors) and same day visitors (excursionists). Arrivals data are attained from sources such as

administrative records (e.g. traffic counts and immigration control) as well as visitor surveys and accommodation surveys (UNWTO, 2014a; United Nations, 2010a). Additional counting methods have been used worldwide for tourist counting such as manual observation and tallying in various places and regions, mechanical and electronic counters such as wired door counters, GPS tracking, road traffic detectors, vehicle and people counters with magnetometers etc. (Ahasa *et al*., 2007; Lau & McKercher, 2007; Ólafsson, 2012 and 2014; Icelandic Road and Coastal Administration, n.d.; Wolf, *et al.*, 2012).

In Iceland, foreign travellers who pass through the airport terminal at Keflavík International airport upon departure are counted and registered by their nationalities. Monthly numbers are published at the website of the Icelandic Tourist Board. Visitors arriving at Seyðisfjörður harbour with M/S Norröna are estimated by Austfar (Smyril Line's sales office) and passengers coming to the country through other airports are estimated through figures from the Icelandic Aviation Authorities (ISAVIA) by the Icelandic Tourist Board. The total sum of the above passengers is then published presenting the total number of foreign visitors to Iceland every year. Cruise passengers are not included in these numbers (Frenţ, 2013; Icelandic Tourist Board, n.d.c; Óladóttir, 2014; United Nations, 2010a). International visitors in Keflavik Airport are ranked by 17 nationalities (Frenţ, 2013; Icelandic Tourist Board, n.d.a.). These nationalities are then categorised by regions in the world as presented in table 5.

Table 5. ITB categorisation of world regions
Source: Óladóttir, 2014

World Regions	Countries
Nordic countries	Denmark, Norway, Sweden, Finland
Central and Eastern Europe	Germany, France, Netherlands, Italy, Spain, Switzerland
United Kingdom	United Kingdom
North America	USA, Canada
Other regions	Poland, Japan, China, Russia and other countries not mentioned above.

Another visitor counting is conducted in Keflavik Airport and Seyðisfjörður Harbour by the Tourism Research and Consultancy in Iceland (RRF). In RRF's analysis the world region categorisation is as presented in table 6.

Table 6. RRF categorisation of world regions
Source: Guðmundsson, 2013

World Regions	Countries
Nordic countries	Denmark, Norway, Sweden, Finland
Central Europe	Germany, Switzerland og Austria
Benelux countries	Belgium, Netherlands, Luxembourg
South-Europe	France, Italy, Spain, Portugal, Greece, Mediterranean Islands
United Kingdom	United Kingdom, Ireland
North America	USA, Canada og Mexico
Other regions	Eastern Europe, Africa, Asia, Australia, South-America

Table 5 and 6 show lack of consistency between classifications which hinders comparison between analyses and reports in Iceland. Neither categorisation complies with the UNWTO classification of world regions as presented in table 7.

Table 7. UNWTO classification of world regions
Source: World Tourism Organisation, 2014

World Regions	Countries
Europe	Northern-, Western-, Central/Eastern- and Southern/Mediterranean Europe
Asia and the Pacific	North-East-, South-East-, South-Asia and Oceania
America	North-, Central-, South-America and the Caribbean
Africa	North Africa and Sub-Saharan Africa
Middle-East	Middle-East

According to UNWTO classification of world regions (table 7), **Northern-Europe** includes the Nordic countries, United Kingdom and Ireland. **Western-Europe** comprises the Benelux countries, France, Germany, Liechtenstein, Monaco, Austria and Switzerland. **Central/Eastern Europe** includes Armenia, Azerbaijan, Belarus, Bulgaria, Czech Republic, Baltic countries, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Poland, Moldova, Romania, Russia, Slovakia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. **Southern/Mediterranean Europe** comprises Albania, Andorra, Bosnia & Herzegovina, Croatia, Cyprus, Macedonia, Greece, Israel, Italy, Malta, Montenegro, Portugal, San Marino, Serbia, Slovenia, Spain and Turkey (UNWTO, 2014b).

This inconsistency between UNWTO classifications and ITB and RRF categorisation of world regions prevents global comparison of tourism statistics and needs enhancement.

Through inbound visitor surveys, administered at Keflavík International airport at departure by the ITB (or sub-contractors), the purpose of visit is queried. Categories are generally in harmony with the IRTS 2008 except for the religion/ pilgrimage factor which is not measured in Iceland (Frenţ, 2013; Icelandic Tourist Board, 2014a). Arrivals per mode of transport are quite simple in Iceland as the only possible transport mode is by air or sea. These numbers are counted separately and published by ITB on the national level (Icelandic Tourist Board, 2014d).

The numbers of foreign visitors to Iceland are not counted by regions. However, an approximation is provided for by calculating ratios from the inbound visitor surveys conducted by the ITB (or sub-contractors), as well as from specific surveys conducted by RRF[2] with the total numbers of foreign visitors. The ITB's commissioned inbound visitor survey has demonstrated visitor ratios for certain regions of Iceland since 2011. Eight regions are mentioned (not the same as the ones in figure 2) and for each region (table 8), information on nationalities, age, income, position, length of stay, reason for the trip and the mode and type of travel are calculated. The choices of places visited are slightly more numerous in the survey from 2014 than 2011 (Icelandic Tourist Board, 2014a).

Inbound visitor surveys rely on the memory of visitors and their ability to reference a visited place on map. They are therefore unreliable as such and useful only as a supplementary tool with other counting methods (Wolf *et al.,* 2012). The inbound visitor surveys in Iceland have been conducted on an irregular basis since 1992 (Icelandic Tourist Board, n.d.b.).

The Icelandic Road and Coastal Administration has counted vehicles on Icelandic roads for about 40 years. There are 185 counting points on the Icelandic road network where traffic numbers are counted all year round. No special tourism numbers have been published yet, but a work on that is in progress (Icelandic Road and Coastal Administration, n.d.).

New counting methods that use mechanized counters with magnetometers which detect and count vehicles and walkers on an hourly basis are in development in Iceland. These counters have been located in about 20 places around the country. The number of visitors is estimated

[2] Rannsóknir og ráðgjöf ferðaþjónustunnar

from the number of vehicles by occasional hand-counting of visitors per vehicle and calculating the proportion of busses versus private cars (Ólafsson, 2012 and 2014). As already stated, no organized regional tourist counting is operated in Iceland today and all numbers rely on estimations from surveys and other irregular counting methods as mentioned above.

Table 8. Places visited in Iceland by foreign visitors 2014
Source: Icelandic Tourist Board, 2014a, p. 217-218.

Region	Sub region or places/sites of interest
Capital Region	Reykjavík
Southern Peninsula	Blue Lagoon Reykjanesbær Reykjanes lighthouse, bridge between continents, Gunnuhver
Western Region	Snæfellsnes/National Park Borgarfjörður Stykkishólmur/Breiðafjörður Búðardalur/Dalir
West fjords	Hólmavík/Strandir Ísafjörður Látrabjarg Arnarfjörður/Dynjandi
Northern Region	Akureyri Mývatn Ásbyrgi/Dettifoss Húsavík Skagafjörður Hvammstangi/Hvítserkur Melrakkaslétta/Þórshöfn
Eastern Region	Egilsstaðir/Hallormsstaður Seyðisfjörður Djúpivogur Neskaupsstaður/Norðfjörður Borgarfjörður eystri
Southern Region	Geysir/Gullfoss Þingvellir Vík Skógar Skaftafell Jökulsárlón vantar Þórsmörk Eyrarbakki Hornafjörður Vestmannaeyjar
Highlands	Kjölur/Hveravellir Landmannalaugar Sprengisandur Kárahnjúkar Herðubreiðalindir/Askja

2.1.2. Accommodation statistics

Accommodation statistics are a vital part of the tourism statistics system in the EU and have been collected systematically since 1995 with the establishment of tourism statistics system in Council Directive 95/97/EC (Eurostat, 2014b). Even though accommodation statistics are only relevant for one type of visitors (i.e. overnight visitor) the accommodation sector is one of the core tourism sectors and its economic importance can be gauged in the TSA results from many European countries where accommodation services account for about 15% to 20% of total internal tourism expenditure (Eurostat, 2012). During the year 2012, approximately 2.7 billion nights were spent at collective accommodation establishments in the EU and EEA. Iceland's share thereof was only 0.2% (Eurostat, 2012 and 2013).

Statistics Iceland has collected data on the capacity of accommodation establishments in Iceland as well as data on overnight stays since 1984. The data gathering covers all types of accommodation establishments except for trade-union summer houses. Since 1995 data on arrivals at accommodation establishments has been collected, which enables calculations on the average length of stay. The accommodation statistics give information on the capacity and occupancy, number of arrivals and overnight stays in accommodation establishments categorised by type of accommodation, region and citizenship of guests (Statistics Iceland, n.d.g.). The data source is reports required to be delivered monthly by everyone who is selling accommodation in Iceland to Statistics Iceland. The report details the capacity, number of overnight stays and arrivals by citizenship of guests at each accommodation establishment.

Accommodation statistics are one of the very few tourism statistics in Iceland that are allocated by regions. The numbers are presented specially for each of the eight regions of Iceland as in figure 2 (Statistics Iceland, n.d.g.).

2.1.3. Expenditures

Inbound tourism expenditure is "the tourism expenditure of a non-resident visitor within the economy of reference" (United Nations, 2010a, p. 34). *International tourism receipts* (ITR) refer to the earnings generated in destination countries from *expenditures* by international inbound visitors (UNWTO, 2014b). These expenditures are according to UNWTO International Tourism Statistics Recommendation 2008;

> *the amount paid for the acquisition of consumption goods and services, as well as valuables, for own use or to give away, for and during tourism trips. It includes expenditures by visitors themselves, as well as expenses that are paid for or reimbursed by others* (United Nations, 2010a, p. 31).

In year 2013, ITR grew by 22% in Iceland whereas the global growth was 5% in real terms, resulting in 1.159.000 million US$ worldwide. The ITR in Iceland was 1.055 million US$ in 2013 and accounted for 0.1% of world's total ITR. Total International tourist arrivals (ITA) around the world were at the same time 1.087 million and Iceland's share 0.8 million or 0.1% (figure 4) (UNWTO, 2014b).

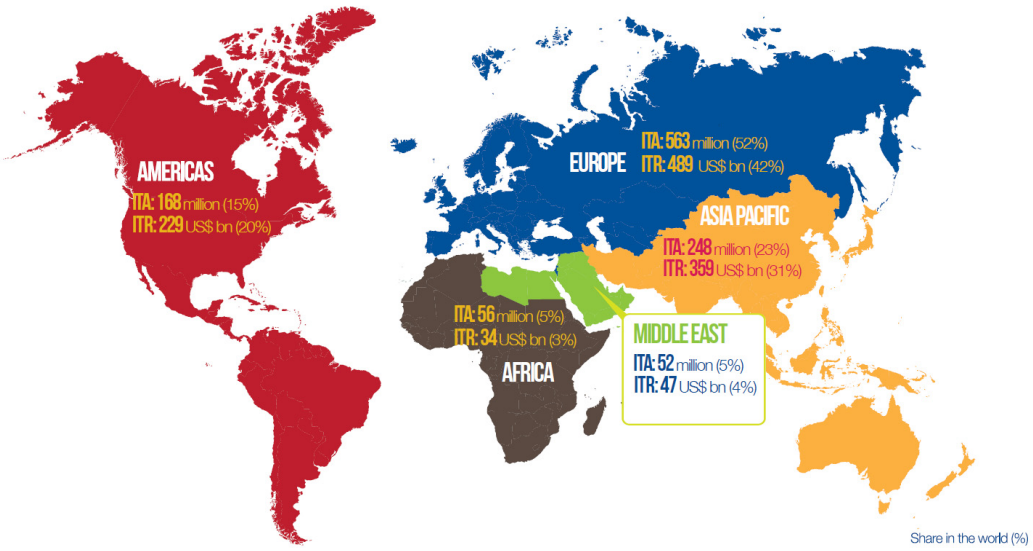

Figure 4. International tourist arrivals (ITA) and International tourist receipts (ITR) by world regions
Source: UNWTO, 2014b, p. 3

Inbound tourism expenditures in Iceland count in macro-economic terms as exports for Iceland and as imports for the foreign visitor's country of residency. The receipts from inbound tourism are reported as "travel credit" in the Balance of Payments (BoP), under the services balance while expenditure on outbound tourism as "travel debit" (UNWTO, 2014b). Statistics Iceland and the Central Bank of Iceland have published statistics for external trade in goods and services, balance of payments, and national accounts according to updated international standards in September 2014 (Statistics Iceland, 2014).

In Iceland, inbound expenditures are also measured in the ITB inbound visitor survey at Keflavík Airport. The tourism expenditure categories are in accordance with the following recommended categories by ITRS 2008 (Frenţ, 2013; Icelandic Tourist Board, 2014a):

- Package travel, package holidays and package tours
- Accommodation
- Food and drink
- Local transport
- International transport
- Recreation, culture and sporting activities
- Shopping
- Others (United Nations, 2010b, p. 35)

Expenditure data is not divided by regions in these surveys and no expenditure surveys are available on the sub-national level in Iceland in general, except for some special surveys such as the passenger departure survey at Akureyri airport conducted by the Icelandic Tourism Research Centre (ITRC) during the summers of 2009-2012 (Bjarnadóttir and Huijbens, 2012).

Table 9. Categories of foreign credit card expenditures in Iceland
Source: Centre for Retail Studies, 2014.

	Category	Sub category
1	Accommodation	1.1 Hotels 1.9 Other accommodation
2	Restaurants	
3	Transport	3.1 Road passenger transport 3.2 Water passenger transport 3.3 Air passenger transport
4	Miscellaneous tourism	
5	Fuel, car repair and car maintenance	
6	Other transport services	6.1 Car rentals 6.2 Road taxes, parking fees and other services
7	Culture, entertainment and recreation	7.1 Museums, galleries and Zoos 7.2 Concerts, theatres, cinemas and other events 7.3 Other
8	Other services	
9	Retail	9.1 Groceries 9.2 Clothing 9.3 Gifts and souvenirs 9.8 Duty free 9.9 Other retail
10	Public levies	
11	Cash withdrawals	

The Centre for Retail Studies in Iceland has analysed and published foreign credit card turnover by users' nationalities (card issuer's country of origin) and Tourism Industry Categories since 2012 (table 9). These numbers are published monthly and are an important indicator of tourism expenditure in Iceland (Centre for Retail Studies, 2014). The credit card

statistics are only available at the national level, but a further breakdown by regions would be an important source to measure how tourism expenditure is spread around the country.

2.2. Domestic tourism

Domestic tourism "comprises the activities of a resident visitor within the country of reference either as part of a domestic tourism trip or part of an outbound tourism trip" (United Nations, 2010a, p. 15). Table 10 demonstrates the main tourism data sources and indicators for domestic tourism.

Table 10. Domestic tourism data and indicators proposed by UNWTO
Source: UNWTO, 2014a, p. 6

DOMESTIC TOURISM	**Trips**	• Overnight visitors (tourists) • Same-day visitors (excursionists)

	Trips by main purpose	• Personal
		  − holidays, leisure and recreation
		  − other personal purposes
		• Business and professional

	Trips by mode of transport	• Air
		• Water
		• Land
		  − railway
		  − road
		  − others

	Trips by form of organization	• Package tour • Other forms
	Accommodation	• Total guests • Total overnights • Guests in hotels and similar establishments • Overnight stays in hotels and similar establishments

	Indicators	• Average size of travel party
		• Average length of stay
		  − For all commercial accommodation services (of which "hotels and similar establishments")
		  − For non-commercial accommodation services
		• Average expenditure per day

A survey on Icelanders' travel patterns has been carried out annually by ITB since April 2009. This survey covers both domestic and outbound tourism (Frenţ, 2013). The domestic part includes questions on domestic trips such as destinations by regions, time of travel, length of

stay, paid attraction and number of excursions. Three regions in Iceland are specified as residency of respondents: “Capital area”, “Communities near the capital area” and “Rest of Iceland” (Icelandic Tourist Board, 2014d). Destinations visited by Icelanders are divided into eight regions (not the same as in figure 2) and each region is then subdivided in 6-10 places (table 11) (Icelandic Tourist Board, 2014b).

Table 11. Places visited by Icelandic visitors in Iceland 2014
Source: Icelandic Tourist Board, 2014b, p. 29

Region	Sub region and places/sites of interest
Capital Region	Reykjavík
Southern Peninsula	Blue Lagoon Reykjanesbær Reykjanes lighthouse, bridge between continents, Gunnuhver Grindavík Krísuvík Sandgerði
Western Region	Snæfellsnes/National Park Borgarnes Stykkishólmur Dalirnir Hvalfjörður Akranes Húsafell/Reykholt
West fjords	Ísafjörður Hólmavík/ Strandir Látrabjarg Hrafnseyri Patreksfjörður Djúpavík Hornstrandir Flatey á Breiðafirði
Northern Region	Akureyri Mývatn Ásbyrgi Dettifoss Húsavík Skagafjörður Hvammstangi Þórshöfn Siglufjörður
Eastern Region	Egilsstaðir/Hallormsstaður Seyðisfjörður Djúpivogur Eskifjörður Stöðvarfjörður Borgarfjörður eystri Vopnafjörður

Region	Sub region and places/sites of interest
Southern Region	Þingvellir/Geysir/Gullfoss Vík Kirkjubæjarklaustur Skógar Skaftafell Jökulsárlón Þórsmörk Eyrarbakki Hornafjörður Vestmannaeyjar
Highlands	Kjölur/ Hveravellir Landmannalaugar Sprengisandur Kárahnjúkar Herðubreiðalindir/ Askja Kverkfjöll Lakagígar

The survey on Icelanders' travel patterns enables an estimation of the number of visitors at each sub region and paid attraction. The places visited in the domestic tourism survey differ slightly from the inbound visitor survey (table 8) as it is more detailed and includes more choices. The specification of places visited in the domestic surveys started in year 2010 and the number of places has increased since then, resulting in the choices presented in table 11 in year 2014. The places visited are measured separately for day trips (excursions) and overnight stays (Icelandic Tourist Board, 2014b).

Information on the purpose of the trip, means of transport, tourism expenditure, travel party and if the trip was a package tour are lacking from the domestic tourism surveys commissioned by ITB (Frenţ, 2013).

Information on accommodation is supplied by Statistics Iceland. The accommodation statistics include information on the number of arrivals and overnight stays as well as the occupancy and capacity in accommodation establishments at both national and regional level (Statistics Iceland, n.d.g.).

Information on domestic travel therefore remains scarce and for regional statistics, the only retrievable data is on estimated number of visits from the visitor survey and accommodation numbers from Statistics Iceland.

2.3. Outbound tourism

Outbound tourism "comprises the activities of a resident visitor outside the country of reference, either as part of an outbound tourism trip or as part of a domestic tourism trip" (United Nations, 2010a, p. 15).

Outbound tourism expenditure is "the expenditure of a resident visitor outside the economy of reference" (United Nations, 2010a, p. 34).

As mentioned before, survey on Icelanders' travel patterns includes both domestic and outbound tourism (Frenţ, 2013). The outbound tourism part includes questions on tourist trips abroad such as the number of trips, type of trip, destination country and the length of stay, which gives some indication on departures (Icelandic Tourist Board, 2014b). No data is collected on tourism expenditure in this survey, but information on Icelandic credit card turnover in other countries has been used as an indicator for outbound tourism expenditure (Central Bank of Iceland, n.d.). As in the case of domestic tourism, the residency of respondents is divided into three regions, capital area, communities near the capital area and rest of Iceland which enables regional subdivision at NUTS3 level. Data regarding the purpose of the trip as recommended by UNWTO (table 12) are lacking.

Table 12. Outbound tourism data and indicators proposed by UNWTO
Source: UNWTO, 2014a, p. 6

OUT BOUND TOURISM	**Departures**	• Overnight visitors (tourists) • Same-day visitors (excursionists)
	Expenditure by main purpose of the trip	• Personal • Business and professional
	Indicators	• Average length of stay • Average expenditure per day

2.4. Tourism industries

Tourism is primarily a demand-defined industry unlike most output-defined industries in the national accounts such as fisheries and manufacturing. Tourism statistics are therefore hidden in various macro-economic aggregates like current accounts or private consumption (Smeral, 2006). Expenditures on travel and tourism cut across many types of industries that do not fit neatly into the Industrial Classification System (Mak, 2004). In order to unveil these different tourism components for analysis, a special method has been elaborated by tourism statistics experts, namely the Tourism Satellite Account (TSA). TSA measures the direct economic

contributions of tourism consumption to a national economy based on a set of ten interrelated tables which are consistent with the general Supply and Use Tables (SUT) established by countries at the national level to describe the general economic balance of goods and services and the production accounts of the producers following the System of National Accounts 1993 (Frechtling, 2010; United Nations, 2010b). TSA constructing in Iceland is limited as the accounts have solely been published three times, in 2008, 2010 and 2011.

Tourism industries are defined as "the activities that typically produce tourism characteristic products" (table 13) (United Nations, 2010a, p. 40).

Table 13. List of tourism characteristic consumption products and tourism characteristic activities (tourism industries)
Source: United Nations, 2010b, p. 25.

	Tourism products	Tourism activities
1	Accommodation services for visitors	Accommodation for visitors
2	Food- and beverage-serving services	Food- and beverage- servicing activities
3	Railway passenger transport services	Railway passenger transport
4	Road passenger transport services	Road passenger transport
5	Water passenger transport services	Water passenger transport
6	Air passenger transport services	Air passenger transport
7	Transport equipment rental services	Transport equipment rental
8	Travel agencies and other reservation services	Travel agencies and other reservation services activities
9	Cultural services	Cultural activities
10	Sports and recreational services	Sports and recreational activities
11	Country-specific tourism characteristic goods	Retail trade of country-specific tourism characteristic goods
12	Country-specific tourism characteristic services	Other country-specific tourism characteristic activities

Tourism industries are also defined in IRTS 2008 as "grouping of those establishments whose main activity is the same tourism characteristic activity. In supply-side statistics, establishments are classified according to their main activity, which is determined by the activity that generates the most value added" (United Nations, 2010b, p. 25).

An establishment is "an enterprise, or part of an enterprise, that is situated in a single location and in which only a single productive activity is carried out or in which the principal productive activity accounts for most of the value added (United Nations, 2010b, p. 25).

Tourism characteristic activities generally produce tourism characteristic products. As the industrial origin of a product (in Iceland the ISAT 2008 industry that produces it) is not a measurement for the accumulation of products within a similar Central Product Classification (CPC) category, there is no exact one-to-one relationship between products and the industries producing them as their primary output. Table 14 demonstrates the typology of tourism characteristic consumption products and activities, separately grouped in the 12 corresponding categories to be used in the Tourism Satellite Account tables (United Nations, 2010a; United Nations, 2010b).

Categories 1 to 10 encompass the core for international comparison in terms of International Standard Industry Classification (ISIC) for activities (equivalent to ISIC 2008 in Iceland) and CPC subclasses for products. Categories 11-12 are country specific, whereas category 11 includes tourism characteristic goods for products and the equivalent retail trade activities for activities. Category 12 refers to country-specific tourism characteristic services and other country-specific tourism characteristic activities (United Nations, 2010b).

In table 14 the tourism activities from table 13 are listed in accordance with the Icelandic industry classification of activities ISAT 2008. Each enterprise in Iceland is classified with a five digit classification code which enables industry categorisation based on European Union's NACE Rev2. The system consists of 664 industries and facilitates distinguishing between the different sectors as well as aggregating related sectors. As tourism is not specially categorized in ISAT 2008, table 14 lists the codes of all the tourism related industries according to IRTS 2008 enabling the coverage of tourism industry population (Statistics Iceland, n.d.c.). Attention must be paid to the fact that enterprise lists by regions inevitably include biases in the case of branches with headquarters elsewhere. Table 14 contains a list of tourism industries data and indicators in Iceland.

Table 14. Table of concordances between UNWTO classification of tourism industries for international comparability and Icelandic industry classifications of activities ISAT 2008.
Source: Frenţ, 2013, p. 88

No	UNWTO categories of tourism industries	ISAT codes	Icelandic categories
1.	Accommodation for visitors	55.10.1	Hotels and similar accommodation, with restaurants
		55.10.2	Hotels and similar accommodation, without restaurants
		55.20.0	Holiday and other short-stay accommodation
		55.30.0	Camping grounds, recreational, vehicle and trailer parks
		55.90.0	Other accommodation
		68.20.1	Letting of residential housing*
		68.31.0	Real estate agencies*
		68.32.0	Management of real estate on a fee or contract basis*
2.	Food- and beverage serving industry	56.10.0	Restaurants and mobile food service activities
		56.29.0	Other food service activities
		56.30.0	Beverage serving activities
3.	Railways passenger transport		Not applicable in Iceland
4.	Road passenger transport	49.32.0	Taxi operation
		49.39.0	Other passenger land transport n.e.c.
5.	Water passenger transport	50.10.0	Sea and coastal passenger water transport
6.	Air passenger transport	51.10.1	Scheduled air transport
		51.10.2	Non-scheduled air transport
7.	Transport equipment rental	77.11.0	Renting and leasing of cars and light motor vehicles
8.	Travel agencies and other reservation services	79.11.0	Travel agency activities
		79.12.0	Tour operator activities
		79.92.0	Other reservation service and related activities
9.	Cultural industry	90.01.0	Performing arts
		90.02.0	Support activities to performing arts
		90.03.0	Artistic creation
		90.04.0	Operation of arts facilities
		91.02.0	Museums activities
		91.03.0	Historical sites, buildings and similar visitor attractions
		91.04.0	Botanical, zoological gardens and nature reserves activities
10.	Sports and recreational industry	77.21.0	Renting and leasing of recreational and sports goods
		92.00.0	Gambling and betting activities
		93.11.0	Operation of sports facilities
		93.13.0	Fitness facilities
		93.19.0	Other sports activities
		93.21.0	Activities of amusement parks and theme parks
		93.29.0	Other amusement and recreation activities
11.	Country-specific tourism character-istics goods	47.30.0	Retail sale of automotive fuel in specialised stores
		**	Retail trade of handicrafts
		**	Retail trade of souvenirs
12.	Country-specific tourism character-istics services	93.12.0	Activities of sport clubs (e.g. golf)

***- only a part what is related to second homes and timeshare properties ** - no ISAT codes allocated**

External trade in services is published yearly by Statistics Iceland based on EBOPS classification system (Extended Balance of Payments Services classification). The system consists of 11 aggregated groups and more detailed subgroups. In Iceland the trade in services is divided into three main groups: Transport, Travel and Other services. The data are based on an enterprise survey of 100 large enterprises and a sample of about 700 small and medium sized enterprises. Information on travel services are based on credit card transactions from the Central Bank of Iceland (Statistics Iceland, n.d.b.). Regional information on external trade in services is not available.

As mentioned before, Supply and Use Tables (SUT) are a principal factor in the making of Tourism Satellite Accounts. SUT show the interface between demand for goods and services and the supply of these goods and services within the economy of reference, including how the tourism demand is met by domestic supply and import. SUT also demonstrate how the supply from domestic or imported origin, interacts with other economic activities. A limitation of the TSA is that the accounts are mainly descriptive in nature and do not include calculations on the indirect and induced effects of tourism on the economy. Other methods have to be used for that such as Input-Output tables which are derived from the SUTs (United Nations, 2010b). The I-O tables show how much of each product is used as input for the production of other products at the same time as it demonstrates how much of each product is consumed by different user categories. This results in a map of the inter-industry relations in the economy (Eurostat, n.d.c.).

Based on the European system of national and regional accounts (ESA95), EU Member States and EFTA countries shall construct and transmit SUT to Eurostat annually and I-O tables every five years. The Icelandic national accounts do neither comprise the required SUT and I-O tables nor a set of full sector accounts and need to be comprehensively developed according to an EU progress report for Iceland in 2011 (European Commission, 2011). Supply and use tables have been made for years 1992, 1997 and 2001, 2002, 2003 and a SUT for 2009 is under construction (Eurostat, n.d.c.; Frenţ, 2013; Statistics Iceland, 2015b).

Economic growth per region in Iceland has been measured by the Icelandic Regional Development Institute for the years 1998-2011 as well as an estimation of GDP per capita in each region (Jóhannesson *et al*, 2013). Tourism is not included in these numbers as special calculations are necessary in that matter.

The measurement of tourism economic impact at the national level is a complex process even though it follows the standardized methodological framework of TSA. The measurement of tourism regionally is even more demanding when it is based on the same data sources as the national figures. The Supply and Use Tables are not easily adaptable to regional estimates (Bucellato *et al*., 2010). As an example, hotel chains around Iceland are usually registered at their headquarters along with their economic turnover, no matter where from it is derived. That is also the case for other large companies with branch offices around the country. In the case of the hotel chains, they can nevertheless represent a large part of accommodation services in smaller towns in the regions with numerous important jobs. This biases the regional numbers from SUT and makes it necessary to seek this information from the region itself. In countries where Regional TSAs have been produced, special regional data sources have been established through Structural Business Statistics (SBS), Annual Business Inquiry (ABI) or similar establishments (Laimer, 2012; Office for National Statistics, 2014).

Table 15. Tourism industries data and indicators proposed by UNWTO
Source: UNWTO, 2014a, p.7

TOURISM INDUSTRIES	**Number of establishments**	Accommodation for visitors Food and beverage serving activities Passenger transportation Travel agencies and other reservation services activities Other tourism industries
	Accommodation for visitors in hotels and similar establishments	Monetary data Output Intermediate consumption Gross value added Compensation of employees Gross fixed capital formation Non-monetary data Number of establishments Number of rooms Number of bed-places
	Indicators	Occupancy rate / rooms Occupancy rate / bed-places Average length of stay Available capacity (bed-places per 1000 inhabitants)
	Travel agencies and other reservation service activities	Monetary data Output Intermediate consumption Gross value added Compensation of employees Gross fixed capital formation Non-monetary data Domestic trips (with and without package tour) Inbound trips (with and without package tour) Outbound trips (with and without package tour)

Table 15 demonstrates tourism industries data and indicators according to UNWTO Methodological Notes to the Tourism Statistics Database (UNWTO, 2014a). Number of establishments and non-monetary data for accommodation services is retrievable on the national level. Information on travel agencies and reservation services is lacking. Tourism industry data on the regional level is scarce as already mentioned before. An approach of a possible adaptation to evaluating the tourism industry on a sub-national level in Iceland is described later in this report, using a research in Þingeyjarsýslur as an example (chapter 4).

2.5. Tourism employment statistics

Statistics Iceland has carried out a continuous quarterly labour force survey since January 2003. The primary purpose of the survey is to gauge labour market developments of the Icelandic population. The sample is drawn from the National register with a sample of 4.030 individuals, aged 16-74, each quarter. The main concepts of the survey are based on definitions from Eurostat and the International Labour Organisation (ILO) (Statistics Iceland, n.d.i.). It is conducted by telephone and the information that that can be derived from it includes main work status, main and second job, former work experience, job search, trade union membership, education and training (Statistics Iceland, n.d.i).

Data on trade union membership is gathered once a year from the trade unions and four times a year employment agencies provide Statistics Iceland with information on registered unemployment by sex, age and duration of unemployment registration. Since 2001 Statistics Iceland has published estimates on the quarterly numbers of employed persons based on PAYE register (Pay-As-You-Earn) of the Tax authority (Statistics Iceland, n.d.i.; Frenţ, 2013). Results can be categorized by ISAT 2008 industry classification of activities and NUTS3 level (Statistics Iceland, n.d.e.).

Tourism employment is not estimated on a regular basis in Iceland, but information on employment in hotels, restaurants and transport can be retrieved from the Labour Force Survey by sections as in table 13. More specified estimation on tourism employment can be found in the Tourism Satellite Accounts (Statistics Iceland, n.d.h.; Statistics Iceland, 2011).

Through an agreement with the Institute of Labour Market Research, valid from January 2005, Statistics Iceland runs a business survey for wage data. The business survey is based on

a random sample of companies. Data is collected every month directly from the company's payroll systems and contains information on labour costs for all employees.

Table 16. Tourism employment data and indicators proposed by UNWTO
Source: UNWTO, 2014a, p. 8.

EMPLOYMENT	**Number of employees by tourism industries**	Accommodation services Other accommodation services Food and beverage serving activities Passenger transportation Travel agencies and other reservation services activities Other tourism industries
	Number of jobs by status in employment	Employees Self employed
	Indicators	Number of full-time equivalent jobs by status in employment Employees (male and female) Self-employed (male and female)

The sample is a stratified cluster sample where the sample unit is the local activity unit and the observation unit is the employee. The target population contains all local activity units with at least 10 employees. Industry categorisation is based on ISAT 2008 and covers about 80% of all employees in the country. Tourism is not measured especially (Statistics Iceland, n.d.a.).

Regional tourism data is not retrievable from this labour market research. The reason is inaccuracy as it is based on a sample of companies. It is also restricted to companies with 10 or more employees, but numerous tourism companies (particularly in the regions of Iceland outside the capital) have less than 10 employees.

2.6. Complementary macroeconomic indicators.

Table 17 lists complementary tourism indicators from the demand side and from macroeconomic indicators.

Measuring the travel propensity is a useful measure of the effective demand in tourism as it measures the percentage of a population that actually engages in tourism. *Net travel propensity* is the percentage of population that takes at least one tourism trip in a given period of time, indicating what proportion of the population engages in tourism. The *gross travel propensity* measures the total number of tourism trips taken, as a percentage of the population.

By dividing the gross travel propensity by the net travel propensity, an average number of trips taken by people participating in tourism is retrieved, i.e. the *travel frequency* for the population (Bowen & Clarke, 2009). These numbers are retrievable from the outbound visitor survey by the Icelandic Tourist Board on a NUTS3 level as participants were asked to state if they took a trip abroad on the specific year and if so, how many trips were taken the same year (Icelandic Tourist Board, 2014b).

Calculating tourism arrivals per population gives an indication on the carrying capacity of a destination. In Iceland the main focus has been on the carrying capacity of unpopulated or sparsely populated areas such as the highlands with subject to growing tourism traffic. Ambitious research is in process in eight nature destinations in South and West Iceland focusing on the carrying capacity of the sites commissioned by ITB (Icelandic Tourist Board, 2014c). The Icelandic Tourism Research Centre will publish a study on social carrying capacity also commissioned by the ITB in spring 2015.

The macroeconomic indicators in table 17, are only measurable on the national level.

Table 17. Complementary tourism indicators proposed by UNWTO
Source: UNWTO, 2014a, p. 8.

COMPLEMENTARY INDICATORS	**Demand**	Gross travel propensity Carrying capacity (arrivals/population)
	Macroeconomic indicators related to international tourism	Inbound tourism expenditure over GDP Outbound tourism expenditure over GDP Tourism balance (inbound minus outbound tourism expenditure) over GDP Tourism openness (inbound plus outbound tourism expenditure) over GDP Tourism coverage (inbound over outbound tourism expenditure) Inbound tourism expenditure over exports of goods Inbound tourism expenditure over exports of services Inbound tourism expenditure over exports of goods and services Inbound tourism expenditure over current account credits Outbound tourism expenditure over imports of goods Outbound tourism expenditure over imports of services Outbound tourism expenditure over imports of goods and services Outbound tourism expenditure over current account debits

3. Estimating the economic contribution of tourism at regional level: An example from the UK

In the United Kingdom (UK), a recognized lack of coordination in the production of official tourism statistics caused the Office for National Statistics (ONS) to come up with a methodology that reconciled the demand and supply of tourism related activities at the regional level in the UK, based on the TSA framework. The methodology was designed in order to enable English Regional Development Agencies to measure the contribution of tourism within regions in a reliable form, allowing a robust performance comparison between regions. At the same time it was aimed at optimizing the amount of information from all the data sources available at the regional level (Bucellato *et al*., 2010). This method will be described in this chapter as it is believed to be suitable for Icelandic conditions when some principal improvements in the regional statistical data gathering in the country will be reached.

The method is based on data gathering within ONS as well as data sources externally. The ONS data covers the measurement of the supply side of tourism as the industries are grouped by international recommendations in the Standard International Code (SIC) of tourism activities, including 42 five-digit SICs combined in 10 industries. On the demand side, the consumption of overnight domestic tourism and the expenditure of domestic excursionists is collected from external suppliers (Bucellato *et al*, 2010).

In the UK, the Annual Business Inquiry (ABI) provides a scaling factor which is used in these calculations to ensure that tourism data are representative at the regional level. The ABI is an annual business survey which collects both employment and financial information by regions in the UK and is the main source for measuring the supply side of tourism. Similar data collection takes place in other countries such as Austria where Regional National Accounts (RNA) are calculated for the 35 NUTS3 regions (Laimer, 2012; Office for National Statistics, 2014; Statistics Austria, n.d.; Bucellato *et al*., 2010).

The financial information count for about two third of the UK economy and the Approximate Gross Value Added (aGVA) is calculated as an input into the measurement of Gross Domestic Product (GDP). The data are regional estimates and the statistics are produced to professional standards and released according to the arrangements approved by the UK Statistics Authority (Bucellato *et al.*, 2010; Office for National Statistics, 2014).

In order to measure the Gross Value Added of Tourism Industries (GVA-TI) a ratio (GVA-TI (%)) has to be calculated to apportion the total supply of commodities to those in the tourism related SICTA (Standard International Code of Tourism Activities).[3]

$$\text{GVA-TI}(\%) = \frac{\sum_{n=1}^{N} GVA_i^{ABI}}{\sum_{k=1}^{K} GVA_i^{ABI}} \text{ x100}$$

GVA_i^{ABI} = Gross Value Added in the region according to ABI
n = 1,2,…42 sum GVA over SICTAs
k = 1,2,…638 sum GVA over the complete set of 5 digits SICs composing the whole regional economy.

Even though GVA-TI (%) is calculated from a unique dataset with the advantage of internal consistency, two issues have to be taken into consideration. Firstly, tourism is demand defined and measured by the activities of tourists and what they spend their money on. Therefore tourism only accounts for a proportion of the total amount in each tourism related SICTA category. Because of that, further apportionment is required when calculating the Tourism Direct Gross Value Added (TD-GVA). Secondly, an under-representation may have occurred of small firms which are below the VAT limits, but the tourism sector is reliant to a large degree on medium and small enterprises (Bucellato *et al*., 2010).

For the domestic tourism, a ratio has to be found in order to calculate the ratio between tourists and residents at leisure on the supply side. Four components of tourism consumption are captured in this relation (Bucellato *et al*., 2010):

- Inbound visitor spending within the UK.
- Domestic overnight visitor spending.
- Excursionist spending.
- Domestic spending of outbound residents.

In the UK, various data sources exist for the above information. International Passenger Survey by the ONS, UK Tourism Survey by Taylor Nelson Sofres, English Leisure Visits survey by English nature and the national Parks in England, Great Britain Day Visit Survey

[3] A list similar with SICTA in Iceland (at ISAT 2008 level) can be found in table 11.

and other surveys conducted by VisitBritain. Most of these sources are available at the regional level.

When data gathering and calculations on the supply side as well as the demand side are finished, reconciliation between these two sources has to be obtained. That is done by calculating the Demand to Supply ratio (DS ratio). The DS ratio is the most important figure within the TSA framework, better known as *the tourism ratio* (United Nations, 2010b; Bucellato *et al.,* 2010).

$$DS(ratio)_i = \frac{TotInbExp_i + TotDomNightExp_i + TotDomDayVis_i + TotOutDomExp_i}{TOT\text{-}SP_i^{SUT}}$$

In the numerator, all the tourism components for each of the 12 regions in UK are summed:
i = 1,2,….12
TotInbExp = Total inbound expenditure
TotDomNightExp = Total domestic overnight expenditure
TotDomDayVis = Total domestic expenditure by excursionists (day visitors)
TotOutDomExp = Total domestic expenditure of outbound tourists before they leave the region
The denominator is the total supply of products at purchasers' prices for the region *i* in SUT units divided up through the UK Annual Business Inquiry (ABI).

As a final point, the DS ratio can be used to calculate figures for Tourism Direct Gross Value Added (TDGVA). The GVA are to be found in the SUT apportioned by region using the ABI shares and then multiplied by the DS ratio:

$$TDGVA_i^{SUT} = GVA_i^{SUT} \text{ x } DS(Ratio)_i$$

Despite presenting all the most important figures from the TSA, ONS does not consider this methodology sufficient in order to attain a complete TSA framework at the regional level. The reason is a lack of a consistent set of Supply and Use Tables produced at a regional level.

The method described above could be a suitable approach to evaluate regional effects of tourism in Iceland if a systematic approach similar to the Business Inquiry or Structural Business Statistics would be operated at a regional level as well as a demand side survey. As that is not the case yet, no statistical data by region is applicable except risking unacceptable biases due to miscellaneous registration of business entities.

4. Research on economic effects of tourism in Þingeyjarsýslur, Iceland

In order to evaluate tourism's regional economic effects in Iceland, based on the recommended international methods, a study has been carried out by the Icelandic Tourism Research Centre in collaboration with the University of Iceland's Research Centre in Húsavík and the Húsavík Academic Centre during the period of 2012-2015. The field of study is Þingeyjarsýslur counties, including six municipalities and a total population of 4.786 in a geographical area of 18.460 km^2 (Húsavík Academic Centre, 2014; National Land Survey of Iceland, n.d.). In this report, the main emphasis is on data sources whereas calculation methods and results will be described in a later report at the end of the project. Due to financial and time restrictions of the project, domestic and outbound tourism factors in the region will be excluded. These factors need different approach as explained in chapter 2.2. The main emphasis will be on inbound tourism and economic effects of foreign visitors to Þingeyjarsýslur.

4.1. Total population of tourism companies in the region

As already mentioned, a list of enterprises categorised by the ISAT 2008 classification is retrievable at the Statistic's Iceland Business Register on a national level. However, when an enterprise list is created for certain regions, biases are inevitable due to miscellaneous registration of the companies, especially in the case of branch operations of firms with headquarters elsewhere.

For this research, a list of companies in the research area was created by the Business Register. The activities were then ranked by the categorization in table 14. The research area is Þingeyjarsýslur consisting of six municipalities:

- Norðurþing
- Skútustaðahreppur
- Tjörneshreppur
- Þingeyjarsveit
- Svalbarðshreppur
- Langanesbyggð

The list of companies includes all registered enterprises and organizations according to the enterprise register of the Internal Revenue Directorate in the research area. Two criteria were

established in order to exclude companies that were not operating; companies had to deliver salary payments or show revenues during the research period.

Despite these criteria, an obvious bias in the companies list occurred as large companies such as hotel chains and other companies with operations in more than one place in the country were missing, as already explained. In order to limit this sample error, an additional approach was used.

Each section from the ISAT 2008 list was taken into consideration and compared to other information sources (table 18). These sources were the following:

- Travel agencies and tour operator licence list by the Tourist Board of Iceland.
- Accommodation and restaurant licence list by the Icelandic Police Website.
- Destination Marketing Organisation registration of tourism related companies in the region.
- Development agencies list of companies by categories.

Table 18. Data sources for identifying tourism related companies in the Þingeyjarsýslur region

Section I – Accommodation and Food Service Activities **55 Accommodation** **55.1 Hotels and similar accommodation**										
	Company 1	Company 2	Company 3	Company 4	Company 5	Company 6	Company 7	Company 8	Company 9	Company 10
Statistics Iceland Business Register	x		x		x	x		x		x
Northeast Iceland Development Agency	x	x		x	x	x		x	x	
Tourist Board of Iceland: Licenced tour operators and travel agencies				x				x		
The Icelandic Police Website: Licence list for accommodation and restaurants	x	x	x	x	x	x	x	x	x	x
Destination Marketing Organisation in North Iceland (DMO)	x		x	x	x	x	x	x		x

By using this approach a total population of tourism related companies in the region of research is believed to have been reached, consisting of 189 tourism entities.

4.2. Interviews

Due to possible biases and gaps in the regional list of tourism companies from the Business Register, no economic data could be retrieved from official databases by regions. Enterprise operating accounts by section from Statistics Iceland and credit card turnover from the Centre for Retail Studies contain important indicators on economic development in the country and would have been useful in this study if they allowed for the data to be regionally dividable. The only reliable data source for regional financial information in this research was to be found within the tourism companies themselves and therefore semi structured interviews with the enterprise representatives were used as the main data collection method. The questions were constructed in accordance with the UNWTO methodology and the main emphasis was on the following subjects:

- Total revenues in the year 2013
- Estimated tourism ratio from the above revenues
- Total cost in the year 2013 (salaries and amortization excluded)
- Operation cost paid to companies or organizations within the research area
- Operation cost paid to companies within North East Iceland
- Salary payments
- Investments
- Number of employees and full time equivalents (summer and winter)
- Ratio of employees with registered domicile within the research area
- Supplies and services – ranked by scope of business within the research area
- Taxes and fees
- Origin of employees (former jobs or education)

The subjects were chosen in and are in harmonisation with the ONS methodology presented in chapter three (table 19).

Table 19. Synchronisation of ONS methodology and Þingeyjarsýslur research methodology

Regional tourism data	UK Regions	Þingeyjarsýslur
Employment data	The ONS Annual Population Survey collects employment data by sectors and regions quarterly, including tourism.[4]	Northeast Iceland Development Agency collects employment data in Þingeyjarsýslur annually by sectors, including tourism.
Financial data	The ONS collects data on turnover and purchases directly from companies in 12 regions in the UK through the Annual Business Survey. GVA is subsequently measured as an input into the GDP.	No direct regional collection of financial data is practiced in Iceland. In this research, financial data derives from annual accounts presented in interviews with tourism companies in Þingeyjarsýslur.
GVA of Tourism Industries	GVA-TI is calculated by apportioning the total supply of commodities to those in the 42 tourism related SICTA of each region.	GVA-TI is retrieved from the interviews by aggregating total wage cost, pre-tax profit and depreciation of the tourism companies in the region.
Tourism Ratio	The tourism ratio is the sum of all the tourism demand side data components divided by the total obtained from the tourism supply side data components.	Each enterprise evaluates the tourism ratio in the interviews from the total revenues of the company.
Tourism DGVA	The Tourism Direct Gross Value Added is calculated by multiplying the GVA with the tourism ratio.	The TDGVA is calculated by multiplying the GVA with the tourism ratio as in the case of ONS.

The UNWTO methodology framework provided for the TSA solely measures the direct effects of tourism on the economy. In order to evaluate the indirect effects, additional questions on total cost, investments, supplies and services were asked in the interviews, enabling a wider measurement of the total effects of tourism in the region.

As the interviews were still ongoing at the time of the publication of the report, no results or final response rate can be described in this report. More specific calculations will be presented with the results in a later report.

[4] Office for National Statistics, 2012

4.3. Municipalities' revenues

This section will describe an attempt to develop a method aimed at measuring municipalities' revenues from tourism. The list of tourism characteristic activities is based on the TSA Recommended Methodological Framework as described in chapter 2.4 (United Nations, 2010b). A list of tourism characteristic companies was sent to each of the six municipalities in the research area and information on the taxes and fees in table 19 were accumulated. Each category was then adjusted according to the tourism ratio derived from the interviews.

Iceland's local authorities function under the Local Government Act, No. 138/2011. All the municipalities in Iceland have self-determination and responsibility concerning their own affairs in accordance with the law. They shall have their own sources of revenue, and shall be autonomous in determining fees collected by their own companies and agencies in order to meet their own expenses according to Section 5 of Article 3 of the Local Government Act (Alþingi, 2011a; Sverrisson and Hannesson, 2006).

The revenue bases of municipalities are tripartite: property tax, contributions from the Equalisation Fund and municipal income tax. Other municipal income derives from various smaller income bases like service fees, e.g. license fees, sewage disposal fees, lot rental, passenger tax etc. Furthermore, municipalities run various activities in independent operational units or companies, such as heating and water utilities, harbours and social apartments which have independent revenues (Alþingi, 1995).

The municipal income tax is generally the largest source of revenue, followed by service fees and property tax. The collection of municipal income tax takes place at source each month during the income year. Every person who is obliged to pay municipal income tax shall pay the tax to the municipality where one has legal residence. If a person has legal residence in more than one municipality during the tax year, one has to pay municipal tax to the appropriate municipality in accordance with the time of residence in each municipality (Directorate of Internal Revenue, n.d., KPMG, 2013; Sverrisson and Hannesson, 2006).

Real estate taxes are obligatory in Iceland. Municipalities levy the tax on the official premises valuation of immovable property annually. The tax rate varies depending on the municipality and the type of real estate. In year 2013 the roof was 1.65% of the official premises valuation of the property (European Council, 2005; Alþingi, 1995; KPMG, 2013).

Table 20. Municipal revenues with relevance for tourism in the Þingeyjarsýslur region

Taxes	Dues	Other revenues
Communal income tax	Harbour dues	Community centres
Property tax	Water dues	Schools (rentals)
Passenger tax	Drain dues	Culture centres
	Garbage dues	Sport centres & clubs
		Swimming pools
		Camping places
		Theatres & clubs
		Information centres

Other sources of income are some municipality run tourism characteristic companies such as camping places and information centres (table 20) which gain revenues from tourism. Economic data from these companies are covered through interviews with the relevant municipal employees, based on the same interview frame as introduced in chapter 4.2.

The total income from the factors in table 20 are then aggregated and multiplied with the tourism ratio of each tourism enterprise in order to accumulate the total tourism revenue of each municipality in the region of research.

4.4. Inbound visitor survey

The interviews described in chapter 4.2. provide important data of the supply side of tourism in Þingeyjarsýslur. For the demand side there is a serious lack of data at a regional level. The possibilities of retrieving regional information from the ITB inbound visitor survey are limited, hence a special inbound visitor survey had to be conducted in the research area. A questionnaire was developed and tested in collaboration with the Húsavík Academic Centre and the University of Iceland's Research Centre in Húsavík and a total of four inbound visitor surveys were conducted in the region during the summers of 2013 and 2014. One survey was carried out each year in Húsavík and another survey each year in Mývatnssveit. The total number of valid answers ranged from 451 to 492 in the four surveys and the response ratio from 71% -76%. The questions were based on the inbound tourism data frame as proposed in table 4. The main categories were the following:

- Arrivals
- Arrivals by region
- Arrivals by main purpose of visit
- Arrivals by mode of transport
- Arrivals by form of organization of the trip
- Accommodation
- Expenditure

More specifically, visitor profile statistics were based on Cooper *et al*. (2005) as presented in table 21. The questionnaire consisted to a large extent of structured questions where respondents chose an answer from a list of pre-selected options. However, questions on country of residence, age, education, expenditures and the main reason of visit were open-ended questions, allowing the respondents to provide more specific answers. The questions were restricted to the stay in Húsavík or Mývatnssveit for a period of 24 hours.

Table 21. Focus factors in the visitor profile statistics
Source: Cooper et al. 2005, p. 88

The visitor	The visit
Age	Origin and destination
Sex	Mode of transport
Group type	Purpose of visit
Country of residence	Length of stay
Occupation	Accommodation used
Income	Activities engaged in
	Places visited
	Tour or independently organised

The main expenditure categories in the survey were based on the UNWTO International Recommendations for Tourism Statistics (chapter 2.1.3):

- Accommodation
- Food and drink
- Local transport
- Recreation, culture and sporting activities
- Shopping
- Others

A sample size of around 400 answers is often considered to be suitable for representing a population at a 95% confidence level and with a ±5% margin of error in recreation and human dimensions studies (Vaske, 2008; Veal, 2006). In this research, Dillman's equation for estimating desired sample size was used: (Dillman, 2007; see also Vaske, 2008, p. 180).

$$N_s = \frac{(N_p)(p)(1-p)}{(N_p-1)(B/C)^2+(p)(1-p)}$$

where:

Ns = completed sample size needed.
Np = Size of population (in this case, number of foreign visitors in Húsavík/Mývatnssveit in one year).
p= proportion expected to answer in a certain way (0,5).
B = acceptable level of sampling error (0,05).
C= Z statistic (1,96). (Vaske, 2008, p. 180).

Dillman's equation resulted in a minimum sample of 383 answers, ensuring statistical significance for all four inbound visitor surveys conducted in this research (Rögnvaldsdóttir, 2014).

In regional inbound visitor surveys, selecting respondents on a truly random or representative basis is problematical as population lists are unavailable. Another challenge is the access to these individuals. Probability sampling is therefore not practical when a population list is unavailable and on-site surveys are often the only possible solution as was in this case (Smith, 2010). The sampling method used in this survey was a non-probability convenience sampling where the sample consisted of visitors available to the interviewer at a given point in time and space (Finn *et al.,* 2000). An interviewer was located at the entrance of the Tourism Information Centre in Húsavík and Mývatnssveit during opening hours and questionnaires were distributed to all inbound visitors 18 years and older who came to the centre during the period of study.

The advantage of an on-site survey is that it usually yields a high response rate as the researcher can explain the rationale and significance of the survey at the same time as he can give clarifications if questions are unclear to the respondents (Vaske, 2008). The disadvantage of an on-site survey is the risk of sample selection bias, resulting in skewed results. Therefore the results of the study should not be used to generalise to the entire population, but as an indicator of a situation that can be used for further research (FedNor, e.d.; Malhotra, 1999).

The main objective of this inbound visitor survey in Þingeyjarsýslur was to provide local data on visitor profile, travel behaviour and consumption pattern of the visitors in order to shed light on and improve understanding of the demand side of tourism in the area of research. (Rögnvaldsdóttir, 2014).

5. Conclusion

The aim of this report has been to map up the obtainable tourism data sources in Iceland according to the framework of UNWTO *Compendium of Tourism Statistics 2014*, and means of linking these to the regional level. Main focus was on the statistical territorial division of Iceland in chapter one and the tourism legal framework of the European Union in that relation. Due to the small size of the country, Iceland has limited obligations of regional division of tourism data for the European Union. However, statistical territorial division is necessary in order to comprehend the function of the national economy and Statistics Iceland has started to work towards a new regional demarcation of Iceland on these terms.

Chapter two focused on the regional tourism data availability in Iceland. Tourism data on the regional level in Iceland is lacking as demonstrated in table 22. The sole systematic data collection by regions in Iceland is the accommodation statistics by Statistics Iceland. Visitor numbers are not counted on a sub-national level and very few regional statistics can be retrieved from the ITB inbound visitor survey. This lack of data makes statistical analysis of tourism at the regional level in Iceland difficult and expensive.

Table 22. Tourism related data availability on the national and sub-national level in Iceland

	National level	Subnational level
Accommodation statistics	yes	yes
Foreign Visitors Counting	yes	scarce
Inbound visitor survey (ITB*)	yes	scarce
Domestic and outbound visitor survey (ITB*)	yes	scarce
Cruise passengers statistics	yes	no
Household Expenditure survey	yes	no
External trade in services statistics	yes	no
Credit card turnover	yes	no
Enterprise Account Register (EAR)	yes	no
VAT Register	yes	no
Supply and use tables	scarce	no
Input – output tables	scarce	no
Wage statistics	yes	no
Labour Force Survey	yes	no
Enterprise Register	yes	no
Pay as you earn Register (PAYE)	yes	no

* - commissioned actually by ITB to private market research companies

The tourism related data deficiency on the subnational level should not be of surprise to anyone as the tourism industry has long called for more data and research to base future strategy and industry management decisions on (Icelandic Tourist Board, 2013). A more specified description of each data source in table 22 can be found in Appendix 1.

Statistics on domestic and outbound tourism are collected systematically on a national level, but do not allow regional breakdown. Tourism statistics on the supply side in Iceland are almost exclusively on the national level. Tourism satellite accounts have been published three times in the country, measuring the contribution of tourism in the national economy. Regional statistics have not been retrievable from the TSAs. The business registry in Iceland lists enterprises by headquarters, regardless of the location of business activities, risking sample biases when company list is retrieved by regions. The same holds true for financial statistics such as enterprise operating accounts by section from Statistics Iceland and credit card turnover from the Centre for Retail Studies, as the financial numbers are registered by the headquarters regardless of their place of origin.

Several countries have developed methods to estimate the economic contribution of tourism at the regional level, based on the framework provided for Tourism Satellite Accounts. The Office for National Statistics in the UK has come up with a method that is presented in this report as it is believed to be suitable in Iceland upon completion of future improvements in tourism data gathering in the country. This method requires regional data collection at the place of origin. In the UK, data is collected by an annual business inquire, providing information on regional economic contribution to GDP by industry sectors.

At the time being, systematic measures of regional economic contribution of tourism in Iceland are impossible with the use of secondary data. Primary data has to be obtained with cost and time consuming methods. An ongoing research in Þingeyjarsýslur region was described in chapter four as an attempt to present a possible application on measuring the regional economic effects of tourism in Iceland based to the extent possible on a framework provided for Tourism Satellite Accounts.

As already stated, the main emphasis in this report has been on data sources whereas calculation methods and results from the research project in Þingeyjarsýslur will be described in a later report at the end of the project.

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7. Appendix 1. Short description of data sources for tourism in Iceland and their applicability in Þingeyjarsýslur region

Based on Frenţ (2013)

	ICELAND	ÞINGEYJARSÝSLUR
Accommodation statistics	A monthly survey by Statistics Iceland: *Number of Accommodation establishments, guests and overnight stays.* First published in 1984. Collects data on capacity and occupancy for the following categories: • Hotels and guesthouses • Private home accommodation • Holiday centres • Youth hostels • Sleeping-bag facilities • Camping sites • Lodges in the wilderness	Statistics Iceland presents data for eight regions of Iceland. A special data file was created for this research which includes a number of accommodation establishments, guests and overnight stays in Þingeyjarsýslur for the period 2002-2013. Due to traceability it was broken down to the following three categories: • Hotels and guesthouses • Private home accommodation + Holiday centres+ Youth hostels+ Sleeping-bag facilities • Camping sites + Lodges in the wilderness
Foreign Visitors Counting	Since 2002 the Icelandic Tourist Board has been responsible for the tallying of tourists passing through the airport terminal at KEF airport. The figures are broken down to months and 17 nationalities. A total number of visitors in Iceland (calculated only on yearly basis) is the sum of: • Number at KEF airport security gate prior to departure • Foreign visitors from M/S Norröna at Seyðisfjörður • Foreign visitors from other airports /Rvk-Ak-Est	A special report based on a visitor survey at KEF airport ("Dear visitor survey") from RRF was made for Þingeyjarsýslur for 2005-2012 Tourist numbers are assumed but no detailed breakdown for nationalities is provided.

	ICELAND	ÞINGEYJARSÝSLUR
Inbound Visitor survey: Travel Behaviour of Foreign Tourists	Inbound visitor surveys have been conducted by the ITB in: Summer 2014 Winter 2013-2014 Winter 2011-2012 Summer 2011 Summer 2010 Winter 2009-2010 Other surveys were conducted on an irregular basis from 1992-2008 The inbound visitor survey was conducted online; addresses were collected in a systematic manner in the arrival and departure areas of Keflavik Airport and Seyðisfjörður harbour. Main focus was on the travel behaviour in Iceland, expenditure pattern, prelude to the visit, attitudes to various aspects of Icelandic tourism etc.	The survey gives possibility to calculate tourist numbers from the visiting ratios in North Iceland and the following places in the region: • North Iceland • Húsavík • Mývatnssveit • Ásbyrgi/Dettifoss • Melrakkaslétta/Þórshöfn For each region, information on nationalities, age, income, position, length of stay, reason for the trip and the mode and type of travel can be retrieved.
Domestic and outbound Visitor survey: Travel Behaviour of Icelanders	A survey on Icelanders' travel patterns has been carried out by the Icelandic Tourist Board yearly since April 2009: Year 2013 Year 2012 Year 2011 Year 2010 Year 2009 Year 2003 Year 2000 This survey covers both domestic and outbound tourism. The domestic part includes questions on domestic trips such as destinations by regions, time of travel, length of stay, paid attraction and number of excursions. Destinations visited by Icelanders are divided up in eight regions and each region is then subdivided in 6-10 places. A special demand side survey on Icelanders' travel patterns was conducted in year 1996 and 2007-2008 by Statistics Iceland.	This survey gives possibility to calculate tourist numbers from the numbers of visits to North Iceland and the ratio of Icelanders visiting: • North Iceland • Húsavík • Mývatnssveit • Ásbyrgi • Dettifoss • Þórshöfn

	ICELAND	ÞINGEYJARSÝSLUR
Cruise passengers statistics	Associated Icelandic Port records the number of cruise passengers. However, Icelandic Tourist Board published data only for the following ports: Reykjavík Akureyri, Ísafjörður, Grundarfjörður, Vestmannaeyjar and Seyðisfjörður.	No official information is available for harbours in Þingeyjarsýslur. Information on number of cruise passenger is provided by the harbours upon requests. Icelandic Tourism Research Centre has gathered data on cruise passengers in Húsavík port.
Household Expenditure survey	A continuous household expenditure survey commenced in the beginning of year 2000, and has been carried on since then. The main purpose of the household expenditure survey is to gather information on the consumption expenditures of households for the expenditure base of the consumer price index. It provides important insight into changes to patterns of consumer spending and information on household expenditure and its composition according to various social and economic factors. Focus should be put on consumption in the following categories • Package holidays. • Hotels, cafe and restaurants. • Recreation and cultural services. • Transportation services.	The HE survey could be used to some point in estimating the travel behaviour of people from Þingeyjarsýslur as well as measuring the induced effect based on the general consumption of tourism employees in the area. Main drawback is that it cannot be broken down to special regions of Iceland.

	ICELAND	ÞINGEYJARSÝSLUR
External trade in services statistics	Statistics Iceland publishes yearly data on External trade in services by service category (EBOPS classification) and on goods and services balance. Expenditure on non-residents in Iceland = export of services. Expenditure of Icelandic residents made abroad = import of services. **Travel credit**: *goods and services for own use or to give away acquired from an economy by non-residents during visits to that economy* **Travel debit**: *goods and services for own use or to give away acquired from an economy by residents during visits to these other economies*	This data cannot be broken down to specific regions due to inaccuracy in registration. Data has therefore to be collected first hand from tourists and businesses in Þingeyjarsýslur. **Adaptations to** Þingeyjarsýslur region: **Travel credit**: *goods and services for own use or to give away acquired from Þingeyjarsýslur economy by non-residents during visits to Þingeyjarsýslur. (information retrievable from tourism expense surveys in Mývatnssveit and Húsavík)* **Travel debit**: *goods and services for own use or to give away acquired by Þingeyjarsýslur residents in other economies (countries) during visits to these other economies (countries)(data unavailable for Þingeyjars.).*
Credit card turnover	The Centre for Retail Studies in Bifröst, recently started publishing the credit-card turnover of foreign tourists by categories and retail subcategories. Main categories are the following: • Accommodation • Restaurants • Transport • Miscellaneous tourism • Fuel, car repair and • car maintenance • Other transport services • Culture, entertainment and recreation • Other services • Retail • Public levies • Cash withdrawals	Foreign credit-card turnover has not been broken down to regions due to inaccuracy, traceability and an agreement with the Credit card companies.

	ICELAND	ÞINGEYJARSÝSLUR
Enterprise Register (Business Register)	The Enterprise Register is maintained by the Internal Revenue Directorate. It contains information on all enterprises, institutions and organizations in Iceland. Statistics Iceland produces data from the enterprise register such as the number of enterprises and new registrations at the same time as it obtains information on wage payers. In this register each enterprise has a unique identification code classified with a 5 digit Icelandic Standard Industrial Classification (ISAT 2008) code.	From the Enterprise Register a list was created containing all companies and VAT individuals in Þingeyjarsýslur with revenues or salary payments 2011-2012. A total of 481 enterprise and 382 individuals were identified. Enterprises with activities in Þingeyjarsýslur but legal domicile elsewhere were not included.
VAT Register	The VAT Register consists of enterprises with an annual turnover over 500,000 ISK (in 2010). Data is collected from VAT returns from enterprises to tax authorities and covers all the sales of goods and services that are VAT taxable regardless if the sale is to a final user or for resale. The VAT register provides also data on turnover for some tourism industries such as: • Air transport • Accommodation and food service activities • Travel agency, tour operator reservation service and related activities • Creative, arts and entertainment activities • Sport activities and amusement and recreation activities	It is not possible to get information on specific regions due to inaccurate registration of regional information and possible traceability.

	ICELAND	ÞINGEYJARSÝSLUR
Supply and use tables	The SUT provide detailed data in the form of matrices that record how supplies of different kinds of goods and services originate from domestic industries and imports and how those supplies are allocated between various intermediate or final uses, including exports. Statistics Iceland does not create regular annual supply and use tables as EU member states do, but constructed them for the years 1992, 1997, 2001, 2002 and 2003. A SUT for 2009 is under construction.	SUT are not constructed on a regional level.
Input – output tables	The SUTs give detailed information on production processes, interdependencies in production, the use of goods and services, and income generated in production. They form the basis for symmetrical input-output tables, which are produced by applying certain assumptions to the relationship between outputs and inputs and are used by policy-makers for input-output analysis. As for the SUT tables, I-O tables have not been created in Iceland on a five year basis as is requested of EU member states.	No regional I-O tables are planned in Iceland in the near future. Regional I-O tables would enable calculations on indirect and multiplier effects of tourism at regional level.

	ICELAND	ÞINGEYJARSÝSLUR
Wage statistics	Through an agreement with the Institute of **Labour Market Research**, valid from January 2005, Statistics Iceland runs the business survey for wage data. The business survey is based on a sample of private companies. Data is collected every month directly from the company's payroll systems and contains information on labour costs for all employees. The sample is a stratified cluster sample where the sample unit is the local activity unit and the observation unit is the employee. The target population contains all local activity units with at least 10 employees. The survey currently covers the following sectors; D Manufacturing, F Construction, G Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods and I Transport, storage and communication. The aim of this survey is to cover all main sectors and occupations of the Icelandic labour market. Methods are based on European recommendations. However information on tourism such as Hotels, restaurants and transportation are not measured especially in this survey.	According to Statistics Iceland it is not possible to get regional wage data from the labour market research. The reason is inaccuracy as it is based on a sample of companies. It is also restricted to companies with 10 or more employees, but numerous tourism companies in Þingeyjarsýslur have less than 10 employees.

	ICELAND	ÞINGEYJARSÝSLUR
Labour force survey	Statistics Iceland has carried out a continuous quarterly labour force survey since January 2003. The primary purpose of the survey is to give a proper description of the labour market status of the Icelandic population. The sample is drawn from the National register with a sample of 4.030 persons, aged 16-74 each quarter. In the period 1991-2002 the labour force survey was conducted twice a year, for one reference week in April and November. The survey, conducted by telephone, includes questions relating to employment status, working hours, education, residence, etc. They are based on international standards and modelled on comparable surveys in the neighbouring countries. In addition, data on trade union membership is gathered once a year from the trade unions and four times per year employment agencies provide Statistics Iceland with information on registered unemployment by sex, age and duration of unemployment registration.	Results from the labour force survey can be categorized by the following economic activities for a) Capital area b) Rest of the country • Agriculture total • Agriculture • Fishing • Industry total • Fish processing • Manuf. Except fish processing • Electricity and water supply • Construction • Services total • Wholesale, retail trade, repairs • Hotels, restaurants • Transport, communication • Financial intermediation • Retail estate and business activities • Public administration • Education • Health services, social work • Other services and n.s. The data is not accurate enough for the use of estimating number of tourism employees in Þingeyjarsýslur.

	ICELAND	ÞINGEYJARSÝSLUR
Enterprise Account Register (EAR)	The EAR is the main data source used in compiling production in National Accounts, including the Hotels and Restaurants sector. This register is also an enterprise oriented one, providing a rather detailed standardized disaggregation of the revenue and operating costs of enterprises similar for all the industries.	Information on specific regions cannot be retrieved due to inaccurate registration of regional information and possible traceability. Information on revenues and operating cost has to be gathered first hand by interviews.
Pay as you earn Register (PAYE)	The PAYE register is administrated by the tax authorities. It comprises data on salaries and percentage of full-time equivalents for every employee and self-employed person. Data publication from this register is published on an aggregate two digit ISAT level.	It is impossible to get unbiased wage data for certain regions due to biases in the domicile registration of employees as well as company registration.

ICELANDIC TOURISM
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