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The implications of tourism development on labour conditions

(As implicacións do desenvolvemento do turismo sobre as condicións laborais)

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informan que a memoria titulada "As implicacións do desenvolvemento do turismo sobre as condicións laborais"

elaborada por

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cumpre cos requisitos para optar ao titulo de Doutora en Economía.

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Resumo

O turismo é presentado hoxe en día como un fenómeno clave para a economía mundial, que desenvolve tamén un papel relevante en España, así como en cada unha das súas provincias se aplicamos a análise a un nivel rexional. A literatura económica, que adoita basear os seus discursos en estatísticas e indicadores macroeconómicos, sinala o turismo como unha actividade estratéxica por tres aspectos fundamentais: equilibrio da balanza de pagos, achega ao Produto Interior Bruto (PIB) e impulso ao emprego. A evidencia empírica mostra numerosos datos á hora de destacar a relevancia do turismo. A chegada de turistas internacionais experimentou un espectacular incremento dende a segunda metade do século XX, pasando de 25 millóns de turistas en 1950 a 983 millóns de persoas no ano 2011. De feito, espérase que as cifras oficiais confirmen que durante o ano 2012 se superará a cifra de 1 billón de turistas acadando un máximo histórico (OMT, 2011). Dentro deste panorama internacional, España sitúase no cuarto posto mundial como destino turístico, no segundo por ingresos turísticos internacionais e no sexto en canto á contribución do turismo ao PIB.

Polo tanto, sen dúbida ningunha o turismo constitúe hoxe unha fonte de ingresos considerable para o crecemento e desenvolvemento da economía española, con salientables efectos sobre o nivel e a calidade do emprego. Así, tanto dende a literatura económica como na elaboración de políticas públicas mostrouse un crecente interese polo desenvolvemento deste sector da economía. Por outra parte, dende hai décadas as organizacións internacionais teñen feito un esforzo importante para a posta en común de definicións de conceptos, metodoloxías e medicións para facilitar a elaboración homoxénea de enquisas, e facilitar así os estudos e investigacións para cuantificar o fenómeno e avaliar as súas características (OECD, 2008; ILO, 2009)

O turismo non constitúe unha industria no sentido tradicional, senón que é, máis ben, un sector heteroxéneo que representa unha ampla variedade de actividades económicas de distinto tipo e dimensión (OECD, 2008). Segundo a propia definición da Organización Mundial de Turismo (UNWTO), "O turismo abarcaría aquelas actividades que realizan as persoas durante as súas viaxes e estancias en lugares distintos dos habituais, por un período inferior a un ano. A súa finalidade podería ser de ocio, negocios e outras." Esta é unha definición moi ampla (todas as actividades que se realizan durante as viaxes),

que fai depender a actividade turística, basicamente, das persoas.[1] Así, os trazos esenciais do turismo son: o desprazamento fóra do contorno habitual, a duración do desprazamento e os motivos dese desprazamento. Hai que facer notar que dende a perspectiva da análise económica, a medición do turismo implica observar os fluxos turísticos nos que interveñen os visitantes e non só os turistas. De feito, esta é a metodoloxía seguida nas *Cuentas Satélites del Turismo en España* (INE, 2004). Os viaxeiros divídense en visitantes (os que teñen fins turísticos) e outros viaxeiros (que se desprazan por outros motivos). Pola súa vez, os visitantes clasifícanse en: *a)* turistas, cando pernoctan fóra do seu contorno habitual e *b)* excursionistas, se non pernoctan fóra (UNWTO, 2008). E dentro dos turistas tamén podemos distinguir segundo sexa turismo doméstico: visitantes que fan turismo dentro do seu propio territorio (no que está a súa residencia habitual) e turistas internacionais.

En definitiva, as persoas son as que deciden viaxar en función das súas preferencias e educación. Pero, ademais, o turismo é un servizo baseado en prestacións persoais aos individuos, o que supón que o contacto directo co público é aínda insubstituíble en numerosas fases da actividade. Deste xeito, o turismo é un sector intensivo en forza laboral, cunha gran capacidade de xerar postos de traballo directo que requiren as instalacións turísticas: hoteis, restaurantes, etc. Ademais do impacto directo, orixínanse empregos de carácter indirecto noutras empresas da rexión turística (construción, axencias de viaxe, casas de cambio, etc.) e emprego inducido (derivado da demanda de consumo dos empregados directos e indirectos no comercio, bancos, espectáculos, etc.). Aínda que non resulta sinxelo o seu cálculo, pódese afirmar que practicamente todas as actividades do sistema económico se ven afectadas, en maior ou menor medida, polo turismo, feito que, por outra banda, demostra a elevada interdependencia sectorial existente en calquera economía desenvolvida.

Unha vez establecido o marco conceptual do turismo, é preciso explicar por que o turismo é importante para España. En primeiro lugar, cómpre facer a distinción entre turista e excursionista xa que o número total de visitantes está composto por un 57% de

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[1] O turismo é unha actividade transversal con grandes dificultades de identificación (Ibáñez e Ball, 2002), aspecto que supón unha característica distintiva do turismo. A diferenza que presenta respecto das demais industrias incluídas dentro do núcleo de contas económicas radica na determinación dun ben como turístico ou non turístico. O que fai que un ben ou servizo sexa ou non turístico non se corresponde coa natureza ou coas características do produto ou servizo ofrecido, senón que depende da circunstancia do consumidor, da subxectividade de quen consome dito ben ou servizo.

turistas e un 43% de excursionistas. Ademais, estes visitantes gastan 58.851 millóns de euros, gasto efectuado polo 90% dos turistas e só polo 10% de excursionistas (IET, 2011). En segundo lugar, as estatísticas oficiais españolas amosan diferenzas significativas entre o turismo internacional e o doméstico. España recibiu 99,9 millóns de visitantes internacionais en 2011, ano no que alcanzou un máximo de chegadas (IET 2011). A pesar do escenario internacional, non só o turismo internacional senón tamén o turismo interior debe ser estudada en detalle. En consecuencia, centraremos o estudo nos visitantes que permaneceron unha ou máis noites nun sector formal de aloxamento turístico, xa que é o segmento para o que dispoñemos de datos fiables (non así para os excursionistas). Por unha banda, os turistas internacionais teñen un gasto diaria medio máis alto, arredor dos 136,60 euros, e a súa estadía media é de 6,8 días. Por outra banda, 28 millóns de visitantes domésticos aloxáronse en Hoteis. O tempo medio de estadía para os turistas domésticos que viaxan dentro do país é de 4,4 días e o seu gasto medio diario alcanza os 70,10 euros.

Obviamente, o gasto dos turistas en aloxamento, alimentación e bebidas, transportes locais e entretemento é maior e contribúe dun xeito máis relevante á economía que o gasto dos excursionistas. Porén, nesta investigación usaremos exclusivamente os datos de turistas que pernoctan e que se aloxan no sector formal. Ademais, atenderemos ao lugar de residencia dos turistas, xa que, aínda que os dous tipos de turismo son significativos en termos da súa achega económica, os seus efectos poden ser diferentes debido a características distintas, á distinta distribución no territorio, e por iso deben ser estudados por separado.

Xunto cos turistas, outras variables mostran a relevancia do turismo na nosa economía. Así, segundo as últimas estatísticas oficiais o turismo xera en torno ao 11% do PIB e emprega o 11,80% do total de traballadores da economía española en 2011 (IET, 2012). Con todo, non todas as rexións, provincias ou áreas locais teñen acadado o mesmo nivel de éxito, posto que presentan grandes diferenzas en termos de chegadas de turistas internacionais, turistas domésticos, número de hoteis, emprego, etc. Ademais, tanto o desenvolvemento do lado da demanda (pola promoción de destino) como a mellora da oferta (polas estratexias levadas a cabo polo sector privado) vense limitados ás potencialidades de cada destino turístico. Cando os turistas deciden escoller un destino en España, precisan algo máis que as infraestruturas turísticas. Os turistas afirman que

visitan España por varios motivos: na procura do bo clima, para relaxarse no campo ou na praia, para realizar actividades culturais, etc. Polo tanto, na nosa análise, hai que estudar como estas variables inflúen no desenvolvemento do turismo e, en particular, no emprego.

Asemade, é preciso destacar que os gobernos centrais e rexionais teñen concentrado os seus esforzos en atraer turistas e desenvolver o lado da oferta. O mantemento e a mellora da competitividade na industria do turismo pode contribuír de maneira considerable á promoción dun crecemento intelixente, sostible e integrado. Esta especialización intelixente é vital para os obxectivos da estratexia europea para o ano 2020. A Comisión Europea suxire que a especialización intelixente significa identificar as características únicas e os bens de cada rexión, así como destacar as súas vantaxes competitivas (Comisión Europea, 2012). Por esta razón, é necesario identificar as características de especialización do turismo español a nivel rexional, a fin de analizar os efectos actuais e potenciais sobre a economía xa que non todas as estratexias rexionais deben ser iguais.

A pesar dos numerosos estudos realizados sobre o sector turístico, existe un gran baleiro no que respecta á análise do emprego. De todos os factores que inciden na determinación da magnitude da industria turística, talvez son as persoas empregadas o principal recurso do sector, dado que a calidade dos produtos e servizos turísticos depende en gran medida do factor humano que determina o grao de satisfacción do cliente. A outra cara do turismo como fonte xeradora de emprego descóbrese ao observar as características e a calidade do emprego xerado: elevadas porcentaxes de emprego temporal e a tempo parcial, altas xornadas laborais, baixos salarios, etc., así como as súas consecuencias sobre a ocupación noutros sectores económicos. Non obstante, a medida que unha economía se desenvolve como foco de atracción turística, tamén se precisa un maior grao de profesionalización para manter o prestixio, competindo en calidade con outros focos turísticos.

O estudo aquí presentado organízase en catro capítulos. O primeiro paso da investigación é delimitar o concepto e a medición de especialización turística e da estacionalidade. Tal e como afirman Song, H. et al. (2012), a relación entre o turismo e o desenvolvemento económico converteuse nun obxectivo central dunha área recente da

literatura económica. A pesar deste aspecto, non hai un consenso sobre cales son os indicadores precisos para medir a especialización do turismo.

En primeiro lugar, debemos ser capaces de abordar o turismo dende o lado da demanda, xa que as chegadas de turistas son moi diferentes entre as provincias españolas. De feito, Jansen-Verbeke (1995) destaca a atracción de turistas como unha variable clave para mellorar o posicionamento do mercado a nivel local. Neste punto, é fundamental distinguir entre o turismo doméstico e internacional, posto que, como xa se mencionou, os gastos realizados por cada tipo de turista, a estadía media, as motivacións que o levan a visitar cada destino, etc. poden ter distintos efectos sobre a economía. En segundo lugar, na nosa análise debemos incorporar a medición da especialización turística como fonte de emprego e crecemento económico. Os indicadores do lado da oferta proporcionan información útil sobre a capacidade de aloxamento e a especialización turística relativa ao resto de actividades económicas (Jansen-Berveke, 1986). E a terceira fase desta medición da especialización en turismo será a inclusión dos factores de atracción dos destinos turísticos. Con este obxectivo analizaremos a motivación dos turistas que visitan España e incluiremos variables relativas ao clima, elementos naturais ou infraestruturas culturais.

Ademais, no capítulo 1 ofrécese unha revisión ampla da definición e diferentes medidas sobre a estacionalidade propostas pola literatura económica do turismo (Baum, 2001). Por exemplo, Koening & Bischoff (2003) suxiren que unha combinación de diferentes medidas é a mellor forma de aproximar a estacionalidade. Así, ademais de elixir o tipo de indicador, este aplicaríase a unha gran variedade de variables como a chegada de turistas, o número de establecementos abertos, estadías, etc.

Como consecuencia da gran variedade de indicadores empregados nas tres dimensións (demanda, oferta e factores de atracción turística) para abordar a especialización do turismo e a estacionalidade, aplicouse a Análise de Compoñentes Principais (PCA). Este é un método estatístico multivariante que permite resumir toda a información proporcionada polos indicadores, coa redución de datos a un número menor de dimensións. Deste xeito, a PCA permite establecer unha clasificación ordenada para as provincias españolas segundo os graos de especialización turística e de estacionalidade. Os resultados obtidos neste apartado empregaranse nos capítulos 3 e 4 para afondar nas súas implicacións sobre as condicións de traballo.

Seguidamente, no capítulo 2 centrámonos nun campo particular da economía do turismo: o mercado de traballo. O emprego turístico é unha variable clave para a economía dado que o turismo é intensivo no uso de man de obra. Aquí analízanse as características da man de obra das actividades propias do turismo. É importante facelo por tres motivos: *a)* para comprobar se as ideas sobre as condicións de traballo de baixa calidade son correctas, tamén para unha economía especializada en turismo como España; *b)* para identificar as variables que a través da especialización do turismo poderían mellorar as condicións de traballo e, en consecuencia, para realizar unha análise máis profunda nos capítulos 3 e 4; e *c)* para ter un mellor coñecemento e realizar unha análise aplicada nos dous últimos capítulos.

Logo, abordamos as desvantaxes para a medición do emprego turismo, xa que o turismo é un fenómeno que vén definido polo lado da demanda. Non obstante, non é posible obter información fiable sobre a composición e calidade do emprego no turismo a través desa vía. Como consecuencia, nesta tese definimos o emprego no turismo español desde a perspectiva do lado da oferta, utilizando distintas fontes de datos. Porén, seguimos as recomendacións da OCDE (2008) que destacan o método como o máis axeitado para a análise de emprego.

A continuación, amosaremos as diferenzas provinciais no nivel de emprego e describiremos a evolución do emprego no turismo nos últimos anos. Ademais, neste caso, na análise imos ter en conta a *ratio* turística, que amosa a importancia de establecer unha distinción entre as actividades características do turismo, en función da produción atribuíble aos visitantes turísticos.

Por outra banda, a literatura ten descrito o desenvolvemento da actividade turística como fonte de emprego de baixa calidade porque xera contratos temporais, emprego a tempo parcial, xornadas laborais máis longas, baixos salarios, etc. (ILO, 2009). En consecuencia, neste estudo preténdese caracterizar as condicións de traballo do turismo español identificando os perfís de emprego e a súa calidade. A novidade que aporta esta investigación é a análise baseada no nivel nacional e rexional, distinguindo os resultados dos diferentes grupos das actividades características do turismo.

Ao longo do capítulo 3 vemos como os investigadores e os políticos fixeron un grande esforzo para diminuír a alta incidencia de contratos temporais na economía española. En

realidade, o traballo temporal é unhas das cuestións máis candentes á hora de tratar o mercado laboral de España. Na nosa análise no capítulo 2 descubrimos que o emprego temporal posúe aínda unha maior incidencia no mercado de traballo do turismo español.

Empregaremos o modelo de Dolado (2002) para explicar cales son os determinantes da incidencia de contratos temporais nas actividades características do turismo. No modelo incorporamos as características propias do turismo: o grao de especialización por provincias españolas, coa fin de ver se a especialización do turismo é importante para reducir ou aumentar a temporalidade non ligada á estacionalidade do turismo.

Malia que o carácter estacional do turismo está ligado á temporalidade, destacamos que é relevante para a análise do emprego separar o emprego temporal do estacional. Con todo, hai que ter en conta se os resultados son diferentes dependendo do grao de estacionalidade. Unha vez máis, realizamos a análise a un nivel desagregado para atopar as diferenzas entre as provincias españolas, e distinguimos tamén entre as actividades características do turismo.

Finalmente, no último capítulo, incorporamos as principais conclusións da Análise de Compoñentes Principais, para comprobar se a estacionalidade e a especialización do turismo teñen consecuencias na economía a nivel global, tanto nos salarios como no nivel de emprego. Despois de analizar as investigacións previas en materia de salarios dos empregados turísticos, observamos que a maioría deles son estudos empíricos sobre certos aspectos da calidade do emprego ou sobre salarios (Sinclair, 1990;. Song, H. et al 2012).

Consideramos que é necesario engadir unha nova perspectiva sobre as implicacións do turismo sobre o nivel dos salarios, xa que o turismo é un sector transversal que produce efectos positivos globais sobre a economía, contribuíndo ao seu desenvolvemento. De feito, a literatura que estuda os impactos do turismo sempre estimou os efectos directos, indirectos e inducidos sobre a economía. Polo tanto, basearémonos na ecuación de salarios corrixida polo matiz de selección (Mincer, 1974), incluíndo non só variables socio demográficas, senón tamén os indicadores relativos á especialización do turismo e á estacionalidade de cada rexión.

Por último precisamos que nesta investigación queremos coñecer como o desenvolvemento do turismo afecta ás condicións de traballo. Por esta razón a contribución desta tese é dobre. Por unha banda, revisamos a literatura para establecer e determinar indicadores precisos e axeitados para a medición da especialización turística e da estacionalidade nas provincias españolas. Esta análise debe proporcionar unha comprensión ampla das distintas dimensións incluídas no desenvolvemento do turismo, e as principais diferenzas rexionais en España. Por outra banda, imos examinar como o grao de desenvolvemento do turismo inflúe en dúas dimensións do mercado laboral: emprego temporal e salarios.

Entre os principais resultados obtidos a partir do primeiro capítulo somos capaces de avaliar a influencia da estacionalidade e da especialización do turismo na área de mercado de traballo. A pesar da relevancia crecente do turismo na nosa economía, é necesario coñecer as diferenzas rexionais a fin de planificar estratexias para o desenvolvemento do turismo a nivel rexional e local. Os principais resultados amosan como a maioría das rexións españolas seguen o modelo de turismo de sol e praia, con algunha excepción relacionada con destinos de esquí (Huesca e, recentemente, Xirona), así como outras provincias que rodean as grandes cidades e que reciben un elevado número de turistas españois. Aínda que os resultados mostran que a especialización do turismo estranxeiro ten influencia positiva sobre a estabilidade no emprego e no nivel dos salarios e emprego, moi poucas rexións atraen visitantes internacionais. Ademais, a estacionalidade de turistas domésticos é maior que a dos internacionais. De feito, moitos gobernos a nivel nacional e rexional fixeron un esforzo para tentar diminuír os fluxos estacionais de turistas. Con todo, os nosos resultados mostran que a estacionalidade ten efectos positivos sobre o mercado laboral cando está ligada a unha maior especialización do turismo.

O desenvolvemento do sector turístico require plans, políticas e normas nos que poida fundamentarse a súa canalización e consolidación no marco dunha realidade turística internacional cada día máis competitiva. Con esta finalidade, precísase información fiable sobre a realidade do turismo nos países e a nivel rexional e local. Esta resulta vital para coñecer e avaliar a incidencia do turismo no emprego e noutros ámbitos sociais como o económico, o cultural e o medioambiental.

Introduction

Tourism currently plays an important role in the economy, contributing to job creation and the growth of the economy, as well as having a significant impact on the local economy, environment, and population. As matter of fact, statistics show that tourism has undergone a staggering amount of growth beginning in the second half of the twentieth century. According to the World Tourist Organization (UNWTO) the number of tourist arrivals has increased from 25 million tourists in 1950 to 984 million in 2011. Indeed, UNWTO expects that the statistics will reveal that international tourist arrivals have reached one billion in 2012 for the first time. In this context, Spain occupies the fourth position in the world rank in the number of tourist arrivals and ranks second in the number of international tourist receipts (UNWTO, 2012).[2]

In light of the growth and increasing relevance of tourism evidenced by these figures, researchers have taken special interest in studying this phenomenon and its economic impact. At the same time, tourism has become an important focus for public policies at national, regional and local levels. As a result, it is necessary to reach an international consensus on its characterization. Thus, a number of countries and international organizations (e.g., OECD, UNWTO, UNSD and Eurostat) have been implicated in the improvement of definitions, frameworks, databases and techniques to make tourism measurement as accurate as possible (OECD et al., 2008). This is a necessary step in order to correctly quantify, assess, and compare the relevance of tourism activities.

Tourism is a social, cultural, and economic phenomenon related to the movement of people to places outside their usual residence, motivated by pleasure. The fundamental basis of tourism is people. First off, visitors are people who decide to travel according to their preferences and education. Also, tourism products and services have the main objective satisfying people, meaning that the tourism industry is heavily dependent on the human factor. For those reasons, tourism is not a traditional industry, but rather a heterogeneous activity which includes a wide variety of types and sizes of business (OECD, 2000). It is a transversal sector which is difficult to identify since goods or services can be considered to be related to tourism depending on the consumer and not

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[2] The UNWTO defines international tourism receipts as receipts earned by a destination country from inbound tourism (in other words, the expenditures made by visitors from abroad).

on the nature or characteristics of the production like in other industries.[3] Consequently, tourism by its nature is mainly a demand phenomenon.

Therefore, the World Organization Tourism defines tourism as "the activities of people traveling to and staying in places outside their usual environment, for no more than one consecutive year, for leisure, business, and other purposes not related to the exercise of an activity remunerated from within the place visited" (United Nations, 1994). Analyzing this definition, we conclude: *a)* It covers a large set of activities because it includes all activities done during travels [4], which depends mostly on individual choice. *b)* Key characteristics for distinguishing visitors are: the movement out of their usual environment, the duration, and the motivation for traveling. *c)* Based on the purpose of traveling (leisure, recreation, and holidays), it excludes "those persons who travel for the exercise of an activity remunerated from the place visited" (United Nations, 1994).

From the point of view of economic analyses, it is valuable to note that tourism refers to tourism flows of any type of visitor: tourists and same-day visitors[5]. UNWTO (2008) points out that, for analytical purposes, it is necessary to disaggregate the characteristics of visitors. Also, the organization highlights that a key classification would be to look at the place of residence of the visitor. Following tourism statistics (OECD, et al. 2008), visitors to a place are classified according to their country of residence[6] in the case of international visitors, or according to their place of usual residence[7] in the case of domestic visitors. In this research, according to the data available at provincial distribution, we apply this classification by place of residence to distinguish the different contributions of domestic versus international tourism.

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[3] This is an essential distinction from other activities included in the core of economy accounts (Ibáñez & Ball, 2002).

[4] Traveler is someone who moves between different geographic locations, for any purpose and any duration.

[5] There are two classes of visitors: tourists (overnight visitor) who stays one or more nights in the place visited, and excursionist (same-day visitor) who visits a place for less than one day, as a trip.

[6] The WTO definition is exactly the same as the Balance of Payments and in the System of National Accounts. The concept of the country of residence is linked to the household, because it corresponds to the indication of the current home address. "*A household is resident in the economic territory in which household members maintain a dwelling or succession of dwellings treated and used by members of the household as their principal dwelling. The principal dwelling is defined with reference to time spent there, rather than other factors such as cost, size, or length of tenure. Being present for one year or more in a territory or intending to do so is sufficient to qualify as having a principal dwelling there. In case of no principal dwelling, the territory of residence is based on the territory in which the predominant amount of time is spent in the year.*"

[7] The place of usual residence is defined as the geographical area where an individual conducts his/her regular life routines.

Thus, the classification is:

- International visitors: An international traveler with respect to the country of reference, so the visitor is on tourism trip and is non-resident traveling to the country of reference.
- Domestic visitors: A domestic traveler from the point of view of the country of reference is the one who is on a tourism trip and is a resident traveling in the country of reference.

Once we have set up the basic concepts concerning the definition of tourism, it is essential to clarify how tourism can be measured. There are two methodologies:

- Demand-side approach: The Tourism Satellite Account (TSA) constitutes the main framework for measuring tourism, based on the System of National Accounts (1993 SNA). The TSA defines "Tourism" from a consumption point of view: *it provides a variety of goods and services having in common only that they are consumed by visitors* (Belau & Budlender, 2006). That means TSA creates a group of tourism activities where only the goods and services sold directly to visitors are included.
- Supply-side approach: Problems with identifying tourism from the supply side (as a traditional industry) arise because on one hand, tourism industries can also provide products and services to non-visitors (part of the production would be for tourists and part for non-tourists). On the other hand, visitors can also spend money on the products and services in other industries. From the supply-side point of view, tourism will then be understood as the set of productive activities where most of its output is consumed by visitors (OECD et al., 2008).

Consequently, international recommendations (OECD et al., 2008) identify "Tourism Characteristic Industries" as the establishments dedicated to the production of "Tourism characteristic products": *products, which in the absence of visitors, in most countries would probably cease to exist*. A list of "Tourism Characteristic Industries" has been proposed: *Productive activities that produce a principal output identified as characteristic of tourism*.

Given that the composition of tourism consumption is different in each country, the list of Tourism Characteristic Activities should be adjusted to the country´s characteristics following a standard classification of all economic activities. The Instituto Nacional de Estadística (INE, National Statistics Institute) has defined tourism characteristic activities according to NACE 2009 (National Classification of Economic Activities).[8]

Tourism Characteristic Activities are able to do secondary activities together with main activities, generating different products than just tourism products, selling their products not only to tourists and excursionists, but also to other types of agents. Although this methodology is considered to be the best choice from a technical standpoint, it has some problems. [9].Nevertheless, we will see in Chapter 2 that the supply-side perspective is the most accurate option for studying the quality of labor employment.

Once we have seen the conceptual framework of tourism, it is beneficial to give a brief overview of why tourism matters for Spain. First, it is important to distinguish between tourists and excursionists. In fact, the total number of visitors was composed of 57 % tourists and 43% excursionists. Moreover, these visitors spent 58.851 million Euros, 90% by tourists, and only 10% by excursionists (IET, 2011).

Second, looking at official Spanish statistics, we found significant differences between international and domestic tourism. Spain received 99.9 million international visitors in 2011, which reached a historic maximum of arrivals according to the Frontur Survey (IET, 2013). Despite the international outlook, not only international tourism, but also domestic tourism flows should be studied in detail. Due to the greater possibility of having reliable data, we focus our study on visitors who stayed one or more nights in the formal Accommodation sector. On one hand, international tourists have a higher average daily expenditure around 136.60 Euros, and their average length of stay is 6.8 days[10]. On the other hand, the average length of stay for domestic tourists[11.] who travel inside the country is 4.4 days, and the average daily expenditure is 70.10 Euros.

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[8] NACE 2009 results from the methodology set out by the Statistical Classification of Economic Activities in the European Community (NACE Rev.2.). See Annex: Tables A.1–A.4.

[9] For example, the underestimation of employment in tourism, by not considering the employment generated by tourism demand in non-tourism industries, or to overestimate the employment generated in tourism industries, which also produced for non-tourists.

[10] 53% of total international arrivals stayed in the Accommodation Sector.

[11] 28 million domestic visitors stayed in formal Accommodation. Moreover, according to the Familitur Survey (IET 2011), the disaggregation of domestic tourists by type of accommodation is: 20% Hotel

Obviously a tourist's expenditures on accommodation, food and drink, local transport, and entertainment is a greater contributor to the economy than an excursionist´s expenditures. Referring to place of residence, although both types of tourism are significant in terms of economic contribution, their effects could be different due to different consumption behaviors and different distributions throughout Spanish provinces. Therefore, they should be studied separately.

Apart from tourist arrivals, there are other variables that show the relevance of tourism in our economy. According to the latest official statistics, tourism generated around 11% of the Spanish Gross Domestic Product and employed 11.80% of the total workers in the Spanish economy in 2011 (IET, 2013). Nevertheless, not all Spanish regions, provinces, or local areas have achieved the same level of success; they undoubtedly present huge differences in terms of international tourist arrivals, domestic tourists, number of hotels, employment levels, and labor conditions. Moreover, the development of the demand side and supply side are conditioned by government and private sector strategies but are also limited by amenities. When tourists choose a destination, they need more than just tourist facilities. Tourists mainly decide to visit Spain motivated by relaxing in the countryside or beach, doing cultural activities, or because of the good weather conditions. Consequently, in our analysis we should study how these variables influence tourism development, particularly tourism employment.

Central and regional governments have been concentrating on attracting tourists and increasing the development of the supply side. Furthermore, the maintenance and improvement of competitiveness in the tourism sector could considerably contribute to promoting intelligent, sustainable and integrated growth. This smart specialization is vital to the European Strategy 2020. The European Commission suggests that smart specialization means identifying the unique characteristics and assets of each region, and highlighting their competitive advantages (European Commission, 2012). The European Strategy points out that not all regions should have the same strategies and therefore developing tourism should not be an objective for all regions. Consequently, it is necessary to identify the characteristics of Spanish tourism specializations at a regional level in order to analyze the current and potential effects on the economy.

Accommodation Sector, 27% vacation home, 38.5% family and friend´s houses, 7% rented house and 7.5% other types.

In spite of the positive effects of Tourism on the economy, it has been recognized as a low-quality employment industry. Tourism includes labor-intensive activities seen as a source of employment for people with low possibilities of entering the work force, such as young people, women, foreigners, as well as low-skilled and unemployed workers… (OECD, 2000). The literature has identified these collectives as having higher possibilities of receiving low-wages. At the same time, tourism has been criticized because of the high level of fixed-term contracts, part-time jobs, longer working days, and low wages (OECD, 2000; ILO, 2009).

Nevertheless, based on recent papers such as Fernández et al. (2009), we argue that tourism specialization could improve labor conditions in tourism characteristic activities and even in the rest of the economic activities. Furthermore, we cannot confine this research to focus exclusively on global figures supplied by statistics each year since one of the distinctive features of tourism is seasonality.[12] The literature is not in agreement about the seasonality effect on labor conditions, but it could interact with the Tourism specialization effects. For this reason, we must take this into account. To carry out the main objective of this thesis, the analysis of the effects of tourism specialization on labor conditions, we have divided the thesis into several chapters:

Chapter 1: The first step of our research is to outline the concepts and measurement of tourism specialization and seasonality. As Song, H. et al (2012) point out, the relationship between tourism and economic development has recently become a central theme in some areas of literature. However, the literature does not show a consensus about the accurate measurement of tourism specialization.

Firstly, we should be able to estimate the demand-side of tourism since tourist arrivals are very different among the Spanish provinces. In fact, Jansen-Verbeke (1995) highlights the attraction of tourists as a key variable to improve market positioning at a local level. At this point, it is essential to distinguish between international and domestic tourism because, as we have already mentioned, the disparities in expenditures, length of stay, tourism motivation… could have different effects on the economy.[13]

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[12] The definition of seasonality stresses the character of systematic intra-year movement (Koening & Bischoff, 2005).

[13] A previous paper (Cortés-Jiménez, 2008) finds both types of tourism different depending on the region.

Secondly, we also have to incorporate the measurement of supply-side specialization since tourism facilities attract visitors and are a source of employment, as well as economic growth. Supply-side indicators provide useful information about accommodation capacities and tourism specialization relative to the rest of the economy (Jansen-Berveke, 1986). And the third phase for measuring tourism specialization is the outlining of the indicators of amenities. For this purpose, we focus on the tourist´s motivation for seeking out a mix of natural and built amenities that reflect the disparities among Spanish destinations.

Additionally, in Chapter 1 we provide a comprehensive review of the definition and different measures of seasonality proposed by literature on tourism economics (Baum, 2001). In fact, Koening & Bischoff (2003) suggest that a combination of different measures is the best way to approach seasonality. Given that, we calculate different measures using a wide variety of variables like tourist arrivals, establishments, etc.

Since there are different dimensions and many indicators used to approach tourism specialization and seasonality, we apply the Principal Component Analysis (PCA). This is a multivariate statistical method for summarizing all the information provided by the indicators, reducing the data into a smaller number of dimensions. The PCA allows us to establish a ranking for Spanish provinces, classifying them according their tourism specialization and the degree of seasonality. Thus, these results are used in Chapter 3 and 4 to test their implications on labor conditions.

Chapter 2: We focus on a particular field of tourism economics: the labor market. Tourism employment is a key variable for the economy given that tourism is labor-intensive. Thus, in this chapter we analyze the characteristics of the tourism activities in the labor market. It is important to do so for three reasons: *a*) to test if the ideas about low-quality labor conditions are true for Spain too, *b*) to identify variables where tourism specialization could improve labor conditions and, subsequently, make a deeper analysis in Chapters 3 and 4, and *c)* to have a better understanding of the results from the last two chapters.

Then, we focus on the handicaps for measuring tourism employment, given that tourism is a demand-side phenomenon. In spite of this, it is not possible to get reliable information about the composition and quality of tourism employment from the

demand-side data point of view. As a consequence, through this thesis, we define Spanish tourism employment from the supply-side perspective using different data sources. Then, we follow the OECD´s recommendations that highlight this method as the most suitable for employment analysis (OECD et al, 2008).

Next, we show the provincial differences in the levels of employment and describe the evolution of tourism employment in recent years. Also, in this analysis we take into account the tourism ratio in order to show the importance of making distinctions between tourism characteristic activities depending on their output attributable to tourists´ visits.

Furthermore, the literature has described the development of tourism as a source of low-quality employment because it generates fixed-term contracts, part-time jobs, longer working days, and low wages… (ILO, 2009). Consequently, this study attempts to characterize Spanish tourism labor conditions, identifying employment profiles and the quality of employment. The novelty of this chapter is the analysis based on national and local levels, distinguishing the results of the different groups of tourism characteristic activities.

Chapter 3: Policy makers have made great efforts to diminish the high incidence of fixed-term contracts in the Spanish economy, and at the same time researchers focus on the study of this phenomenon. In fact, temporary employment is the most compelling issue that must be dealt with. From our analysis in Chapter 2, we discover that temporary employment has even a higher incidence in the Spanish tourism labor market.

We employ Dolado´s model (2002) to explain the determinants of the incidence of fixed-term contracts in tourism characteristic activities. In the model, we incorporate the degree of specialization by Spanish province in order to see if tourism specialization reduces or increases the temporality not linked to seasonality in the tourism sector.

Even if the seasonal character of tourism is linked to temporality, we highlight that it is relevant to analyze temporary employment from seasonal employment separately. Nevertheless, we take into account if these results differ depending on the degree of seasonality. Again, we carry out the analysis at a disaggregated level to find the

differences between Spanish provinces and distinguish between different tourism activities.

Chapter 4: In this chapter we incorporate the main findings of the Principal Components Analysis in order to test whether tourism specialization has consequences on the wage level of the economy, also accounting for seasonality.

After reviewing the main literature about tourism´s influence on earnings, we observe that most of them are empirical studies about the quality structure or wages (Sinclair, 1990; Song, H. et al. 2012). We consider that is necessary to add a new perspective about the implications of tourism on the level of wages, given that tourism is a transversal sector which produces spillover effects in the economy. In fact, tourism-impacted literature has always estimated the direct, indirect and induced effects on the economy through the input-output model and GCE models…

Therefore, we use the Mincerian wage equation, correcting for selection bias, and including not just standard socio-demographic variables, but also indicators accounting for the tourism specialization and seasonality of the region.

General Conclusions: Finally, we draw some conclusions. Throughout our research, we ask ourselves how tourism development affects working conditions. Hence, the contribution of this thesis is twofold: on one hand, we review the literature to define tourism specialization and seasonality indicators for Spanish provinces accurately. This analysis should give a comprehensive understanding of the different dimensions included in tourism development and the main regional differences in Spain. On the other hand, we examine how the degree of tourism development influences two important dimensions of labor employment: temporary employment and wages.

References

Belau, D.; Budlender, D. (2006): *An introduction to labour statistics in tourism.* International Labour Office. Ginebra.

Baum, & S. Lundtorp (Eds.) (2001): *Seasonality in tourism.* Oxford.

Cortés-Jiménez, I. (2008): "Which type of tourism matters to the Regional Economic Growth? The Cases of Spain and Italy". *International Journal of Tourism Research*, 10: 127-139.

Dolado, J. J.; Garcia-Serrano, C.; Jimeno, J. F. (2002): "Drawing lessons from the boom of temporary jobs in Spain". *The Economic Journal,* 112(June): F270-F295.

EU (2011): Research and innovation strategies for smart specialization. Avaliable at (5/4/2013): *http://ec.europa.eu/regional_policy/sources/docgener/informat/2014/smart_specialisation_en.pdf*

Eurostast (2008): *NACE Rev.2. Statistical Classification of economic activities in the European Community*.Collection Methodologies and working papers. Luxembourg. Office for Official Publications of the European Communities.

Fernandez, M.; Pena-Boquete, Y.; Pereira, X. (2009): "Labor Conditions in the Spanish Hotels and Restaurants Industry". *Tourism Analysis*, 14(3): 293-312.

Ibañez, C.; Ball, F. (2002): "El multiplicador del turismo", PI, nº36. Universidad de la Patagonia. Facultad de Ciencias Empresariais.

IET (2011): *Familitur. Año 2011*.Ministerio de Industria, Energía y Turismo

IET (2013): *Balance del Turismo.Año 2012*.Ministerio de Industria, Energía y Turismo.

ILO (2009): "Employment in the Tourism Industries: Measurement Issues and Case *Studies*". In the *5th International Conference on Tourism Statistics: Tourism: An Engine for Employment Creation*. Indonesia

Jansen-Verbeke, M. (1986): "Inner-city tourism: resources, tourists and promoters". *Annals of Tourism Research*, 13(1): 79-100.

Jansen-Verbeke, M.; Spee, R. (1995): "A regional analysis of tourist flows within Europe". *Tourism Management*, 16(1): 73-80.

Koening, N.; Bischoff, E (2003): "Seasonality of tourism in Wales: a comparative analysis", *Tourism Economics*, 9(3): 229-254.

Koening, N.; Bischoff, E. (2005): "Seasonality Research: The State of the Art", *International Journal of Tourism Research*, 7, 201-219.

OECD (2000): *Measuring the Role of Tourism in OECD Economies. The –OECD manaul on Tourism Satellite Accounts and Employment.* OECD Publishing

OECD; UNWTO; UN; Eurostast (2008): *Tourism Satellite Account: Recommended Methodological Framework*.

Sinclair, M.T. (1991): ".The economics of tourism". In C. Cooper (ed.), *Progress in tourism, recreation and hospitality managemen*t. Londres: Bellhaven Press.

Song, H., Dwyer, L., Li, G.; Cao, Z. (2012): "Tourism economics research: A review and assessment". *Annals of Tourism Research*, 39(3): 1653–1682.

CEC; IMF; OECD; UN; World Bank (1993): System of National Accounts, Brussels/Luxembourg, New York, Paris, Washington, D.C.

United Nations (1994): *Recommendations on Tourism Statistics.* New York.

UNWTO, 2012: UNWTO Tourism Highlights. 2012 Edition. Madrid.

Chapter 1: Tourism specialization and seasonality: concept and measures

Introduction

Tourism currently plays an important role in the economy, contributing to job creation and the growth of the economy, as well as having a significant impact on the local economy, environment, and population. In accordance with its increasing relevance, recently researchers have started studying this phenomenon and its economic impact. At the same time, tourism has become an important focus for public policies. Central and regional governments have been concentrated on attracting tourists and developing the supply side. However, as Spanish provinces have not achieved the same level of success, they undoubtedly present huge differences in terms of international tourist arrivals, domestic tourists, number of hotels, etc.

Furthermore, the maintenance and improvement of competitiveness in the tourism activities could considerably contribute to promoting intelligent, sustainable and integrated growth. This smart specialization is vital to the European Strategy 2020. The European Commission suggests that smart specialization means identifying the unique characteristics and assets of each region, and highlighting their competitive advantages (European Commission, 2012). Consequently, it is necessary to identify the characteristics of Spanish tourism specializations at regional level in order to analyze current and potential effects on the economy.

Researchers have become increasingly more interested in studying the relationship between tourism specialization and economic growth (Neves and Maças, 2008). Previous literature shows that tourism specialization has a positive and significant effect in many different areas of our economies, for example in regards to GDP, labor conditions, and education levels… (Yang, 2012; Fernández et al., 2009; Urtasun & Gutiérrez, 2006).

At the same time, it is crucial bear in mind other relevant aspects of tourism development: the seasonality of it. The seasonal variations of the tourism sector have

been recognized as one of its most characteristic aspects (Butler, 1994) and it has become an important topic, not only for tourism research, but also for policy-makers and tourism managers. Frequently, seasonality has been perceived as a negative effect caused by tourism, but at the same time, a few positive outcomes have been pointed out (Lee et al., 2008). On one hand, policy makers generally confront seasonality with the objective of decreasing it. And on the other hand, seasonality has been a constant worry for hotel managers in order to implement strategies to increase business efficiency. Therefore it is essential to define the concept and know its determinants and effects.

Thus, the main aim of this chapter is to define the concept of tourism specialization and seasonality and to look for the best measure to approach each of these concepts. As a result, the first step is to identify the precise variables for defining tourism seasonality and specialization, such as tourist arrivals, employment levels, number of open tourism establishments, etc. and we analyze different indicators both for specialization and seasonality as proposed by the literature. Secondly, we apply the specialization and seasonality indices to the data available at a regional level (provinces) in order to find the regional disparities in the Spanish territory. And thirdly, a synthetic indicator is built in order to summarize all the information and to establish a destination ranking in terms of tourism specialization and seasonality.

1.1 Tourism specialization versus Tourism seasonality

1.1.1 Tourism specialization

As we mentioned before, the tourism sector plays an important role in regional development, contributing to the growth of the economy and job creation. Despite the current crisis, tourism activities have continued to grow in the last year (UNWTO, 2011). Moreover, Spain maintains one of the highest positions in the world rankings. Furthermore, tourism activities generate around 10% of GPD and represent 11.5% of the total workers in the Spanish economy (IET, 2011). Nevertheless, these facts are not accurate for all Spanish regions. There are remarkable regional differences in the number of tourist arrivals, the level and quality of employment, characteristics of supply-side tourism, amenities, etc.

Researchers have been interested in studying the relationship between tourism specialization and economic growth for specific countries (Balaguer & Cantavella-Jordá, 2002; Eugenio-Martin et al., 2004). In fact, previous empirical studies reinforced the idea that there is a direct effect of tourism on economic growth. Neves and Maças (2008) affirm that touristically specialized countries grow more than others on average. They have measured tourism specialization according to data from the World Development Indicators (tourist arrivals as a population proportion, tourism receipts as a percentage of exports, and as a percentage of gross domestic product). Their results also support the idea that poor countries always benefit from tourism specialization. Besides, Yang (2012) has found that tourism density affects the degree of tourism development and that tourism specialization at a provincial level has a positive effect on the development of the tourism industry. In this case, tourism specialization is approached with a location quotient of tourism revenues, i.e. measurement of provincial tourism specialization relative to the whole country.

In addition to economic growth, tourism specialization could have a positive effect on tourism employment and workers' labor conditions. For instance, Fernandez et al. (2009) show the incidence of low-wages is lower in those regions that are more specialized in tourism. Along this same line, another study (IET, 2011) found that regions that are more specialized in tourism, like the Balearic and Canary Islands, presented a strong association between the tourist flow of non-residents and employment levels. Furthermore, previous research found that high levels of tourism specialization had positive effects on income per capita, the quality of available health facilities (Perdue et al., 1991), and on education expenditures (Urtasun & Gutierrez, 2006).

Nevertheless, there is no consensus on the definition of Tourism specialization. Which variable should we use to determine if a region is specialized or not? Actually, even if tourism is, by definition, a demand-side phenomenon, it affects the supply-side and we are able to measure it from this point of view as well. We argue that we need to account for both approaches in order to account for by tourism specialization properly, attending to the reliable data (both approaches are complementary). Obviously, tourism facilities such as the number of hotel establishments and bed places are essential to understanding tourism specialization, but visitors base their decision on more than just these things

when they are choosing a destination area. For this reason, understanding the relationship between tourism specialization and amenities has relevance in economic, social and environmental dimensions. From this point of view, tourism planners should bear in mind that tourism specialization in any region is a complex combination of amenities in addition to firm characteristics of tourism (Marcouiller et al., 2004). Indeed, amenities are part of decision making because visitors generate expectations and have diverse motivations. (Leiper, 1990). Besides, tourism activities use these amenities as part of their production. Marcouiller and Prey (2005) measure the dependence of regional tourism on natural amenities and recreational sites. They suggest that amenities are a key factor to the competitiveness and profits of tourism firms. Consequently, businesses in each region are an integral part of the attraction system of the destination. As Gunn (1994) points out, attractions have a magnetic pulling power, and without attractions, tourism would not exist.

As a result, we argue that tourism is a multidimensional phenomenon and in order to achieve a complete definition of tourism development we must account for the demand side (visitors determine tourism), supply-side characteristics and amenities (both natural and cultural).

1.1.1.1 Demand side

Studying tourism flows could be valuable in order to identify different degrees of specialization in tourism. Besides, it is essential to study tourist flows at a regional level given the current competition in the tourism market between regions and the regional product-market, and even between local areas (Jansen-Verbeke, 1995). In fact, in Spain, tourism marketing policies vary depending on the region, and their importance is even greater than the former national promotion.

Certainly, the obvious indicator is the number of **tourist arrivals, i.e.** the absolute value of the number of tourists for each region and period. But it also is true that the magnitude and the type of expenditures of these visitors could be different depending on their place of residence and consequently, they could have different effects on the economy. In fact, Cortés-Jiménez (2008) found that only domestic tourism has a positive influence on the economic growth of internal regions. However, findings reveal the economic growth in coastal regions is due to both types of tourists (domestic and

international). For this reason, it could be interesting to distinguish between these two types of tourists.

Nevertheless, we should take into account that the importance of domestic tourism is strongly biased by the simple fact of country size and the diversity of tourist destinations in that country (Jansen- Verbeke, 1995). Moreover, differences in scale between the regions could make sensible comparisons among them difficult. For this reason, we define the **Tourist Density Ratio (TDR)** as the percentage of tourists to land area (Tourist arrivals/ Km^2). In addition, this measure would be a good proxy of both environmental impact and social effects (McElroy & De Alburqueque, 1998).

TDR has no upper bound, so it could be useful, not only for comparisons among regions but also with the population density of each region. By doing so, we are able to define the **Tourist Intensity Ratio (TIR)** as the percentage of tourists to the resident population. This ratio has the advantage of balancing the number of incoming tourists against the number of inhabitants. In fact, this index is accurate enough to define the real capacity of the main regional market and, as McElroy (2003) indicated, is the most common measure of tourism's socio-cultural impact. World Bank calculated this proportion for each country as a ratio to total population (2004) but it did not account for regional differences inside each country, assuming a homogenous distribution of the tourism within the whole country.

As we said before, domestic tourism shows significant differences in the average length of the stay with respect to international tourists, so we should incorporate it to our indicators. As a result, these basic measures can be improved by more vigorous indicators like **Tourism Penetration Ratio (TPR) or Augmented Tourism Density Ratio (ATDR)** (De Alburqueque & Mc.Elroy, 1992):

$$TPR = \frac{Tourist * Average\ length\ stay}{Population * 365}$$

$$ATDR = \frac{Tourist * Average\ length\ stay}{Area * 365}$$

Along this line, we also have included the **Tourism Concentration Index** (TCI) as the total number of tourist nights (N) in the region j relative to the total number of nights

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spent in the whole country divided by the total number of the population (P) in the region j relative the total population in whole country. The TCI can be considered as a measure of the contribution of tourists' nights (Jasen-Berveke, 1995).

1.1.1.2 Supply side

Even if Tourism is a demand-side phenomenon, we should take into account its effects on the supply side in order to have a better understanding of the general effects on the economy. From this point of view, one also needs to consider accommodations (and thus potential traditional tourism demand). Thus, we look at the **Tourist Function Index (FI)**, which is based on the accommodation capacity of an area in relation to the number of inhabitants, i.e. the number of available beds divided by the permanent resident population.

We could also include a **Room Index (RI)**, which is the number of beds per square kilometer. This would be a measure of tourism specialization, and a proxy of environmental penetration (Mc.Elroy & De Alburqueque, 1998). Finally, we consider that the quotient between the number of **beds per establishments (BE)** is a measure of the size of the Accommodation Industry. To have a more precise idea of the regional accommodation capacity we define the **Relative Beds per Establishment** as the number of tourist beds (B) in the region j relative to the total number of beds in the whole country divided by the total number of establishments (E) in the region j relative to the total number of establishments in whole country.

$$RBE = \frac{N_j / \sum_i N_j}{P_j / \sum_i P_j}$$

If the RBE is higher than 100 it means that region *j* has a higher accommodation capacity compared to the country average.

From the supply-side point of view, it is also important to look at the employment that tourism generates. To identify a region as specialized in tourism we compare its employment distribution in the region with the national distribution in the following way:

$$Employment\ Location\ Quotient = \frac{E_{ij}\Big/ \sum\limits_{i} E_{ij}}{\sum\limits_{j} E_{ij}\Big/ \sum\limits_{j}\sum\limits_{i} E_{ij}} *100$$

Eij being the employment of sector *i* in province *j*. If the index is higher than 100 it means that region *j* has a higher percentage of sector *i* compared with the proportion of total employment relative to other regions. In other words, it means that province *j* will be specialized in sector *i*. We name this index the **Employment Location quotient**. This index takes into account the distribution of the tourism employment in a region, relative to the employment in the national economy. Thus, we measure if a region is specialized in tourism (from the perspective of employment) more than the national average.

Finally, it is beneficial to include other indices related to the rest of Characteristic Tourism Industries, such as cultural, sporting or recreational services. Besides, this variable could measure attraction facilities (Jasen – Berbeke, 1986). Following these criteria, we have also calculated a **Location Quotient** for *Amusement, Cultural, Sports activities* in addition to the *Hotel and Restaurants* industry using the number of establishments.

1.1.1.3 Amenities

As Deller et al. (2008) suggest, there are some limitations to studying the relationship between amenities and development. They address the hard measuring of those diverse amenities, and the spatial unit of analysis occasioned problems because some are site specific to one region, while others cover larger geographic regions. In fact, in the literature on tourism specialization or degree of tourism development, many measures have been defined but there is no consensus about the most suitable; actually, each index could account for different particularities. Most studies are constrained by data availability at a regional-local disaggregation and use single variables as a proxy.

Based on the previous literature, we have included different amenities according to the available data.[14] By defining amenities broadly, we try to cover most, if not all, of their general dimensions. We focus on those amenities that have the potential to attract visitors, international tourists and residents.

So, what are people´s motivations of travel in our country? According to the IET sources, 54.2 % of domestic travels in 2011 are made with the purpose of leisure, recreation or holidays (IET c, 2011). If we look deeper into the analysis, we can disaggregate leisure motivation by main incentive: relaxing on a campsite or beach (70.7%), cultural activities (10.7%), other recreational activities (16.2) and sports activities (2.4%). Additionally, Familitur data provides the main activities done by tourists during their holidays in 2011. The most relevant are cultural activities like visiting museums, monuments, and cities (50.2%) or shopping (67.8%), relaxing on the beach (44.3%), visiting and enjoying the countryside (41%), nightlife (28.6%) and cultural performances (16.9%).

For international tourist arrivals, travel for leisure, recreation and holidays accounted for 84% of total arrivals. Within this group, 5 out of 10 international tourists visit cultural facilities or are involved in cultural performances. Also, Amusement Activities attracted 21 % of tourists. Finally, it is remarkable to notice that 25.2% of international tourists who decide to visit Spain are motivated by the climate (IET Habitur 2010). They find the good possibility of sunny and warm holidays of high importance. This percentage increases for international tourists that visit Spain in the off-peak season (35.4% motivated by the climate). Besides, 12.6% of international tourists care about the presence of the beach.

Based on the literature (Gearing et al.,1974; Jasen-Verbeke, 1986; Marcouiller & Prey, 2005) and tourism motivations in Spain, we could classify tourism amenities as: 1) Natural amenities , 2) Social and historical amenities, 3)Recreation (sports, amusement and cultural activities) and shopping amenities.

(1) Natural amenities include multiple definitions referring to climate, coastline or natural areas (Marcouiller et al., 2004). Climate variables could explain tourism behavior, especially if we are interested in annual tourism flows, not only in seasonal

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[14] Amenities are considered to be specific characteristics linked to a certain region.

arrivals. In fact, climate has an effect on tourism demand and satisfaction. Pleasant weather affords the possibility of taking advantage of all recreational opportunities in terms of outdoor activities, and tourism satisfaction, for this reason we should account for **Annual Average Temperature.** Along this same line, **Annual Average Precipitation** would then have an effect on the climatic comfort of tourists, and in sightseeing development. Lise and Tol (2002) combine both variables to examine their combined effects. Moreover, Mata & Llano (2010) also use temperature for explaining the domestic tourism form inner to coastal regions. Thus, climate should be incorporated into tourism planning in order to offer recreational activities appropriate to weather conditions.

Including the **length of the coast** captures the potential of attractive beach holidays (Deller et al., 2008). Coastline turns into a significant variable for Mediterranean countries, where the model of sun and beach characterizes tourism demand. Also, coasts contain areas of special landscapes with exceptional scenery, which are part of the motivation of relaxation in the countryside. Given that most tourism activities take place outdoors, they depend on the climate variations, such as in sun and beach destinations (Frechtling, 2001). Concerning the Spanish case, Mata & Llano (2010) include a relevant variable the coastline, as a attractor factor for domestic tourism.

In the case of natural areas, there are variables concerning wildlife refuges or national parks, and others related to water and forest resources: lakes, rivers, fishing areas, hunting preserves, hiking paths, etc (Deller et al., 2005). These natural areas are considered to generate benefits derived from recreational and tourism activities (Green, 2001). **National Parks** are natural areas with high natural and cultural value, and have little interferences caused by human activity. According to Spanish law, these areas deserve priority attention due to their representative character, the uniqueness of their flora, fauna and geomorphologic formations. Thus, it is declared of general interest to the nation because it is representative of the Spanish natural heritage[15]. Spanish National Parks have international recognition. They involve the objective of enjoyment by the citizens and constitute a tourist attraction.

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[15] An area should be declared a National Park when it is representative of the natural system, has a large surface in order to permit the natural and ecological processes, presents little intervention in its natural territory, being uninhabited within the area, and being surrounded by an area that could be declared as peripheral protection area.

(2) Referring to *Social and Historical amenities,* we could use the World Heritage Sites classification from Unesco. **World Heritage Sites** are selected using mixed criteria with natural and cultural points, such as, for example: representing a masterpiece of human creative genius, being an exceptional testimony to cultural tradition or to a civilization, containing superb natural phenomena with natural beauty, significant natural ecosystems with biological diversity and/or threatened species. The Unesco World Heritage classification would be a perfect proxy of cultural destinations, which constitute the main motivations of tourism in our country. Moreover, Patuali et al. (2010) explains that culture is a force for attracting domestic and international tourism. They find a positive relationship between cultural heritage and tourism inflows for Italian regions.

(3) Each type of *attraction industry* (sports, amusement and cultural activities) could cause a different effect on the tourism employment creation and on regional economic growth (Rosentraub & Joo, 2009). Investments in amusements and sports attractions were associated with higher levels of tourism employment and higher household incomes. They find public policies are most efficient when they are focused on sports and amusements. However, neither cultural activities nor art activities result in having a statistically significant impact on the level of tourism employment. Previous literature has found that cultural and art activities had no positive impact on employment levels in the tourism industry nor economic development. To measure the attraction facilities, it is beneficial to include the **number of shops per person**. One of the most common activities done by tourists is going shopping, so it is necessary to include a variable to measure this factor of attraction in destination areas.

1.1.2 Tourism Seasonality

The first study of seasonality research defines seasonality as a recurring effect each year with more or less the same timing and magnitude. Also, this study points out that the existence of a peak season implies that hotels and other accommodations are closed or working at a lower level throughout the rest of the year (BarOn, 1975). Although there is no generally accepted definition of seasonality, its most remarkable aspect is that it

involves the concentration of tourism flow in relatively short period of the year (Allock, 1994).[16]

The causes of seasonality have been widely studied by many authors and they can be grouped into different categories that are intrinsically related: natural, institutional-cultural, calendar effects and economic reasons (BarOn, 1975; Butler, 1994; Butler & Mao, 1997; Frechtling, 2001).

Natural seasonality is related to climate variations throughout the year and the area: the hours of daylight, temperatures, rainfall, and snowfall. Given that most tourism activities take place outdoors, they depend on climate variations, for instance in sun and beach destinations, skiing sports, the timing of holidays and/or geographic location.

Institutionalized and cultural seasonality is associated with the following factors: the availability of leisure time, travel motivations and the hosting and timing of events (Lee et al., 2008). First, there are traditional and cultural variations placed at specific times of the year, such as school and university holidays, specific commercial or industrial holidays, and religious events (Christmas or Easter). Even if it does not appear to be a significant factor in many countries, the tradition of summer family holidays and the closure of some industrial sectors for various weeks in the summer contributes to the regular peaking of tourist activities in that season (Butler, 1994). Second, travel habits are influenced by fashions and changes in tastes and motivations. The ageing of the population would affect the tourism pattern because elderly people are less constrained in the timing of holidays. Moreover, the different fares in tourism services and travel transports, sporting season (skiing, surfing, hunting and golf), fairs, festivals, and celebrations are linked to individual preferences for peak seasons.

The Calendar effect has been identified as a key determinant of seasonality (Frechtling, 2001). It is explained as the variability of the number of days and weekends in a month, quarter or a year. Leisure activities are concentrated on weekends, which are not equally distributed. Also, the dates of Carnival and Easter change each year, so the calendar effect should be evaluated when using monthly data.

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[16] All the definitions emphasize the intra-year movement as one of the key elements of seasonality.

Furthermore, a recent study has analyzed the *economic* determinants of seasonal patterns from a macro perspective (Roselló et al., 2003). They found evidence that when incomes grow and relative prices decrease, tourists prefer to divide their holidays during the year, reducing seasonal concentration. Another important result shown is that if nominal exchange rate benefits tourists, they prefer to travel in peak months.

Finally, it is relevant to note that all the causes explained are at the same time push and pull factors, and they interact (Butler & Mao, 1997). On one hand, there are push factors in the generating area, where tourists live, as for example calendar and institutional effects (public holidays), fashions or traditions surrounding some destinations, the climate in the generating area and infrastructures for access (transport costs, travel time…). Push factors will influence the amount of tourism flow during the whole year. On the other hand, we found pull factors in the receiving area: the place selected for holidays. For instance, climate, sport or tourism events, and tourism facilities determine the power of attraction of different destinations. As a consequence of the interrelation between push and pull factors, there should be significant efforts made in order to understand the causes of seasonality, and the place where it is generated.

After the literature review about its main causes, we are now going to focus on seasonality effects. The impact of the seasonal tourism is very diverse and complex and its effects can be classified into the following groups: Economic, Ecological, Socio-Cultural and Employment. Most of the economic impact is linked with the instability of the return on investments due to tourist flows causing an underutilization of facilities and loss of benefits during the off-peak season (Common & Page, 2001; Koening & Bischoff, 2005). This could mean a big disproportion between profits and the necessity to cover fixed costs in the tourism industry, which makes the attraction of private investors difficult. Furthermore, public authorities make an effort even without a clear tourism plan and only focus on promotion and environment (Mathieson & Wall, 1982). Consequently, it is very difficult to plan the efficient use of resources and services.

Furthermore, seasonality´s impact on the environment is commonly considered to be negative. The concentration of visitors in peak seasons and places provokes congested destinations, increases pollution levels, deteriorates vegetation and affects fauna (Manning & Powers, 1984). Recent research has studied the ecological carrying

capacity of a destination: they have tried to measure how many tourists could stay in a destination without causing environmental damages.

Besides, the socio-cultural effects include both visitors and the local community. The arrival of visitors in peak months causes pressure on the transport systems and infrastructures in the way of, traffic jams, lack of parking, queues in services (Murphy, 1985). Thus, some destinations require extra facilities to maintain the level of service, for instance, in public services as police, healthcare, rubbish collection, water or electricity supply. Therefore, it was pointed out that there is a funding gap because the taxes and central government grants aren't enough to cover the services for residents and visitors. Certainly, this would decrease the quality of services. Also, the quality of life of the local community would be reduced and they will therefore become intolerant of tourists.

1.1.2.1 Seasonality Indices

Most of the literature on seasonality is focused on seasonality in general and theoretical terms or describing its causes, but there is a lack of quantifiable definitions which point out how tourism seasons can be differentiated, or how they can be compared between different regions or years. Lundtorp (2001) points out several reasons for measuring seasonality: analyzing the possibilities and the impact of the season, studying how seasonality influences pricing, tourism forecasting, etc.

Moreover, many measures of seasonality have been proposed in academic literature without any consensus about the most suitable ones or the robustness among them. Koening and Bischoff (2003) remarked that the final decision about which measure is to be used depends on the research question and the degree required. They highlighted that there has been no consensus about the best approach, so a combination of different ones is the best way for analyzing seasonal variations. According to the review of seasonality of tourism that was provided (Lundtorp, 2001), several measures have been considered. If we have data from the 12 months of the year, it is possible to calculate the lowest and highest value of the year, and the average value. So, the indicators could be:

- **Seasonal range**: difference between highest and lowest monthly indices.
- **Peak seasonal factor:** highest monthly seasonal factor.

- **Seasonality relative intensity**: quotient between the highest value and the average.
- **Seasonality absolute intensity**: difference between the highest value and the average.
- **Other Statistical concepts:** Coefficients of variability, coefficient of variation, concentration indices, amplitude ratios and similarity indices.

These indicators are easy to compute and extend to a sample of multiple years and they offer an approach for seasonal intensity. However, they are affected by shocks and extreme values, and their robustness is questionable (Wanhill, 1980; Cuccia, 2011).

Yacoumis (1980) studied seasonal patterns in Sri Lanka applying the seasonality ratio. The **seasonality ratio (SR)** is calculated as the index of the peak month, divided by the average index of arrivals[17].

$$SR = S_{i\,max} \Big/ S_{i\,average} \quad , \quad 1 \le SR \le 12$$

If the seasonality ratio is 1, it means that the number of visitors arriving is constant for every month during the whole year. And if the number of visitors is concentrated in one particular month, the seasonality ratio is 12. As a consequence, when seasonality increases, the ratio is nearer to 12. It is easily measured and emphasizes the peak season by taking into account the maximum value in the numerator.

Another index based on the Seasonality Ratio has already been used for calculating the seasonal performance of occupancy rates. The **Seasonality Indicator (SI)** is the inverse of the seasonality ratio, which means it is the division between the average seasonality index and the highest seasonal index ($SI = 1 / SR$). The interpretation of this indicator is very easy, being a measure of capacity utilization. It varies from 1/12 to 1 and the ratio approaches 1 when seasonal variation decreases. It shows the average number of overnight stays in relation to the capacity of the industry. As a result, it shows the

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[17] *To* is the total number of the tourists during the year (*Ti* being the tourist arrivals in the month *i*), $To = \sum_{i=1}^{12} Ti$ and the average of tourists during the year is $\overline{U}$. First, it is necessary to calculate a S*easonal Index*: $S_i = T_i/T_o$. The highest seasonal index of the year (the highest number of tourists in one month which would make it the peak month) is divided by the average seasonal index, $S_{iaverage}$ (100).

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average occupancy rate. For instance, when the *SI* is 0.5, it means that only the 50% of the capacity in hotels is used during the year.

Both, the Seasonality Ratio and the Seasonality Indicator have been criticized as being affected by the highest monthly value. That is to say, they do not account for the skewness of the distribution (Lundtorp, 2001) and they present deficiencies when used as measures of inequality (Wanhill, 1980). Instead of both of these measures, the **Gini Coefficient** is recommended. The Gini index is calculated as the area between the Lorenz Curve and the 45-degree equality line divided by the entire area below the 45-degree line, as a generally recognized measure for inequality. If the distribution of tourist arrivals were equal during the year, it would be shown as a straight (45° line). Then, the gap between the 45° line and the Lorenz curve would show that tourist arrivals during the year are not equal (Wanhill, 1980). The Gini coefficient shows inequality as a ratio. Following Lundtorp (2001), Gini coefficient is defined as:

$$G = \frac{2}{n} \sum_{i=1}^{n} (Xi - Yi)$$

Being *n* is the number of fractals, in this case is 12 (number of months) ; X_i is the rank of fractals Xi=i/n, so 1/12, 2/12,… 12/12 ; *Yi* is the cumulative number of fractals in the Lorenz Curve. If the Gini Coefficient is zero, it means there is perfect equality. And if Gini is one, it indicates the maximum unequal distribution of number of tourist arrivals per month. Consequently, the greater the ratio is, the greater the unequal monthly distribution of tourist arrivals is.

As mentioned before, the Seasonality Ratio and the Seasonality indicator was criticized because both have very high upper bounds, being affected by extreme values. Although the Gini Coefficient is also influenced by the higher values, it is less dependent on the highest fractal of the year. Moreover, Gini´s strength is that it allows the making of comparisons among multiple years (Karamustafa & Ulama, 2010). Neither the seasonality ratio nor the seasonality indicator values show the skewness of seasonal fluctuations (Lundortp, 2001). Finally, Gini can also be used as measure for the unused capacity.

In addition to different measures, it is important to note that the seasonality can be measured in different units: numbers of visitors, expenditures of visitors, traffic congestion on the highways or other forms of transportation, fluctuations in employment or in number of admissions to attractions (Butler, 2001). In order to approach seasonality in Spain, the most suitable variable to measure it should be chosen, according to the Spanish Seasonality pattern. Regarding the Spanish case, there two papers that study seasonality in Spanish tourism: one focused on the demand side, and another on the supply side. In the first one, Duro (2008) discusses the use of different indices to measure seasonality in Spanish regions for the period 1999–2005. Duro´s research calculates indices of inequality (Gini, Theil and Atkinson) using the number of overnights by region. The main outcomes suggest that there is a negative relationship between tourism demand and tourism concentration. Besides, Duro points out intra-regional divergences should be studied further.

Concerning the supply side, Lopéz & López (2005) calculate an index through the moving average method and the Gini index, applied to different variables such as hotel, tourism employees and rooms for the period 2001-2004. Their main results show that Madrid and the Canary Islands are the least seasonal regions, whereas the Balearic Islands, Catalonia and Cantabria are the most seasonal. Besides, their findings reveal that regions follow different strategies to adapt to seasonality. The most usual plan is based on adapting the number of beds and number of employees to seasonal flows. On the contrary, the exceptions are the Balearic and Canary Islands, Catalonia and Comunidad Valenciana which adapt the number of establishments. Finally, both papers use the data from the HOS survey. Consequently, we are going to contribute to the study of seasonality in Spain because we carry out our analysis for the demand and supply side, at a provincial level for a longer time period.

As a Mediterranean country, tourism demand is characterized by one peak season whose origin is the model of sun and beach. Moreover, the existence of a non-peak period means tourism activities continue in a minor degree. Nevertheless, on one hand, Spanish tourism has some key differences between residents and international visitors: they travel in different seasons, select different accommodations, and the average stay and daily expenditure also change. As a result, we should consider theses differences in seasonality in our analysis. On the other hand, there are tourism establishments that are

open only during the peak season, i.e. we should account for supply-side seasonality. Hence, these particularities should be taken into account depending on available data.

1.2 An empirical approximation: Tourism specialization and Tourism seasonality for Spanish provinces

As we have seen in the previous section, the literature has defined multiple indicators accounting for tourism specialization and seasonality. Nevertheless, on one hand, there is no agreement on the best indicator. On the other hand, each of them measures one particularity of tourism. As a result, in this section we develop a synthetic indicator for tourism specialization and another for tourism seasonality that summarizes all information without losing the multidimensionality.

We will focus on the analyses of 2001, 2006 and 2011 data according to the application in the next chapters, but we will report additional data in the annex referring to the other years in this period (2001-2011)[18]. Thus, this is the largest temporal and homogeneous sample that we can obtain for international and domestic tourists that stayed in the Tourism Accommodation Sector in the Spanish provinces. In addition, in this period we are able to look at the evolution of tourism from before and after the global economic crisis.

1.2.1 Databases

In order to get data on tourists arrivals, employment, rooms etc., we use the **Hotel Occupancy Survey (HOS),** which is a monthly database elaborated by the National Statistical Institute. The information is provided by the hotel establishments, which constitute the analysis unit. The hotels considered are included in the corresponding register of the Tourism Department in each region (CC.AA.), and they are those who offer services of collective accommodation with or without collective information. The data refers to variables from the *demand side* and the *supply side*. So on one hand, it provides information about travelers, overnights stays and average stay, disaggregated by country of residence of the traveler, category of the establishment and region. On the other hand, supply-side variables are the estimated number of establishments open for

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[18] See Annex: From Table A.7 to Table A.18.

the season, estimated number of bed places, occupancy rate and labor information, also disaggregated by category of establishment and region.

The definitions of the variables that we use in our analysis are the following:

- Tourists are "all persons who stay one or more consecutive nights in the same accommodation". We also use the number of travelers classified by their country of residence, so we distinguish between Spanish residents and residents from abroad.

- Overnight stays refer to each night that a traveler stays in an establishment. And subsequently, the average stay is the number of days that each traveler stays on average in the hotel establishment[19].

- Open establishments are understood to be the establishments in which the month of reference is included with the opening period.

- Bed places are the number of fixed beds estimated in the establishment during the open season[20].

- Hotel personnel are defined "as the group of people, remunerated and not remunerated, who contribute their work to the production of goods and services in the establishment during the reference period of the survey, even when they work outside the premises".

Additionally, the data linked to amenities is provided by diverse public organisms, for example, the National Geographical Institute, **Spanish State Meteorological Agency (AEMET),** or the Ministry of Agriculture and Environment. In order to include the climate index, we obtained the data from the AEMET. It is necessary to clarify that we have used data from the period 1971-2000 in order to use the normal values (not affected by extreme circumstances). To measure the attraction facilities and number of establishments from the supply side, we have used data from the **Central Business Register**. The survey shows the number of local units by location and branch of activity (following the General Industrial Classification of Economic Activities (NACE) developed by the European Statistical Office). We have chosen as a proxy the number of establishments in Hotels and Restaurants (NACE 55), the number of shops (retail trade, NACE 52), and the number of Amusement, Cultural, and Sports establishments

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[19] Calculated as the quotient between the number of nights and the number of tourists.
[20] Extra beds are therefore are not included and double beds are equal to two vacancies.

(NACE 92). In the second branch of activities, a wide range of activities are included, such as cinemas, theatres, performing art activities, amusement parks, fairs, festivals, discos, sports performances and events, libraries and museums, exhibitions, and gambling industries. Finally, the Spanish Heritage Sites are obtained directly from UNESCO's World Heritage Convention website, which provides a list of all World Heritage Sites by country, year of inclusion and nature of the site.

1.2.2 Tourism Specialization: A description

Before presenting the results of the synthetic indicator, we are going to analyze the regional differences in the indices that we have defined in the previous section and that we will use to construct the synthetic indicator.

We have elaborated different maps in order to be able easily understand the regional differences in terms of tourism specialization (See Annex Maps). The main fact that we are assuming is that Spain is specialized in tourism. Thus, we have divided the values into three ranges: the central one shows that a region is specialized in tourism with averages similar to Spain on the whole. So, the inferior range stands for a region which is not specialized in tourism for this specific indicator. And, the superior range indicates that the region is specialized in tourism more than the Spanish average.

1.2.2.1 Demand side

In the case of TDR for Spanish tourists, we have found that specialized regions are almost all the coastal provinces, including the Atlantic, North and Mediterranean coasts and the archipelagos. These seaside regions receive a high amount of domestic tourism. Also, Madrid is specialized in domestic tourism given that it is a popular city destination. We can observe that there are fewer regions specialized the arrivals of international tourists. The most specialized regions are the archipelagos, Barcelona and Madrid (provinces that have an urban city tourism attraction), Mediterranean regions, such as Girona, Tarragona, Alicante and Valencia, and some Andalusian coastal provinces (Cadiz, Malaga, Granada and Seville). Besides, we found that Vizcaya and Guipúzcoa are the only specialized regions in the Northern part of the country..

Concentrating on the Tourism Intensity Ratio for international tourists, we have found that few regions are specialized in international tourism: only coastal regions (Girona,

Barcelona, Tarragona, Granada and Malaga) and the arquipelagos. On the other hand, the larger amount of Spanish tourist arrivals relative to the population increases the number of tourism specialized provinces[21]. This tourism specialization is even more clear in the coastal regions. At the same time, the internal provinces of Castilla León and Castilla La Mancha are specialized in domestic tourism because Madrid is such a large source region. So, the results should be interpreted carefully. If we take into account that we are comparing the tourism density index with the resident density index, those regions with a low density index are the ones that appear to be touristic that previously were not (centre of Spain).

When we control the tourist arrivals by the average length of stay and population, the findings are similar. In the case of Tourism Penetration Ratio (TPR), coastal regions and internal provinces around Madrid are specialized in domestic tourism. However, in the case of international tourists, only Mediterranean regions in Catalonia and Alicante as well as Malaga and the archipelagos are specialized. The Augmented Tourism Density Ratio findings show that those regions specialized in domestic arrivals are: the Atlantic coast, the North coast (except Lugo) and all Mediterranean provinces (except Murcia). For international arrivals, ATDR confirms that only Madrid, Cadiz, Malaga, Valencia, Catalonia´s coast and the archipelagos are specialized. The daily visitors relative to the area is higher than the Spanish average. Along the same line with the previous demand-side indicator, Tourism Concentration confirms that coastal regions and internal regions around Madrid are specialized in domestic overnight visitors. Also, it is important to note that Huesca and Girona appeared as tourism specialized regions. The reason being that these provinces constitute relevant skiing tourism destinations.

1.2.2.2 Supply side

Focusing on the supply side, the Function Index shows that provinces, e.g., the archipelagos, Malaga, Almeria, Alicante, Tarragona and Girona, have a higher accommodation capacity than the average Spanish Tourism levels. Other internal provinces and Cantabria present the same level as the Spanish average. The room index provided consistent results because low population levels do not influence it. According to the Room Index, specialized regions with bigger accommodation capacities relative to land area are: Pontevedra, A Coruña, Cantabria, Vizcaya,

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[21] In the case of the central part of Spain the ratio could be higher given that the population is very low.

Guipuzcoa, the provinces of Catalonia and the Valencian Community, the Balearic and Canary Islands, and Cadiz, Malaga and Almeria in the south. Finally, in relation to the size of the establishments, the Relative Beds per Establishment shows that the hotels with the biggest accommodation capacity are located in Barcelona, Tarragona, the Balearic and Canary Islands, Huelva, Malaga, Almeria and Alicante. Again, Madrid and the rest of the Mediterranean coastal regions present the Spanish average of supply-side specialization.

Focusing on the labour market, the Employment Location Quotient shows that coastal regions in the South (Huelva, Cadiz, Malaga, Granada and Almeraa), Alicante, Tarragona, Girona and the archipelagos are specialized in tourism employment. Moreover, we observe that the some internal regions (Zamora, Soria, Teruel, Caceres) are also specialized. The explanation is not based on a relevant tourism industry, but rather the low levels of other economic activities. In order to evaluate the supply side, the location quotient calculated for the Hotels and Restaurants (Tourism Characteristic Activities) demonstrates that internal regions with low population density and a low level of economic activities are specialized. At the same time, the southern coast, Alicante and Archipelagos have Hotel and Restaurants Specialization. The economic specialization in Amusement, Cultural, and Sports establishments are close to Spanish levels in the majority of coastal regions and in provinces around Madrid. The most specialized in this industry are Madrid, the archipelagos and Caceres.

1.2.2.3 Amenities

Finally, the indicators constructed to describe amenities support the big differences between the North and South when referring to climate conditions. Although the number of National Parks is concentrated in just a few provinces, the number of Unesco World Heritage sites is similar in all of the Spanish provinces. The regions with the highest presence of Unesco World Heritage sites are: A Coruña, Burgos, Madrid, Huesca, Lleida, Barcelona and Girona.

1.2.3 Tourism seasonality: Results

1.2.3.1 Demand side

The Gini coefficient for domestic tourist arrivals shows that the inequality, and consequently seasonality, is higher in the coastal regions than in the interior regions. Also, Gini is greater in the northern part of the country. Consequently, the greater the ratio is, the more unequal the monthly distribution of domestic arrivals. The explanation could be that domestic tourism is very concentrated in the summer months and during other institutionalized holidays. Moreover, seasonality is bigger in the north because domestic tourists select this destination depending on the weather. Also, the regions situated around Madrid present a high level of seasonality. As we have explained before, Madrid has a big population that visits the surrounding regions during short holidays and weekends. If we focus on the archipelagos, we can observe that the seasonality is greater in the Balearic Islands than in the Canary Islands.

As the map shows, the Gini coefficient for international tourist arrivals is bigger than domestic tourist arrivals in the majority of regions. Therefore, the conclusion would be that international tourists only visit these regions during summer months. The reason why internal regions do not have a high Gini coefficient is because they receive low levels of international tourists throughout the entire year. The only exceptions to this extended pattern are the Canary Islands, Madrid, Malaga and Barcelona because these provinces are more specialized in international arrivals.

If we look at the Gini Coefficient for overnights, results show a high inequality of overnight stays during the year in the coastal regions for both, Spanish and international tourists. In the case of international tourists, the Gini is higher in the North.

1.2.3.2 Supply side

We calculate the Gini coefficient for the number of opened tourism establishments. The variable is very relevant because hotel managers adapt the supply to tourist arrivals. The seasonal fluctuation is higher in coastal provinces, and it has increased during the years. In line with the previous graphics, we can perceive that there is different behavior in the seasonality between the two archipelagos. Whereas the Gini coefficient is nearly zero in

Canary Islands, the index for the Balearic Islands shows one of the greatest levels of inequality.

Using the number of fixed beds in each open establishment to estimate the Gini coefficient, the figure varies depending on the strategy adopted by hotel managers, because the seasonality adjustment can be in terms of number of open establishments, number of beds, and employment. The inequality of the number of beds is bigger in the coastal provinces, and does not suffer variations over time. Again, the Balearic Islands province has one of the highest levels in the Gini ratio[22].

The Gini coefficient illustrates a disperse level of seasonality in terms of employment. The highest level of seasonality is located in coastal regions: Pontevedra, Cantabria, Huesca and Lleida, Huelva, Cadiz, Almeria and the Balearic Islands. In addition, we could conclude that the majority of the Spanish provinces adjust to seasonal tourist flows in terms of the number of hotel employees or opening their establishment only in the peak seasons.

1.2.4 Composite Indicator

1.2.4.1 Methodology

Given that the wide range of indicators referring to the demand side, the supply side, and amenities, our objective is to construct a synthetic indicator able to summarize the information and to establish a ranking in terms of tourism specialization and seasonality. Composite indicators serve to measure multidimensional concepts. Ideally, they should be based on a theoretical framework, in which individual variables are selected, combined and weighted in a manner which reflects the dimensions or structure of the phenomenon being measured (Blancas et al., 2010). Variables are ordered hierarchically and organized into factors or pillars, which are dimensions that we want to synthesize into one single measure.

According to previous literature there is no perfect methodology for constructing a synthetic index. When analyzing tourism specialization, there is no consensus about the best index to measure tourism specialization nor an objective quantification of the

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[22] If we calculate the average and standard deviation for Gini, Seasonal Ratio and Seasonal Range, both methods show the same results.

relative importance of each one. Thus, we select the Principal Component Analysis (PCA) that is a multivariate statistical technique used to reduce the number of variables into a smaller number of dimensions (Pearson, 1901; Hotelling, 1933). It is widely used as a weight aggregation system when defining synthetic measures. In mathematical terms, from an initial group of *n* correlated variables, PCA creates uncorrelated indices or components, where each component is a linear weighted combination of the initial variables. For example, from a set of variables X_1 through to X_n:

$$PC_1 = a_{11} x_1 + a_{12} x_2 + \cdots + a_{1n} x_n$$

$$PC_m = a_{m1} x_1 + a_{m2} x_2 + \cdots + a_{mn} x_n$$

Where a_{mn} represents the weight for the m principal component and the n variable. A prior step to any data aggregation is the normalization of the data in order to make comparisons, since each variable has different units (OECD, 2008; Jacobs et al., 2004). So we used the min-max approach to rescale variables, so the worst value across all the regions receives a score of 0 and the best a 1:

$$X_{ij} = \frac{v_{ij} - Min}{Max - Min}$$

The technique of Principal Component Analysis has a lot of advantages. It enables the aggregation of a lot of information in order to represent a limited number of variables (which is a linear combination of the original variables). Also, using this method we avoid multicollinearity problems arising from the incorporation of interrelated variables (Mata & Llano, 2012). It allows us to make comparisons, rank countries or regions in various performance and policy areas due to the large amount of information integrated. Moreover, it is valuable as a communication and policy tool. In the area of tourism it is used to rank and benchmark destinations. It is also used to classify tourism destinations depending on the place of origin and destination characteristics (Cantalone et al., 1989; Gallarza et al., 2002).

It is necessary to compute the Kaiser-Meyer-Olkin (KMO) test, in order to verify the suitability of the data for PCA and to test the level of correlation between the indicators. The KMO measures the suitability of the sample and determines whether sufficient

observations have been used for applying the PCA. The KMOs calculated for the different dimensions and for the aggregated level index exceed 0.5, which is a suitable level (Blancas et al., 2010; Chhetri et al., 2004). The significance of KMO value shows the adequacy of the PCA to be conducted.

Then, applying PCA to the pillars conceptual structure requires making some choices. The first one concerns the number of components that should be retained for each indicator. In this study, according to OECD (2008), we have extracted all the principal components which are associated to an eigenvalue higher than 1 and whose value has an incidence higher than 10% of the sum of all the eigenvalues. Furthermore, we have also taken into consideration the rule of keeping enough factors to account for 60% of the variation. Once the number of components to extract is identified, a score for each province is calculated as an arithmetic mean of the component scores weighted by the share of variance explained by each component. The subsequent synthesis of pillars into a single value is then obtained through an arithmetic mean.

1.2.4.2 Tourism Specialization

Based on the literature and on the descriptive analysis we have grouped the indicators into four pillars: Demand side for Domestic tourists, Demand side for International Tourists, Supply side, and Amenities. Using the KMO, we have selected the following indicator for each of the pillars:

Table 1.1: Pillars and indicators for conceptualizing Tourism Specialization

Pillars/Dimensions	Variables	Source
Demand-side Domestic Tourists	Tourism Penetration Ratio Augmented Tourism Density Ratio	HOS
Demand-side International Tourists	Tourist Density Ratio Tourist Intensity Ratio Tourism Penetration Ratio Tourism Density Ratio	HOS
Supply-side	Tourism Function Index Room Index Beds per Establishment Location Quotient Hotel & Restaurants Location Quotient Leisure establishments Location Quotient Employment Location Location Quotient	HOS HOS HOS Central Register Bureau Central Register Bureau HOS
Amenities	Length of the coast Annual average temperature Annual average precipitation National Parks World Heritage sites Shops per person	National Geographic Institute AEMET AEMET Ministry UNESCO Central Register Bureau

Note: Rural data is not included for homogeneous purposes

The results confirm that the Canary and Balearic Islands are the most touristically specialized regions in Spain. The archipelagos present the best results in the aggregated index, and in the four pillars. The following positions are occupied by coastal regions in Mediterranean and Andalusia provinces: Girona, Tarragona, Barcelona, Alicante, Malaga, Huelva and Almeria. And the only exception to the entire coastal region is Huesca, and Lleida (the latter has improved its position over the years). The explanation for this case is that these two provinces are important skiing centers and winter tourism destinations for domestic tourists.

On the other hand, the last positions have been stable over time. These internal regions that are not touristically specialized are Jaen, Lugo, Ourense, Palencia, Valladolid, Guadalajara, Navarra, Zaragoza. These regions got the worst marks in international tourism specialization, accommodation facilities, as well as in amenities.

1.2.4.3 Tourism Seasonality

Similar to with tourism specialization where we based our factors on the literature and on the descriptive analysis, we have grouped the indicators into three pillars: Demand side for the Domestic tourists, Demand side for International Tourists and Supply side. Using the KMO, we have selected the following indicators for each of the pillars:

Table 1.2 Pillars and indicators for conceptualizing Tourism Seasonality

Pillars/Dimensions	Variables	Source
Demand-side *DomesticTourists*	Gini (monthly tourists in hotels) Gini (monthly stays in hotels) SR (monthly tourists in hotels) SR (monthly stays in hotels) SAR (monthly tourists in hotels) SAR (monthly stays in hotels)	HOS
Demand-side *International Tourists*	Gini (monthly tourists in hotels) Gini (monthly stays in hotels) SR (monthly tourists in hotels) SR (monthly stays in hotels)	HOS
Supply-side	Gini (monthly available rooms in hotels) Gini (monthly number of open hotels) Gini (montly number of workers in hotels) SR (monthly available rooms in hotels) SR (monthly number of open hotels) SR (monthly number of workers in hotels) SAR (monthly avaliable rooms in hotels) SAR (monthly number of open hotels) SAR (monthly number of workers in hotels)	HOS

Note: Rural data is not included for homogeneous purposes

The main finding in the seasonality composite indicator is the stability of the top positions of the most seasonal touristic regions. The first part of the ranking is occupied by the Balearic Islands, Girona, Tarragona, Pontevedra, Lugo Cantabria, Asturias, Huelva, Cadiz, Castellón and Huesca. Thus, the seasonality is linked to sun and beach destinations, and affects northern, southern, and Mediterranean provinces indiscriminately. On the other hand, the least seasonal places present major variances over time. Madrid, Santa Cruz de Tenerife, Seville, Granada, Toledo and Guadalajara show lower seasonality. As we can observe, among the group of the less seasonal regions, we can find touristic regions and other regions that are not specialized in tourism. That means non-touristic regions are not seasonal because they do not receive a big amount of tourists arrivals throughout the year, so they do not have to modify their supply-side offer.

In this paper, we only show the results for the years 2001, 2006 and 2011 in order to use these synthetic indicators in next chapters. However, we have calculated the PCA for the rest of the years according to the data available (from 2001 to 2011). The correlation index calculated for the results highlights the stable evolution over time (see Annex, Table A.19 and Table A.20)

For the perfect measure of tourism specialization and tourism seasonality of tourist arrivals in the Accommodation sector, it would be necessary to include the data referring to rural tourism, campsites, and touristic apartments. In spite of this, we only have data from 2005 to 2011 for rural tourism, so we have to introduce rural tourism data as a sum of the demand and supply-side variables to test if the results change. The outcomes reveal that rankings do not change much, in fact the correlation index is higher than 0.95 if we compare results whether or not rural tourism data from to 2005 to 2011 is included.

1.3 Conclusions

The present chapter has provided a comprehensive review of the concept of tourism specialization and tourism seasonality, as well as its measurements, according to previous literature. We attempt to outline the measurement of these two relevant touristic concepts from the demand and supply side. This distinction is essential to

understand and to study both phenomena. And finally, we also have included another factor which influences both demand and supply side: amenities. As mentioned before, we should increase the absolute figures, and we need to control each measure according to regional size.

Firstly, tourist arrivals influence the level of tourism specialization in each region because many factors fluctuate depending on the type of visitor (length of stay, daily expenditure, travel motivation). At the same time, tourism flow suffers monthly oscillations, which are caused by official holidays, climate, economic circumstances, and destination characteristics… As a result, the level of seasonality is very different in each region and independent from tourism specialization.

Moreover, we have found broad differences between domestic and international tourists. International tourists generally only visit a few Spanish regions: the Balearic and Canary Islands, Madrid, the Catalonian coast, Malaga and Castellón. On the contrary, there is a bigger number of regions specialized in the domestic arrivals, although this type of tourism is very seasonal: coastal regions are the perfect example of the sun and beach model. The only exception to this model is Huesca, which is a tourism specialized region but following the model of a national skiing destination. Also, we can appreciate a significant domestic tourism specialization in those regions surrounding Madrid.

Secondly, the supply side of tourism has reached different levels of development according to tourist flows. The supply side makes a higher degree of specialization more evident in coastal regions, even in the northern part of Spain. Furthermore, the accommodation industry varies throughout the year, since managers adapt offers to the seasonal flow of visitors using variables such as beds, employees or even the closing of establishments during certain times of the year. The main findings show a high seasonal effect on the supply-side industry in coastal regions, the Balearic Islands, Huesca and Girona. The relevant exceptions of seasonality are: the Canary Islands and Madrid, because of the extraordinary climate of the former, and the urban power of the latter.

In order to summarize the information provided by the different indices, we have constructed a synthetic indicator following the Principal Component Analysis methodology. We have carried out these analyses separately for specialization and

seasonality of the tourism sector in Spanish provinces since it is not clear how they interrelate between each other. The rankings obtained for specialization and seasonality are stable over the temporal sample. PCA demonstrates a clear model of sun and beach tourism, whereas coastal regions are the most touristically specialized and the most seasonal. The exceptions to this specialization are Huesca, and recently, Girona, which are skiing destinations for domestic tourists. Regarding the differences between domestic and international tourism, the domestic flows present a higher degree of seasonality. Besides, international visitors are concentrated in just a few regions but in a stable way throughout the year. Finally, it is relevant to highlight that the regions surrounding Madrid are also specialized in domestic flows.

Compared with previous studies, the proposed method to study tourism specialization and seasonality in Spain is based on data available at a regional level, which enhances the analysis of the tourism sector. In addition, we analyzed the demand side, the supply side and amenities in tourism simultaneously. Because of this, the main implications derived from this analysis may facilitate the estimation of the influence of seasonal and specialization on other economic aspects, e.g. the labor market. The results are valuable for use by a large number of authorities at a national and a local level.

References

Allock, J. B. (1994): *Seasonality*. Tourism Marketing and Management Handbook. Witt SF., Moutinho, L.(eds): Prentice Hall: New York; 86-92.

Balaguer, J.; Cantavella-Jorda, M. (2002): "Tourism as a long-run economic growth factor: the Spanish case". *Applied economics*, *34*(7): 877-884.

Bar-On, R.V. (1975): *Seasonality in tourism: a guide to the Analysis of seasonality and trends for policy making*. Technical series nº2, The Economic Intelligence Unit. London.

Blancas, F.J. et al. (2010): "The assessment of sustainable tourism: Application to Spanish coastal destination". *Ecological Indicators*, 10: 484-492.

Butler, R.W. (1994): *Seasonality in Tourism: issues and problems*. Tourism: The State of the Art, Seaton Av. (ed): Wiley:Chichester: 332-339

Butler, R. W. (2001): "Seasonality in tourism: Issues and implications". In T. Baum, & S. Lundtorp (Eds.), *Seasonality in tourism*. Oxford, Pergamon: 5-21.

Butler, RW.; Mao, B.(1997): *Seasonality in Tourism: problems and measurement*, Quality Management in Urban Tourism, Murphy P (ed): Wiley: Chichester: 9-23.

Calantone, R.J., et al. (1989): "Multiple multinational tourism positioning using correspondence analysis". *Journal of travel research*, 28(2): 25-32.

CEC; IMF; OECD; UN; World Bank (1993): System of National Accounts, Brussels/Luxembourg, New York, Paris, Washington, D.C.

Chhetri, P.; Arrowsmith, C.; Jackson, X.W. (2004): "Determining hiking experiences in nature-based tourist destinations". *Tourism Managament*, 25: 31-43.

Commons, J.; Page, S. (2001): "Mananing seasonality in peripheral tourism regions: The case of Northland, New Zealand". In T. Baum and S. Lundtorp (ed), *Seasonality in Tourism*, Oxford , Pergamon: 153-172.

Cortés-Jiménez, I. (2008): "Which type of tourism matters to the Regional Economic Growth? The Cases of Spain and Italy". *International Journal of Tourism Research*, 10: 127-139.

Cuccia, T.; Rizzo, I. (2011): "Tourism seasonality in cultural destinations: Empirical evidence from Sicily". *Tourism Management*, 32(3): 589-595.

De Albuquerque, K.; McElroy, J. L. (1992): "Caribbean small-island tourism styles and sustainable strategies". *Environmental Management*, *16*(5): 619-632.

Deller, S. C. et al. (2005): "Regional economic growth with a focus on amenities". In *Amenities and Rural Development: Theory, Methods and Public Policy, Cheltenham, UK and Northampton, MA, USA: Edward Elgar*: 129-152.

Deller, S. C., Lledo, V.; Marcouiller, D. W. (2008): "Modeling regional economic growth with a focus on amenities". *Review of Urban & Regional Development Studies*, *20*(1): 1-21.

Duro, J. A. (2008): "La concentración temporal de la demanda turística en España y sus regiones: un análisis empírico a partir de índices de desigualdad". *Revista de análisis turístico*, nº6, 2º semestre: 35-48.

EU (2011): *Research and innovation strategies for smart specialization.* Avaliable at (13/4/2013).:*http://ec.europa.eu/regional_policy/sources/docgener/informat/2014/smart_speciali sation_en.pdf*

Eugenio-Martín, J.; Martín, N.; Scarpa, R. (2004). *Tourism and economic growth in Latin American countries: A panel data approach*. Nota di lavoro 26.2004. Fondazione Eni Enrico Mattei.

Fernandez, M.; Pena-Boquete, Y.; Pereira, X. (2009): "Labor Conditions in the Spanish Hotels and Restaurants Industry". *Tourism Analysis*, 14(3): 293-312.

Frechtling, DC. (2001): *Forecasting Tourism Demand: Methods and Strategies*. Butterworth – Heinemann: Oxford.

Gallarza, M. G., et al (2002): "Destination image: Towards a conceptual framework", *Annals of tourism research*, 29(1): 56-78

Gearing, C. E., Swart,W. W.; Var, T. (1974): "Establishing a Measure of Touristic Attractiveness". *Journal of Travel Research*, 12 (4): 1-8.

Green, G. P. (2001): "Amenities and community economic development: Strategies for sustainability". *Journal of Regional Analysis and Policy*, *31*(2): 61-76.

Gunn, C. A. (1994). *Tourism Planning: Basics, Concepts, Cases*. Third Edition. Washington D.C.: Taylor & Francis.

Hotelling, H. (1933): "Analysis of a complex of statistical variables into principal components". *Journal of Educational Psychology* 24: 417–441, 498–520.

Ibañez, C.; Ball, F. (2002): "El multiplicador del turismo", *PI*, nº36. Universidad de la Patagonia. Facultad de Ciencias Empresariais.

IET (2010) *Habitur 2010*. Ministerio de Industria, Energía y Turismo

IET (2011a): "The impact of tourism flows on the creation of employment", in *5th UNWTO International conference tourism Statistics*.

IET (2011b): *Balance del Turismo.Año 2011*.Ministerio de Industria, Energía y Turismo.

IET (2011c): *Familitur. Año 2011*.Ministerio de Industria, Energía y Turismo.

IET (2011d): *Frontur y Egatur. Informe annual 2011*. Ministerio de Industria, Energía y Turismo.

IET (2011e): *Empleo en el sector turístico. Informe annual 2011*. Ministerio de Industria, Energía y Turismo.

ILO (2009): "Employment in the Tourism Industries: Measurement Issues and Case Studies". In the *5th International Conference on Tourism Statistics: Tourism: An Engine for Employment Creation*. Indonesia.

Jacobs, R.; Smith, P. ; Goddard,M. (2004): "Measuring performance:an examination of composite performance indicators, Centre for Health Economics, *Thecnical Paper Series 29*.

Jansen-Verbeke, M. (1986): "Inner-city tourism: resources, tourists and promoters". *Annals of Tourism Research*, 13(1): 79-100.

Jansen-Verbeke, M.; Spee, R. (1995): "A regional analysis of tourist flows within Europe". *Tourism Management*, 16(1): 73-80.

Karamustafa, K.; Ulama, S. (2010): "Measuring the seasonality in tourism with the comparison of different methods". *EuroMed Journal of Business*. 5 (2): 191 – 214.

Koening, N.; Bischoff, E (2003): "Seasonality of tourism in Wales: a comparative analysis". *Tourism Economics*, 9(3): 229-254.

Koening, N.; Bischoff, E. (2005): "Seasonality Research: The State of the Art". *International Journal of Tourism Research*, 7: 201-219.

Kuznets S. (1933): *Seasonal Variations in Industry and Trade*. National Bureau of Economic Research: New York.

Lee, Ch. et al. (2008): "Seasonality in the Tourism Industry, Impacts and Strategies". In *Sustainable Tourism Cooperative Research Centre´s Monograph Series*. Australia.

Leiper, N. (1990): "Partial industrialization of tourist systems". *Annals of Tourism Research* 17: 600-605.

Lise, W.; Tol, R. S. (2002): "Impact of climate on tourist demand". *Climatic Change*, *55*(4): 429-449.

López, J.M. ; López , L.M. (2006):"La concentración estacional en las regiones españolas desde una perspectiva de la oferta turística". *Revista de Estudios Regionales* 77: 77104.

Lundtorp. S. (2001): Measuring tourism seasonality. In T. Baum & S. Lundtorp (Eds.) *Seasonality in tourism*. Oxford. Pergamon.

Manning, RE.; Powers, LA. (1984): "Peak and off-peak use: redistributing the outdoor recreation / tourism load". *Journal of Travel Research*, 23 (2): 25-31.

Marcouiller, D.W. ; Kim, K.K. ; Deller, S.C. (2004): "Natural amenities, tourism, and income distribution". *Annals of Tourism Research,* 31: 1031-1050.

Marcouiller, D. W.; Prey, J. (2005): "The tourism supply linkage: Recreational sites and their related natural amenities". *The Journal of Regional Analysis & Policy*, *35*: 23-32.

Mata, T.; Llano, C. (2012): "Spatial pattern and domestic tourism: An econometric analysis using inter-regional monetary flows by type of journey", *Papers in regional science*, 91 (2): 437 – 470.

Mathieson, A.; Wall, G. (1982): *Tourism Economic, Physical and Social Impacts*. Longman: Essex.

McElroy, J. (2003): "Tourism Development in Small Islands across the World", *Geografiska Annaler*, 85 B (4): 231-242.

McElroy, J.; De Alburqueque, K. (1998): "Tourism penetration index in small Caribbean islands". *Annals of Tourism Research*, 25 (1): 145-168.

Murphy, P. (1985): *Tourism: a Community Approach*. Methuen: London.

Neves, T. and Maças, N. (2008): "Does tourism influence economic growth? A dynamic panel data approach". *Applied Economics*, 40: 2341 – 2441.

OECD (2008): *Handkbook on constructing composite indicators: Methodology and user guide*. OECD Publications. Paris.

Patuelli, R.; Mussoni, M.; Candela, G. (2013): "The Effects of World Heritage Sites on Domestic Tourism: A Spatial Interaction Model for Italy". *Journal of Geographical Systems, Forthcoming*.

Pearson, K. (1901): "On lines and planes of closest fit to systems of points in space". *Philosophical Magazine*, Series 6 (2): 559–572.

Perdue, R. R.; Gustke, L. D. (1991): "The effects of tourism development on objective indicators of local quality of life". In *Tourism: building credibility for a credible industry. Proceedings of the Travel and Tourism Research Association twenty-second annual conference, Hyatt Regency Hotel, Long Beach, California, June 9-13, 1991.* (pp. 191-201). University of Utah.

Roselló, J.; Riera, A.; Sansó,A.. (2004): "The economic determinants of seasonal patterns". *Annals of Tourism Research,* 1(3): 697-711

Rosentraub, M. S.; Joo, M. (2009): "Tourism and economic development: which investments produce gains for regions?". *Tourism management*, *30*(5); 759-770.

UNESCO (2011). World Heritage List. From: http://whc.unesco.org/en/statesparties/es

Urtasun, A.; Gutiérrez, I. (2006): "Tourism agglomeration and its impact on social welfare: An empirical approach to the Spanish case". *Tourism Management*, *27*(5): 901-912.

Yacoumis, J. (1980): "Tackling seasonality: the case of Sri Lanka". *International Journal of Tourism Management*, 1 (2): 84-98.

Yang, Y. (2012): "Agglomeration density and tourism development in China: An empirical research based on dynamic panel data model". *Tourism Management*, 33: 1347-1359.

Wanhill, S.R.C. (1980): "Tackling seasonality: a tecnical note". *International Journal of Tourism Management*, 1(4): 243-245.

Chapter 2: Labour market in Tourism Characteristic Activities

Introduction

Tourism is an economic activity based in people (OECD et al., 2008). First, the visitors are people who change their behaviour depending on fashion, tastes, incomes…and decision making affecting tourism (Butler, 1994). Second, the direct contact with customer is still irreplaceable in many phases of activity. And third, the service takes place in a cultural environment created by people. Consequently, tourism is a labour-intensive activity, with a great capacity to generate direct jobs which are required by tourist facilities: hotels, restaurants, etc... In addition to the direct impact, tourism originates indirect jobs in other companies of the tourist region: construction, travel agencies, museums, car rental,,. And induced jobs are resulting from the consumer demand of direct and indirect employees in trade, banking, entertainment, etc. There are many factors that exert influence on the tourist industry, but perhaps the workers are the key ones. The quality of tourism products and services depends on the human factor that determines the degree of customer´s satisfaction. So, the investigation of labour conditions is essential in the tourism activities.

One of the main problems in the field of tourism economy is that tourism is a transversal activity, but it is not a traditional industry as the ones defined in the National Classification of the Economic Activities (NACE). In this classification, the economic activity is defined from the point of view of the production of goods and services (supply side), while tourism is approached from the demand-side perspective (expenditures made by tourists to acquire goods and services).

As a consequence, it is very difficult the quantitative and qualitative analysis of tourism impacts on labor market. We could say that all the activities of the economic system are affected in a greater or lesser degree by the tourism. In fact, the World Tourism Organization points out that tourism is "any activity which in the absence of visitors, in most countries would probably cease to exist" (UNWTO et al., 2008). From this point

of view, tourism activities in Spain employed 11.8% of the total workers of the economy, and 15.9% of the service sector workers (IET 2011).

Moreover, tourist consumption is no different from any other consumer. Then, direct and indirect linking of economic activities with tourism will be lesser or greater intensity based on the specialization of each region. And even the degree of dependency differs significantly by industry, by region and over time (OECD , 2000). In any case, this complexity demonstrates the high sectorial interdependence existing in any developed economy.

Previous research points out tourism development creates new employment opportunities, though critics of the industries denounces that tourism generates high levels of temporary employment and part-time, high working days, low wages…(Choy, 1995; OECD, 2000; Guardia, 2004; ILO, 2009). Therefore, most of the tourism workers are characterized as low qualified, which allows the absorption of workers from other sectors (agriculture, fishing, mining, etc.). At the same time, this situation also facilitates the recruitment of young, unemployed and women, constituting a potential source of precarious employment. In addition, studying tourism employment is required for improving the productivity and efficiency in business for the touristic companies, and for the competition between destinations (OECD et al., 2008).

Accordingly, when a region is turning as centre of tourism attraction, it needs a higher qualification of the workers in order to maintain a prestige, to compete with other destinations. The requirement for qualified personnel is covered with the training of chefs, waiters and managers with high levels of qualifications and languages skills. Thus, it is essential investing in education, creating catering schools and tourism faculties for improving the level of qualification. Nevertheless, most of the capital inverted does not come from beneficiaries (enterprises), but the state (universities and schools) and the users training (private academies). When this situation occurs, the local population access to fill skilled positions and immigrants from poor regions and countries tend to take unskilled jobs. As a result of this process, the local social structure becomes more complex, with the possible emergence of a contingent of immigrants that can sometimes be marginalized (Baum, 1995).

Despite of numerous studies on the tourism sector, there is lack of analysis of the level and quality of employment at a national and local level. In the Spanish case, previous literature focuses on the examination of specific characteristics (gender differences, educational return or jobs characteristics) for Hospitality´s wage earners, but not for all the tourism characteristic activities (García-Pozo et al 2012 a, b; Muñoz-Bullón, 2009; Lillo-Bañuls & Casado-Díaz,2010). Also, other papers offer an overview of tourism employment at a Comunidad Autónoma level, but not at a province level (Guardia, 2004; Fernández et al., 2009). Then, most studies are constrained by data availability at a regional and tourism activities disaggregation.

Recently, the public administration has a strong commitment to develop tourism, focusing in Tourism Characteristic Activities at a national and regional level. Given that, for the formulation of policies and an efficient expenditure of public funds become vital to know, examine and evaluate the impact of tourism on employment.

Consequently, in this chapter, first we define both approaches to measure tourism employment, demand-side and supply-side definition. Second, we use Census and Labour Force Survey in order to examine the labour market from the supply-side perspective. We characterize the level of tourism employment, regarding the regional differences, and we highlight the annual distribution which is linked to the seasonality (it will be studied in detailed in the next chapter). Using these databases, we describe the characteristics of Spanish tourism employment in order to find the regional differences and the temporal evolution. Later, we approach the wage differences. The final section sums up the main contributions of the analysis.

2.1 How to measure the employment generated by tourism

The methodological recommendations of the Tourism Satellite Accounts are very weak relative to Tourism employment definition, given the mentioned difficulties in associating labour force with tourism consumption (which include a wide variety of products and services). There are two complementary methodologies to estimate the total employment associated with tourism.

2.1.1 Demand – side approach

Tourism is a demand side phenomenon based in the viewpoint of consumption: it provides goods and services that are consumed by visitors. Given that, the tourism employment would be generated as a result of tourist consumption: expenditures made by visitors during and after the trip (OECD et al., 2008). However, it is difficult to calculate the employment from the volume of goods and services sold to tourists. On the one hand, the tourism industries can also provide products and services to non-visitors. On the other hand, visitors can spend money on products and services of other industries. From this point of view, demand-side models as Input-Output or General Equilibrium (GE) models are able to provide an estimation of the number of jobs generated by tourism (Fletcher, 1994; Dwyer et al., 2003; Blake, 2000). This amount of employment can be directly obtained through the direct impact of visitor consumption on production, for example the employees working at a hotel. Also the tourism expenditures have indirect and induced impacts, which produce a multiplier effect on the economy. The indirect effects come through demand of the tourism characteristic industries: they buy inputs and services for satisfying the tourist demand; for instance, employment in agriculture that depends on the demand for food in a restaurant that serves tourists. And the induced effects are generated by the expenditure of employees from revenues paid by companies in direct and indirect contact with tourists, or by the consumption of companies that have benefited directly or indirectly from initial expenditure in the tourism sector. An example of such induced effects would be purchases of consumer goods such as food, cars, electrical services by people employed in the hotel sector.

Following OECD recommendations, the estimation can be done by translating expenditures in or output of an industry into number of jobs. This implies that a labour ratio may be used. But the estimation of tourism ratio is done separately in each industry, because the same economic activity can have a different share of output dedicated to tourism consumption depending on the country, and even on the region. The origin of the labor ratios is the supply side, so in this sense, both approaches are interlinked. In any case, the methodology applied by the Tourism Satellite Accounts shows an estimation of tourism employment, nevertheless they focus on number of jobs and it is not possible to identify workers attributes.

2.1.2 Supply – side approach

From the supply side point of view, tourism will then be understood as the set of productive activities where the most part of its output is consumed by visitors. (OECD et al., 2008). Following the standard criteria for national accounts, it would be perfect to estimate tourism employment from the quantity of goods and services sold directly to visitors. But as we mentioned in the previous section, this task is complex and the composition of tourism consumption differs from region to region. For instance, the economic activity of a restaurant dedicates a different share of its output to tourists if it is place in the seaside in a sun and beach destination, or if it is in a industrial park.

Consequently, the international recommendations (OECD et al., 2008) consider the tourism employment as the jobs in the tourism characteristic industries. Thus, we focus on establishments dedicates to the production of *Tourism characteristic products*: "products which in the absence of visitors, in most countries would probably cease to exist". As we mentioned before, this definition is very broad and diffuse. Based on the Characteristics products, it has been proposed a list of *Tourism Characteristic Industries*: "Productive activities that produce a principal output which has been identified as characteristic of tourism".

Nevertheless, tourism industries are able to do secondary activities together with main activities, generating different products from tourism products, selling their products not only to tourist and excursionists, but also to other types of agents. Although this methodology is considered the best choice from a technical standpoint, it has some problems. For example, the underestimation of employment in tourism, by not considering the employment generated by tourism demand in non-tourism industries, or to overestimate the employment generated in tourism industries, which also produced for non-tourists.

In order to avoid the overestimation of tourist production, the Tourism Satellite Account calculates the Tourism Ratio[23]. This ratio explains what proportion of each Tourism Characteristic Activity is tourism output (Belau & Budlender, 2006). As ILO remarks the tourism ratio and the labour ratio usually differ from a theoretically point of view.

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[23] Accordingly with the Recommend Methodological Framework, the tourism ratio is estimated from the supply and use tables of the System of National Accounts (ILO 2006).

The usual methodology is to assume that the tourism ratio of either output represents the proportion of employment in the different types of production in an establishment that can be attributed to tourism demand. However both ratios do not include the indirect and induced employment generated by tourism consumption.

The Spanish Statistic Institute defined a list of characteristic tourism activities according the recommended methodological framework approved by International Organizations (UNWTO, OECD…). This list corresponds to the relevant industries of the European Union National Classification of Economic Activities (NACE 1993)[24]. Given that there was methodological change in 2009, the new NACE 2009 became to be used to define the Characteristic Activities (Annex, Table A. 1). Nevertheless, the temporal series were not harmonized with the new classification, and the comparisons are not homogeneous[25].

As we mentioned before, the Spanish Tourism Satellite Accounts allow us to calculate the Tourism Ratio. As it is shown in Annex (Table A.5), the tourism ratio evidence differences from one characteristic tourism activities to others, as for example the production attributable to tourism is 94 % in hotels, 86% in air transport or 30 % in restaurants, while in other activities such as cultural or recreational activities do not reach 5 %. From our point of view, it is necessary to take into account the disparities found for future analysis.

2.2 Databases

OECD 2008 highlight that it is hardly to analyse employment in tourism activities using only one statistical source. Thus, the preferable solution is to integrate data from different sources (OECD, 2008). As we explained before, the main objectives of this section is to determine the socio-demographic characteristics of tourism workers and provide a consistent overview about the quality of employment; and doing this analysis at the maximum level of regional disaggregation[26].

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[24] This correspondence is based in a conventional approach that applies the NACE classification of the activities with tourism demand (ILO 2009). See Annex Table A.1.

[25] The most relevant change is related with the transport subsector, because the new classification allows us to exclude the freight transport (Eurostat 2007). See Annex Table A.1.–A.4.

[26] The maximum disaggregation in the level that allow us to identify tourism specialization, which is a characteristic linked to the territory.

As a result to achieve the regional perspective, we have used the **Census** data disaggregated at a province level. The Spanish Census is a survey conducted each 10 years from households. It provides data on demographic, social and economic characteristics of Spaniards. For instance, is possible classify workers according with demographic variables, status in employment (at 3 digits NACE 1993) and hours worked. Hence, it allows us to observe the Tourism labour conditions in the Spanish provinces for the tourism characteristic activities in 2001[27].

The complete disaggregation of Tourism activities (at 3 digits NACE 1993) poses a problem for the analysis at a province level. For example, analyse the employment of the "Sea and coastal water transport" in provinces without coast has not much sense. For this reason, we group the tourism characteristic activities in 5 groups. As we explained before, the criterion for grouping them is the proportion of production that they dedicate to Tourism (the tourism ratio explained in the previous section).

The accurate micro data to analyse the labour conditions in the tourism employment with a temporal perspective is the **Labour Force Survey (LFS)**. This survey is carried out on the population on the countries of the European Union, constituting a harmonised statistical operation. The LFS is a quarterly household sample survey that provides information on employment, unemployment and inactivity together with breakdowns by age, sex, educational attainment, temporary employment, full-time/part-time distinction and many other dimensions. Since 2005, the definitions of employment and unemployment, as well as other survey characteristics follow the definitions and recommendations of the International Labour Organisation (ILO). In addition, harmonisation is achieved through adherence to common principles of questionnaire construction, the definition of unemployment and common definitions of main variables and reply categories. Given this methodological change in 2005, the data, before and after this date, is not directly comparable[28]. We also have to bear in mind the change in NACE classification in 2009, which mainly influences Transport subsector since the temporal series were not harmonized with the new classification, and the comparisons

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[27] The maximum disaggregated analysis is carried out wherever statistical confidentiality allows us.

[28] In order to take into account this methodological change, we show all data in the same figures to observe trends and we mark the change with a line.

are not homogeneous[29]. For this reason, we have to use databases following NACE 1993 classification for the period 2001-2008, and NACE 2009 since 2009.

Consequently, we have used the LFS at aggregated level to examine the evolution of the characteristics of labour throughout the years in Spain. Given that LFS was collected from a secondary source the Institute of Tourism Studies (IET) instead of the Spanish National Statistical Institute (INE), forces us to use the aggregation of the tourism activities that they provide (Annex, Table A.6). IET uses four subgroups instead the five we have suggested (Annex, Table A.5), because they aggregate all the transport activities. Results in this section and in next chapter makes evident the big differences within activities included in this group, overall in the transport group, and the relevance of aggregating them according to the tourism ratio.

We show the data in graphics for both databases, Census and LFS. In order to show the differences by Spanish **regions** and tourism activities, we represent the Census information in graphs where the vertical axis shows data about a particular Tourism activity while the horizontal axis shows data about the Rest of the economy. Consequently, if we analyse, for example, share of workers with temporary contracts, points above the diagonal show a higher weight of fixed-term contracts in this particular Tourism activity, and points below the diagonal show a lower weight than in the rest of economy. Of course, the points situated in the diagonal show the same values in ordinates (Tourism activities) than in abscises (Rest of the economy).

2.3 Results Labour Force

Tourism activities are labour-intensive activities with a positive and a negative side. On the hand, it is a source of employment for people with difficulties to access to the labour market, as for example, women, immigrants, young, low-skilled workers…On the other hand, it is considered that generate low-wage employment. For that reason, it is essential to study not only the level of employment, but alsodetermine the socio-demographic characteristic of its workers, and the quality of labour (type of contracts, hours of work, wages…)

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[29] The most relevant change is related with the transport subsector, because the new classification allows us to exclude the freight transport (Eurostat 2007).

OECD remarked that demand-side approaches evidence the relation between tourism expenditures and the impact of these expenditures on tourism labour. This methodology is suitable for analyzing the employment levels, and tourism-related employment. Demand-side approaches, such as Input-Output, GE, or simple econometric models offer results that are sensitive to assumptions made, and data. The major disadvantage of these approaches is that they not provide information about the composition and quality of employment. Consequently the supply-side model is the most suitable (OECD et al., 2008). As it is shown in the next section, we are going to use the selected aggregation based on tourism ratio for the purpose of studying labour market conditions at a regional level.

2.3.1 Quantitative Analysis

Before beginning the analysis of the tourism labour conditions, we consider it is essential a brief introduction to the quantitative findings in order to highlight particularities of tourism characteristic activities.

In order to give a general idea about the evolution of tourism in the whole country throughout the years, we study the evolution of employees and self-employees. Figure 2.1 reflects the percentage of employees for all the economic activities, services and also for tourism Characteristic activities. Tourism activities experiment a slight increase, especially in restaurants and transport. The accommodation sector has a percentage of wage-earners over 90%. On the contrary, percentage of self-employment suffers from a small diminution for overall economy. Restaurants and Transport are the groups with a bigger percentage of self-employment and also the ones which suffer a greater diminution.

Figure 2.1: Evolution percentage of employees
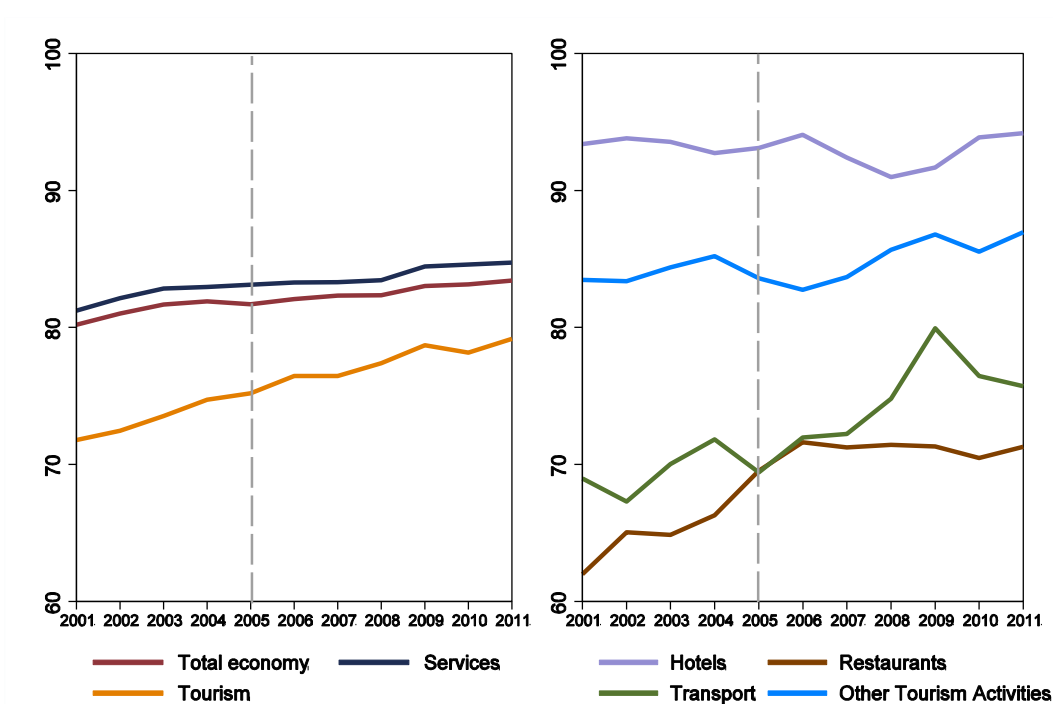
In a context of a worrying economic crisis, the unemployment constitutes the main problem for the Spanish workers. As it is shown in Figure 2.2, the rate of unemployment started to increase since the beginning of the crisis. The tourism unemployment rate is lower than for the total economy, so Tourism characteristic activities resist better the crisis. The striking fact is that the group of Transport activities has the lowest rate of unemployment, and it kept steady over the whole period. Hospitality is the activity with the highest percentage of unemployed, even rising in the last years.

Both figures foreground the significant disparities between the tourism characteristic activities for Spain. In order to find the regional differences, we focus in the data provided by Census for provinces, and in the LFS from the IET.

Figure 2.2: Evolution Tourism Unemployment
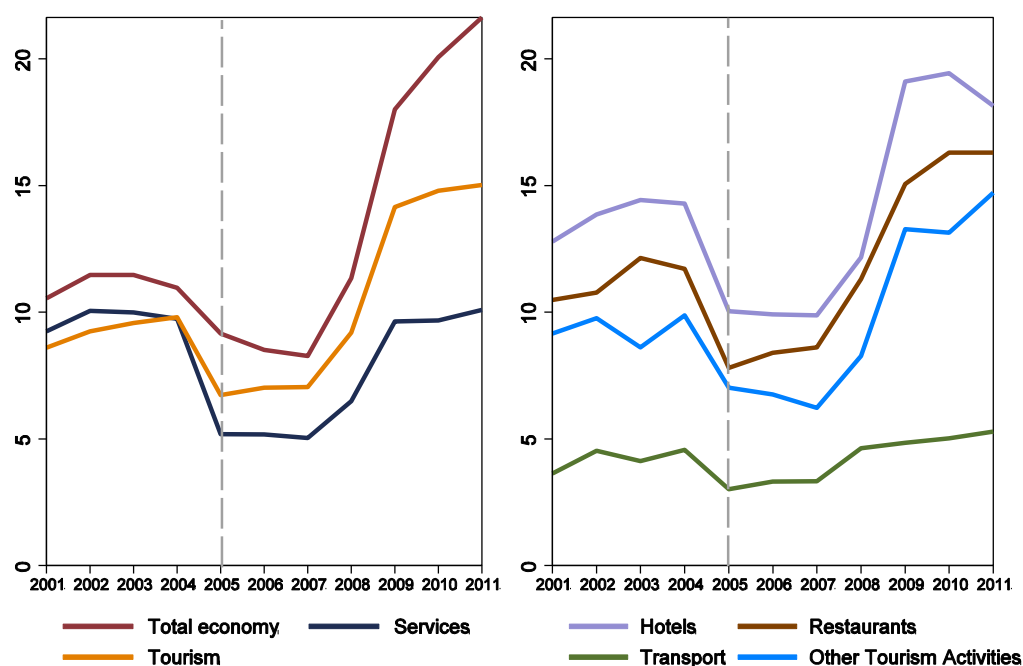
From the quantitative point of view, we show the weight of tourism employment in each province for the year 2001. The following Table (2.1) shows the great differences within regions. Andalusia perfectly exemplifies the reason why is useful the disaggregation at a province level. For example, the weight of tourism wage earners relative to the total economy was 6.62% in Córdoba, whereas this figure reached the 15.33 in Málaga (results are similar for self-employment). In Castilla León, the weight of self-employment varies between the minimum of Cuenca (12.24%) and the maximum of Burgos (16.18%). Of course, disparities between Spanish provinces increase. Actually, focusing on wage-earners, the weight of tourism characteristic activities on employment oscillates between 6.56% (Toledo) and 23.33 % (Baleares). In addition, the tourism activities represented 22.43% of total self-employment in Las Palmas, though just 10.01% in Lugo.

Table 2.1: Weight of tourism employment by Spanish Provinces (2001)

Provincia	Workers	Wage-Earners	Self-employees
Andalucía			
Almería	9,21	8,58	11,95
Cádiz	11,52	10,55	17,81
Córdoba	7,92	6,62	13,99
Granada	10,45	9,08	16,09
Huelva	8,75	7,32	16,98
Jaén	7,90	6,59	13,61
Málaga	16,00	15,33	19,43
Sevilla	9,90	8,70	17,12
Baleares	23,01	23,33	21,54
Canarias			
Palmas	22,05	21,98	22,43
Tenerife	20,16	19,95	21,40
Comunidad Valenciana			
Alicante	11,44	10,62	15,32
Castellón	8,49	7,13	14,71
Valencia	9,97	8,75	16,33
Madrid	11,80	10,88	18,09
Galicia			
A Coruña	10,44	9,10	15,51
Lugo	9,41	9,32	10,01
Ourense	9,97	8,35	15,17
Pontevedra	10,27	9,04	15,66
Asturias	11,80	10,09	18,17
Cantabria	11,68	10,31	17,44
País Vasco			
Álava	8,92	7,54	17,21
Guipúzcoa	10,46	9,16	18,02
Vizcaya	10,89	9,39	19,82
Navarra	8,97	7,60	14,94
Rioja	8,26	7,06	12,78
Aragón			
Huesca	9,85	8,64	13,01
Teruel	9,17	8,53	10,93
Zaragoza	9,43	8,24	14,89
Cataluña			
Barcelona	10,57	9,41	16,71
Lleida	9,72	8,83	12,36
Girona	12,72	11,90	15,87
Tarragona	11,52	10,64	15,32
Extremadura			
Badajoz	8,32	6,88	13,78
Cáceres	8,69	7,03	15,89
Castilla León			
Ávila	10,25	8,62	14,70
León	10,91	9,32	15,72
Palencia	9,93	8,57	14,29
Salamanca	10,42	9,22	14,22
Segovia	11,41	10,10	15,32
Valladolid	9,48	8,18	15,25
Zamora	9,73	9,02	11,71
Castilla La Mancha			
Albacete	9,32	7,95	14,15
Burgos	10,09	8,52	16,18
Ciudad Real	8,40	7,40	12,24
Cuenca	9,67	8,21	13,27
Guadalajara	9,62	8,47	15,02
Murcia	8,32	7,27	13,83
Soria	8,82	7,80	12,75
Toledo	7,91	6,56	12,86

Source: Own elaboration based on Census data.

As we pointed out before, the Labour Force data was collected from a secondary source, the IET instead the INE, forcing us to use the aggregation of the regional data that they provide. IET displays the result for the most touristic regions, spite of the huge regional differences we have seen. Table 2.2 displays differences for the tourism employment at a regional level for 2001, 2006 and 2011 (we only show the 3 years that are part of the main analysis in this thesis). The salient feature is the decrease of the weight of tourism in the total economy in all the regions shown, with the exception of Canary and Balearic Islands.

Table 2.2: Weight of tourism in the total economy by region

	Workers			Wage-Earners			Self-employment		
	2001	**2006**	**2011**	**2001**	**2006**	**2011**	**2001**	**2006**	**2011**
Spain	12,11	12,65	11,78	10,84	11,78	11,17	17,29	16,68	14,84
Andalucía	12,20	12,89	11,80	10,30	11,98	11,13	19,92	17,00	15,12
Baleares	24,43	24,25	25,45	24,97	24,44	25,55	22,11	23,49	25,00
Canarias	20,59	21,49	25,54	20,45	21,74	26,05	21,36	20,11	22,64
Cataluña	11,72	12,70	11,58	10,63	11,70	10,84	16,80	17,52	15,53
C. Valenciana	11,32	12,28	11,84	10,15	11,58	11,17	16,38	15,58	15,05
Madrid	13,02	12,83	11,48	11,49	12,01	11,04	24,09	18,61	14,95
Rest of CCAA	10,23	10,54	9,28	8,73	9,33	8,44	14,80	15,18	12,91

Source: Own elaboration based on Labour Force Survey (IET).

2.3.2 Employment profiles

2.3.2.1 Gender

Previous literature pointed out that many service jobs are traditionally done by women, e.g., cleaning, cooking, teaching, care of ill people… Charles (1992) explains that new occupational opportunities offered by a large service sector have activated women's entry into the formal labour market. Regarding the tourism sector, we can observe that is not characterized as a feminized sector in Spain because the total percentage of women do not differ much from the male percentage (49% *versus* 51% in 2011 according with LFS data).

Figure 2.3: Percentage of female workers in the Tourism Activities relative to the Rest of the Economic Activities
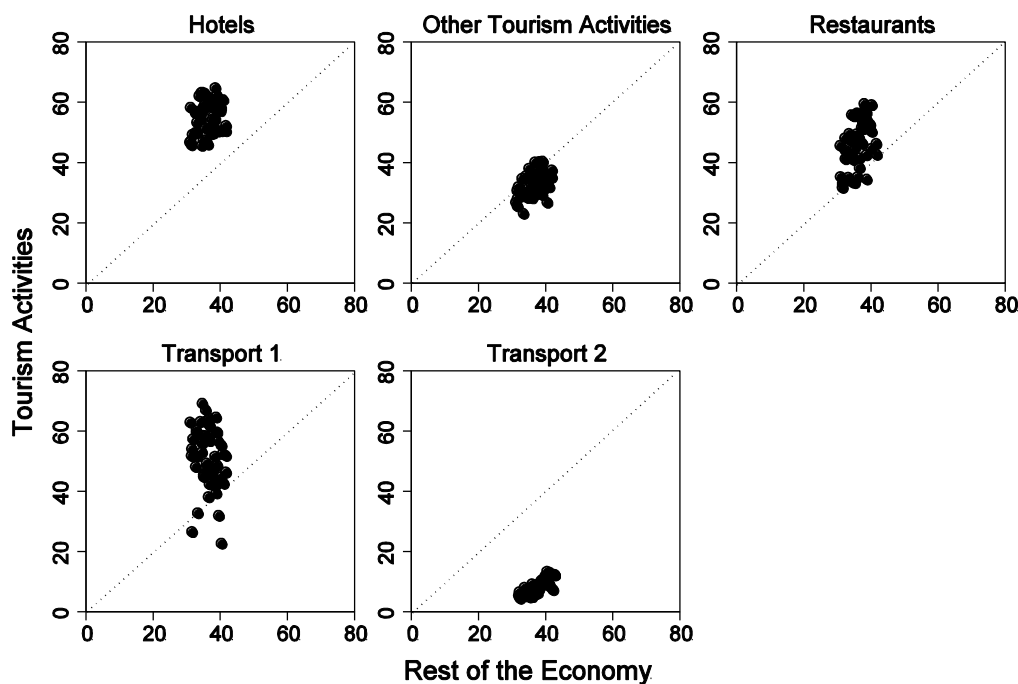
Source: Own elaboration based on Census data (INE)

Tourism sector as a service activity it is expected to be female dominated. However, if we focus on the results, the tourism activities are not equally female dominated. On the one hand, hotels, restaurant and transport 1 activity have a higher percentage of women workers relative to the rest of the economy. Moreover in these tourism activities majority of regions have a female percentage of workers higher than 50%. On the other hand, transport 2 is clearly male dominated: more than 80% of transport 2 workers are men. Only in the case of the other tourism activities, the distribution by sex is similar in the tourism activities and in the rest of the economy. Thus, on average Tourism is not female dominated activity, since transport 2 (male-dominated) is compensating the rest of tourism activities[30].

2.3.2.2 Nationality

As it was mentioned before, there is evidence of the immigrant workers segregation into low-paying occupations and firms in the Spanish labour market (Simón et al., 2007). The expected higher percentage of foreign workers is not the same in all the tourism

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[30] IET do not provide the LFS disaggregated by sex although it is a essential variable that should be take into account.

activities, and it is linked with the type of studies or occupation required in each activity. Previous research has also examined the presence of foreign workers in the subsector of Hospitality in Spain (Ioé, 1999). It was found that the major part of foreign workers of the tourism sector is self-employers that have set up their own establishment (in particular a restaurant).

Figure 2.4: Percentage of Foreign Workers in the Tourism Activities relative to the Rest of the Economic Activities
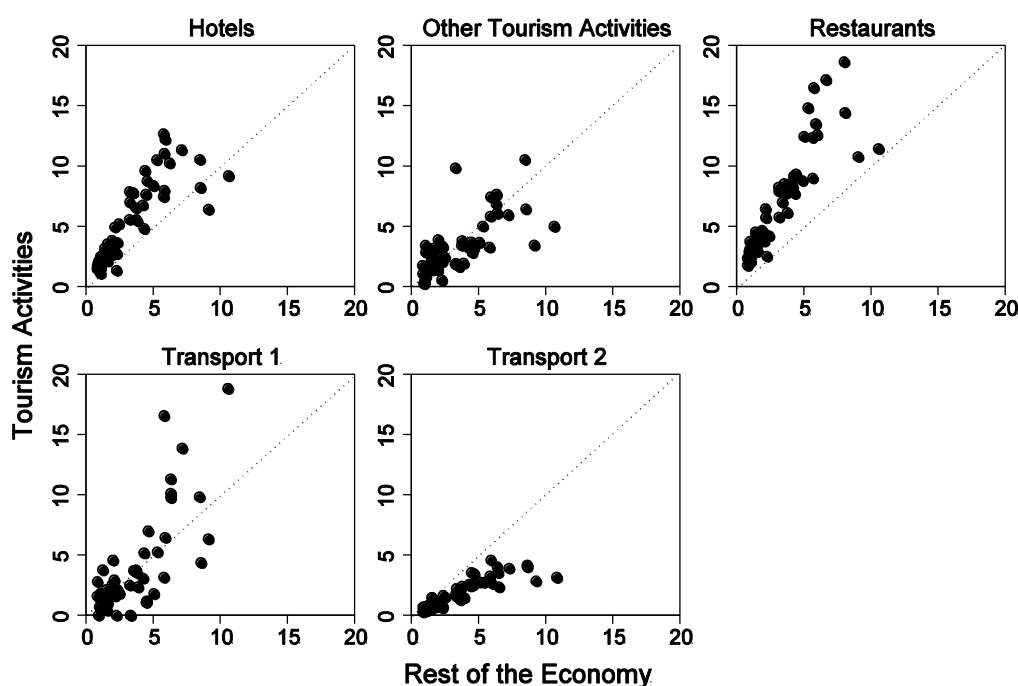
Source: Own elaboration based on Census data (INE)

The presence of foreign workers displays significant differences between the characteristic tourism activities, and in their percentage relative to the rest of the economy (Figure 2.4). The tourism activities foreign-dominated relative to the rest of the economy are accommodation and restaurants. The provinces with a bigger percentage of foreign workers are Madrid, Barcelona, Girona, Canary Islands, Málaga and all the provinces in Comunidad Valenciana. It is important to indicate that only Baleares, Murcia, Almería and Cáceres have a bigger percentage of Spanish workers in Hotel relative to the rest of the economy. In the group of transport 1 results are not homogenous by provinces, on the one hand there are regions like Almería, Málaga, Girona, Palmas, Tenerife and Baleares with bigger presence of foreign workers relative to the economy, and on the other hand, regions like Murcia, Madrid have a greater

presence of Spaniards. Finally, in the case of transport 2, the percentage of Spanish workers is higher than in the other economic activities, getting over 85%.

Figure 2.5: Evolution Foreign Workers
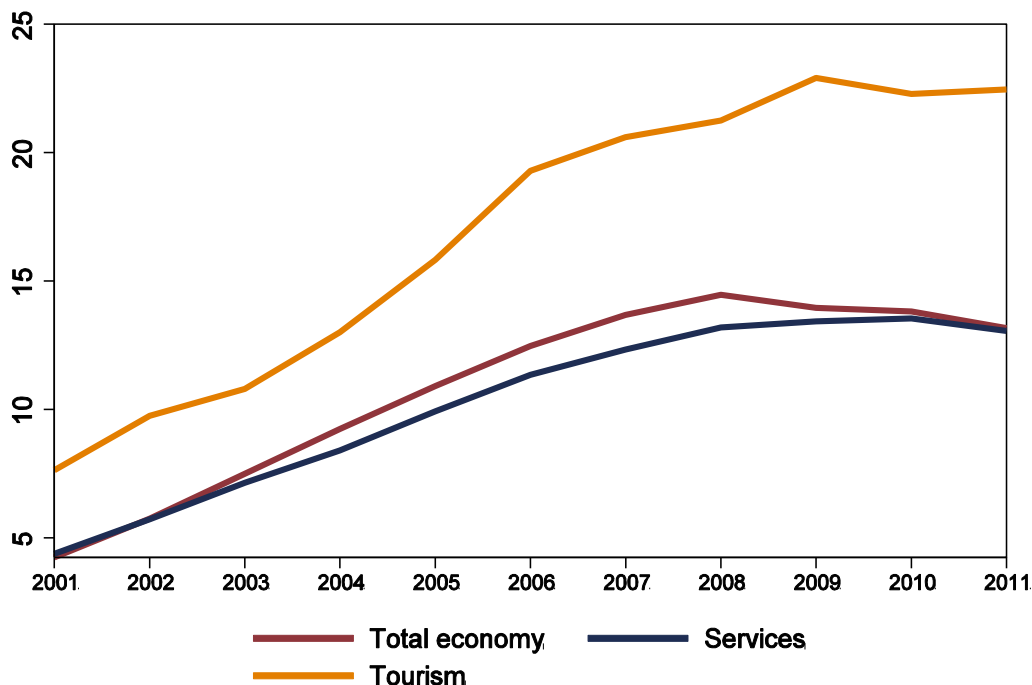
Looking at the temporal evolution, Figure 2.5 shows clearly that the percentage of foreign workers increased over time, though since 2008 the percentage started to decreased because of the economic crisis. Actually, the differences in the number of foreigners became bigger between the economy and tourism sector, reaching more than 10 points of difference. Despite of the crisis, the level of foreign employees represents around 25% of the total workers of the sector (13.4% in the total of the economy).

2.3.2.3 Age

The LFS for 2011 manifests that 42.9% of tourism workers are between 30 and 44 years-old. So the distribution of workers by cohorts of age is not the same in all the tourism characteristic activities. We put attention in the two groups of age: youngest (16-29 years-old) and elderly (more than 45 years-old).

Figure 2.6: Percentage of young workers (< 30) in the Tourism Activities relative to the Rest of the Economic Activities
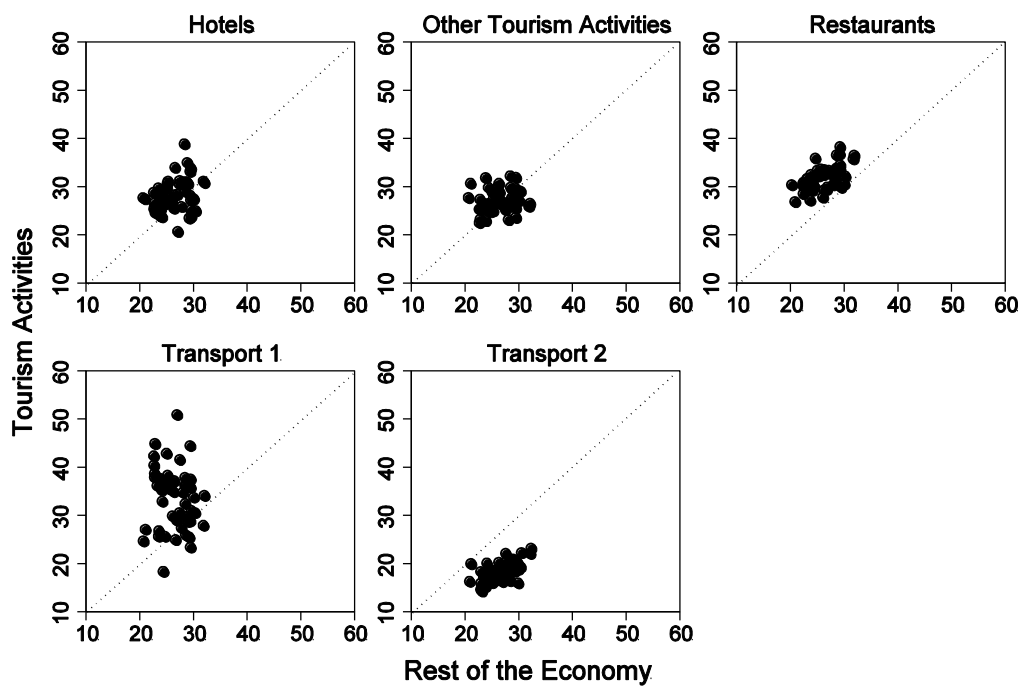
Source: Own elaboration based on Census data (INE)

The presence of young workers is obviously higher in the hotels, restaurants and transport 1 (Figure 2.6). In the case of Hospitality sector, youth represent between 20 and 40% of total workers in that tourism activities. We found that Murcia, Valencia, Andalusia Coast (with the exception of Málaga), Pontevedra, Barcelona and Madrid are the in the top positions with a higher weight of youngest workers in Hotels, Restaurants and Transport 1. On the contrary, the lower percentage of workers under 30 years-old is found in Baleares, Canary Islands, A Coruña, Huesca, Cantabria and internal provinces for the Hospitality sector. Only Transport 2 is the single tourism activity with a lower proportion of young workers relative to rest of the economy.

Regarding the Spanish evolution (Figure 2.7), the percentage of young workers has decreased nearly 10 points for the total economy and services. However, the percentage of young workers in tourism decreased 5% points, but it maintains around 30% of the total employees of the sector. Moreover, Figure 2.7 displays that Restaurants and other activities are the young dominated with a proportion of workers over 35 %. Transport activities are the touristic subgroup that suffered the bigger diminution of the young even if they already represented a lower weight than in the total economy. This

diminution in the percentage of young workers could be explained by the context of the economic crisis, where it is cheaper to fire young with temporary contract than elderly.

Figure 2.7: Evolution percentage young workers (15-29)
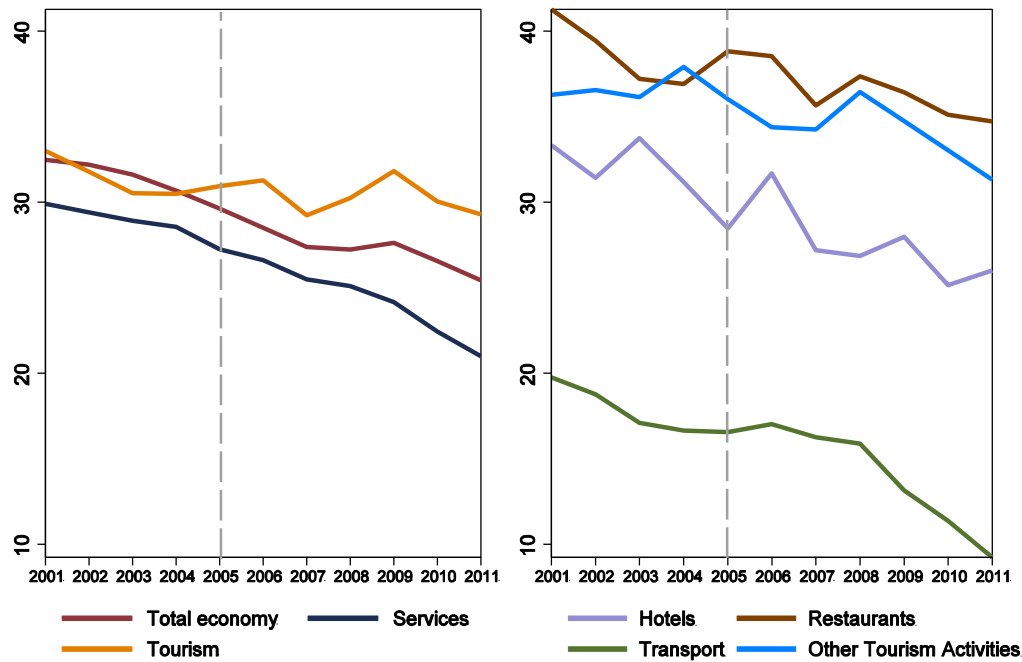
Figure 2.8: Percentage of older workers (>45 years-old) in the Tourism Activities relative to the Rest of the Economic Activities
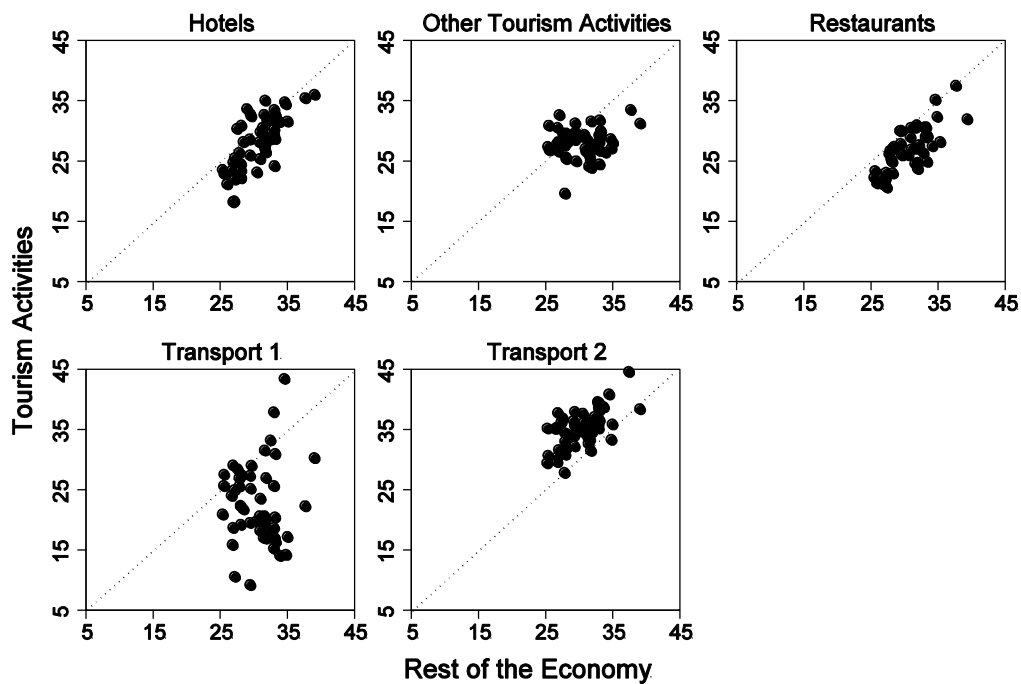
In the case of older workers, most provinces show that their weight in the tourism activities is lower than in the rest of the economy, except for transport 2 activities. It is necessary to mention the exceptions, where the ratio of elderly in tourism activities are bigger than in the rest of the economy, as for example, Girona, Baleares, Málaga, Alicante and Castellón in the case of Hotels; Cádiz, Palmas, Pontevedra and Coruña for transport 1; Huelva, Almería and Jaen for other tourism activities.

Figure 2.9: Evolution percentage older workers (> 45 years-old)
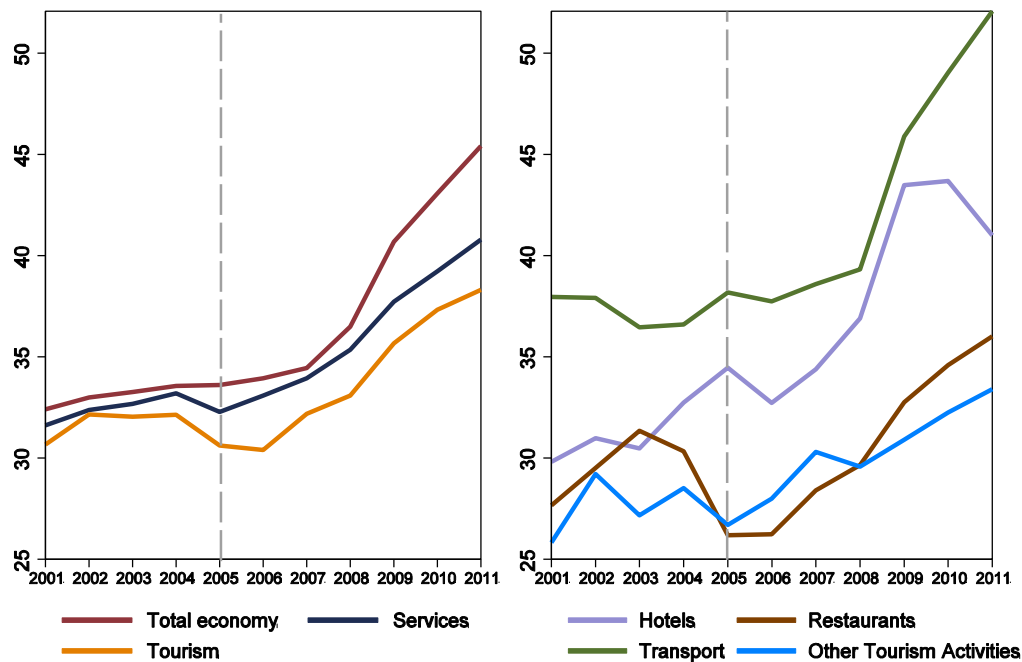
Source: Own elaboration based on Labour Force Survey (IET)

In the case of temporal evolution, the proportion of older workers had simultaneously increased in Spain, for total economy, services and tourism activities (Figure 2.9). However, the disaggregated figure evidences that older workers has growth noticeable for Transport and for Hotel establishments (whereas in Accommodation establishment decreases after the crisis). At the same time, we can observe that older workers are below 35% in Restaurants and other tourism activities. As we mentioned before, this evolution seems to be linked to the economic crisis where elderly maintained their permanent jobs because of the high costs of firing.

2.3.2.4 Educational level

As we have already explained, the tourism labour employment has a special role in tourism because of its direct interaction with visitors and is part of the tourist experience (Baum, et al., 1997). Following human capital theory, education is one of the most important variables for explaining wage differentials and labour participation (Mincer, 1974; IES, 2001). Indeed, the improvement of educational level should be one of the main aims for the tourism competitiveness although the education is not highly valued as in the rest of the economy (Lillo-Bañuls & Casado-Diaz, 2010). Besides, increasing the level of education is key variable to tourism development (Eugenio-Martin et al., 2004).

Figure 2.10: Percentage of workers with Primary education attained in the Tourism Activities relative to the Rest of the Economic Activities

Source: Own elaboration based on Census data (INE)
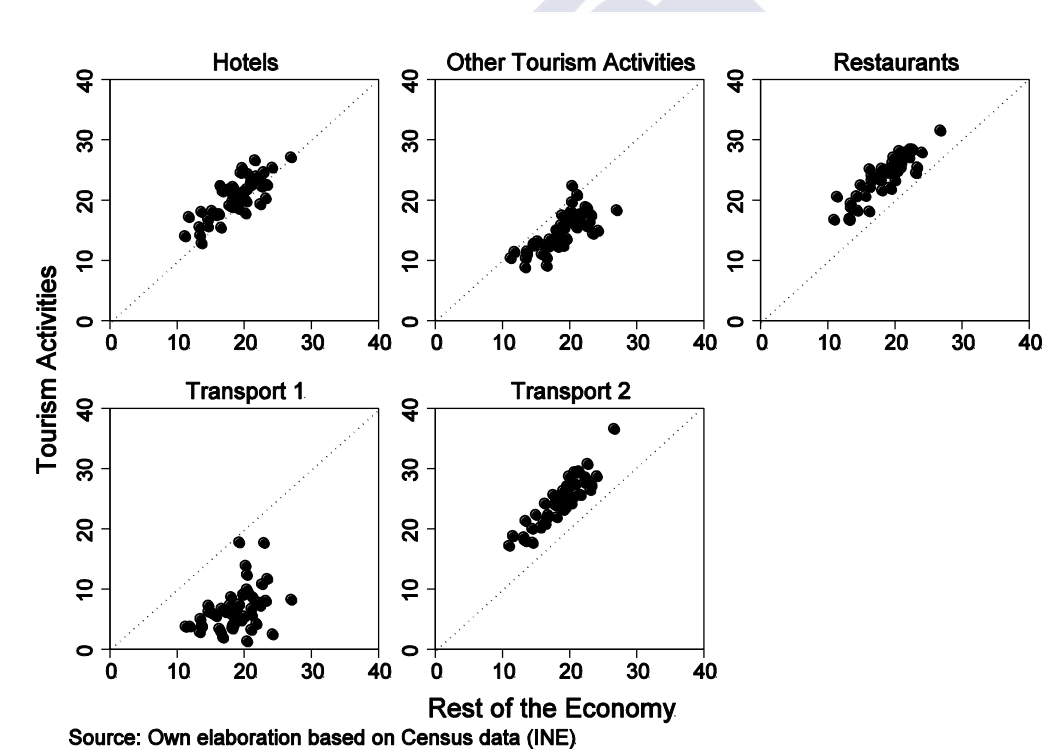
In the previous figure we have included the workers with primary education attained (including illiterate and primary level: ISCED 0-1).[31] Graphics show percentage of workers with primary education attained is between 10 and 40% for both, tourism activities and the rest of economic activities. However, hotels, restaurants and transport 2 have a worrying higher percentage of workers with primary studies relative to the rest

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[31] See Annex: II Variables and dabatases.

of the economy. On the contrary, for transport 1 and other tourism activities the proportion of workers with primary level is lower than in the rest of economic activities for all the provinces. The provinces with a higher percentage of primary education level in the tourism activities are Cuenca, Pontevedra, Jaén, Girona, Baleares, Alicante, Tenerife, Palmas and Barcelona. By contrast, provinces which present a lower level of workers with primary education in tourism activities are Álava, Vizcaya, Guipúzcoa, Navarra, Cantabria and Madrid.

Figure 2.11: Evolution workers with Primary Education
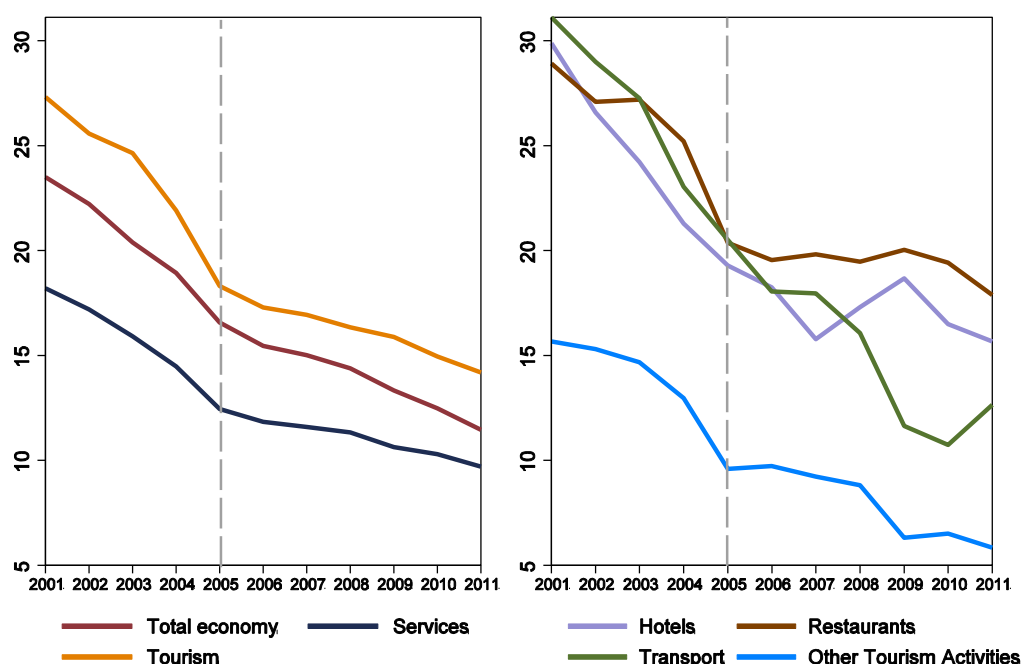
Source: Own elaboration based on Labour Force Survey (IET)

The temporal evolution shows the decrease of workers with Primary studies for all the economic activities, although its higher presence continues in the tourism activities. Restaurants and Accommodation establishments present the higher percentage of employees with this primary level of study. The increase of educational level in the Spanish Economy and in some subsector of tourism has been one of the most remarkable changes in the last decades (Marchante et al., 2010; García-Pozo et al., 2012).

To analyse the quality of Tourism jobs it is important to analyse the share of workers with tertiary education (ISCED 5). [32] The group of transport 1 is the only activity in Tourism where the percentage of workers with tertiary education is bigger than the rest of the economic activities. In the rest of tourism activities, all the Spanish provinces have an inferior level of tertiary educated workers compared with the rest of the economy. Though, it is worth to observe that provinces as Guipúzcoa, Vizcaya, Madrid or Salamanca are in the top positions with a higher percentage of workers with tertiary education, despite of this level in under the proportion for the rest of the economy (Figure 2.12).

Figure 2.12 Percentage of workers with Tertiary education attained in the Tourism Activities relative to the Rest of the Economic Activities
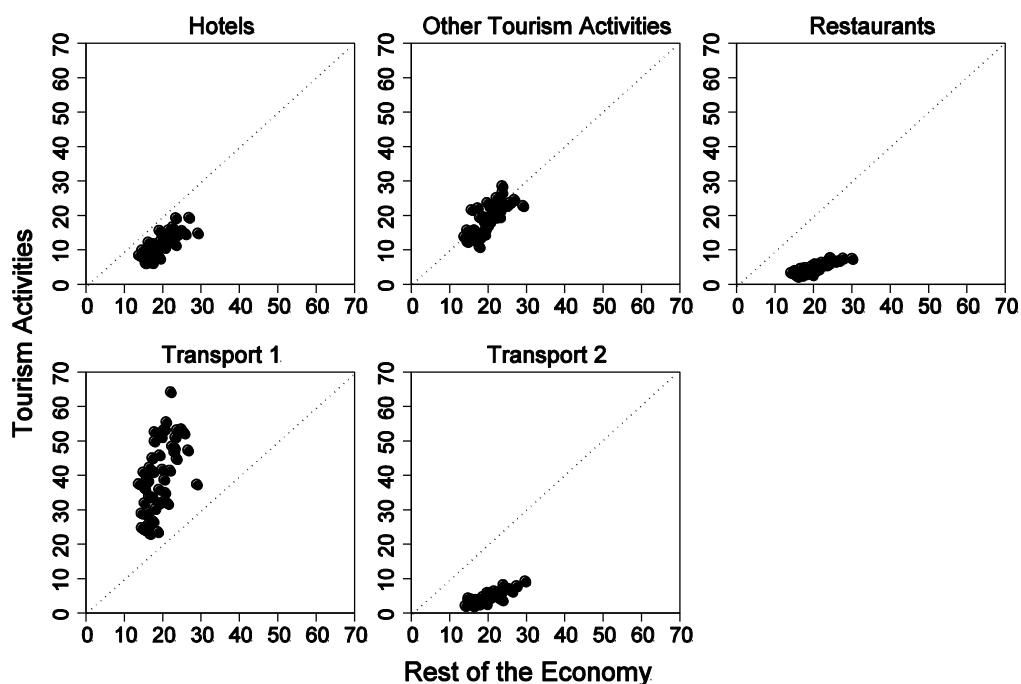
Source: Own elaboration based on Census data (INE)

If we focus on the temporal evolution, the percentage of workers with tertiary studies slightly increased in total economy, services and tourism. Nonetheless, the percentage of workers with this level of studies is around 20 % in tourism, versus 40% in the total of the economy. By tourism activities, restaurants have the minor proportion of university workers, whereas in other tourism activities the proportion reaches the 40%. Notwithstanding the growth of the last years, tourism education should be implemented in order to get closer to the rest of the economy.

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[32] See Annex: II Variables and dabatases.

Figure 2.13: Evolution tertiary education
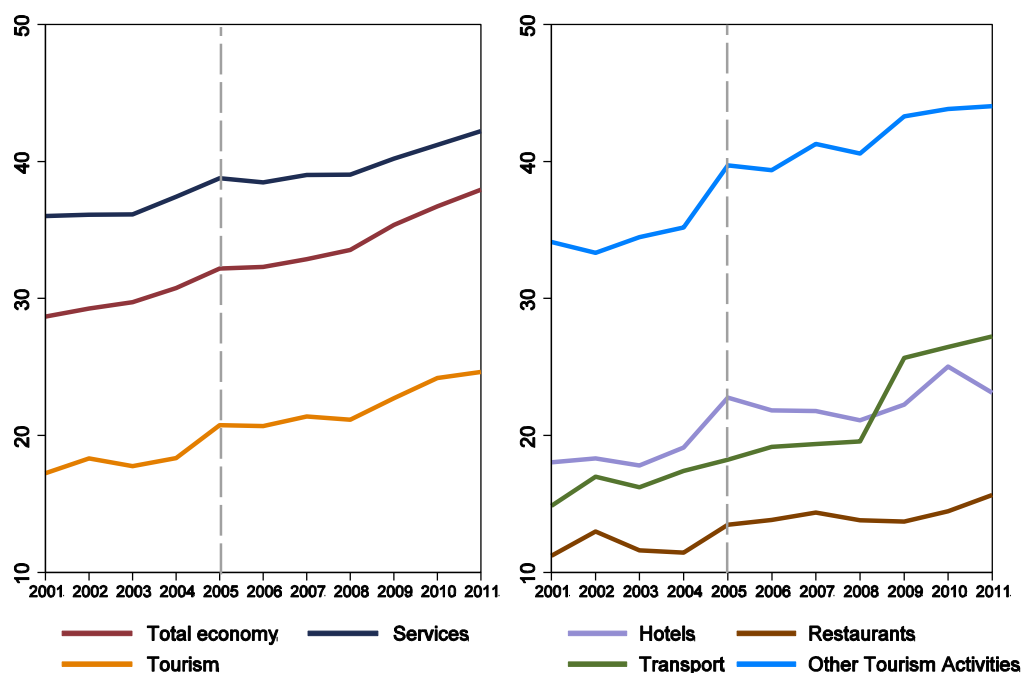
2.3.3 Quality of employment

2.3.3.1 Type of occupation

In order to obtain a better knowledge about the employment related to tourism, it is useful to observe the distribution of workers by occupation. In last decades the level of skill of labour force has enhanced in the Spanish economic activities (Moreno, 2002) but this is not true for all the economic activities. For example, service employment is characterized as low-skilled jobs or low paid (Dueñas et al., 2010). In fact, recent studies found that occupational segregation explained wages inequality for the Spanish Economy and the Hospitality sector (Simón et al., 2007; Campos et al., 2010). For this reason, it is vital to analyse the occupational level in the Tourism Characteristic Activities.

In the Figure 2.14 we represent the blue collar, i.e., the low-skilled workers as for example cookers, cleaners, drivers, bartenders, etc[33]. The concentration of blue-collar worker in hotels, restaurants, transport 2 is quite remarkable for all the Spanish

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[33] We have used the International Standard Classification of Occupation (ISCO) in order to aggregate the low skill employment. See Annex II Variables and Databases.

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provinces. These results are consistent with conclusions obtained for accommodation and restaurants activities for all the Spanish territory by (Dueñas et al., 2010) and with the educational results in previous section. Only transport 1 and other tourism activities have a smaller level of low-skilled workers than the rest of the economy. It would be interesting to observe if this proportion of blue collar workers keep stable, but the LFS provided by IET do not present data disaggregated by occupation.

Figure 2.14: Type of occupation: Blue-collar employees
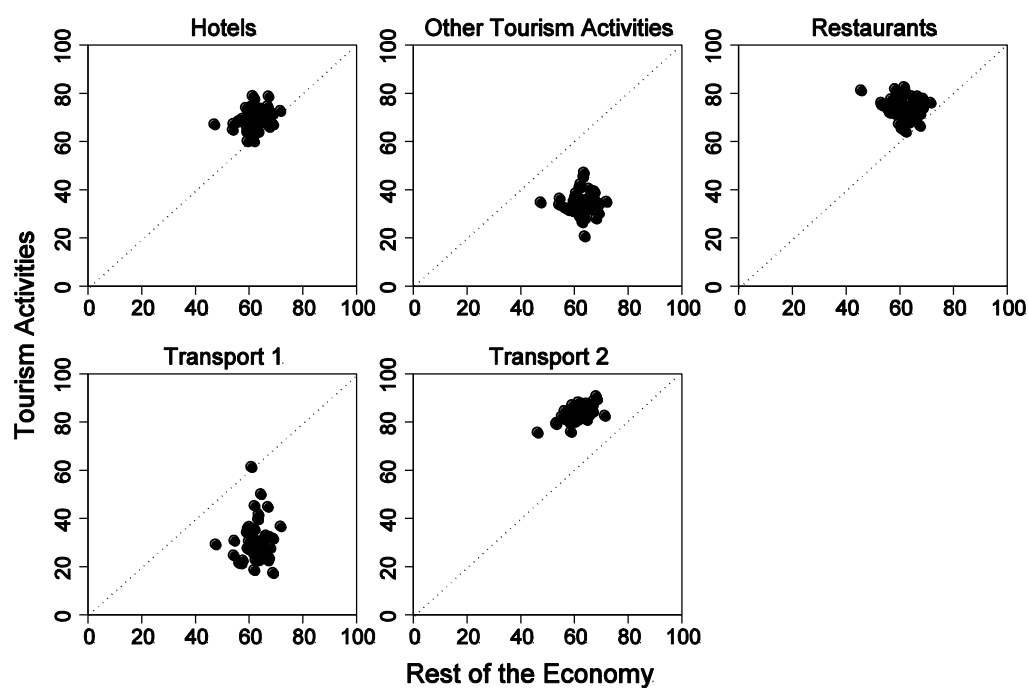
Source: Own elaboration based on Census data (INE)

2.3.3.2 Fixed-term contracts

As Ball (1989) explains demand for labour adapts to supply-side demand, and its economic and spatial consequences. This author remarks that fixed-term contracts originated by seasonality are is widely typified as low-paid, although it is necessary to consider other benefits related with extra income for workers, workers migrations, or revenues for destination areas. Moreover, people engaged in tourism activities usually works in other activities (Andriotis, 2004). In spite of these previous finding, it is necessary to look for differences between Tourism Characteristic Activities.

Figure 2.15: Percentage of employees with Temporary Contract in the Tourism Activities relative to the Rest of the Economic Activities

Source: Own elaboration based on Census data (INE)
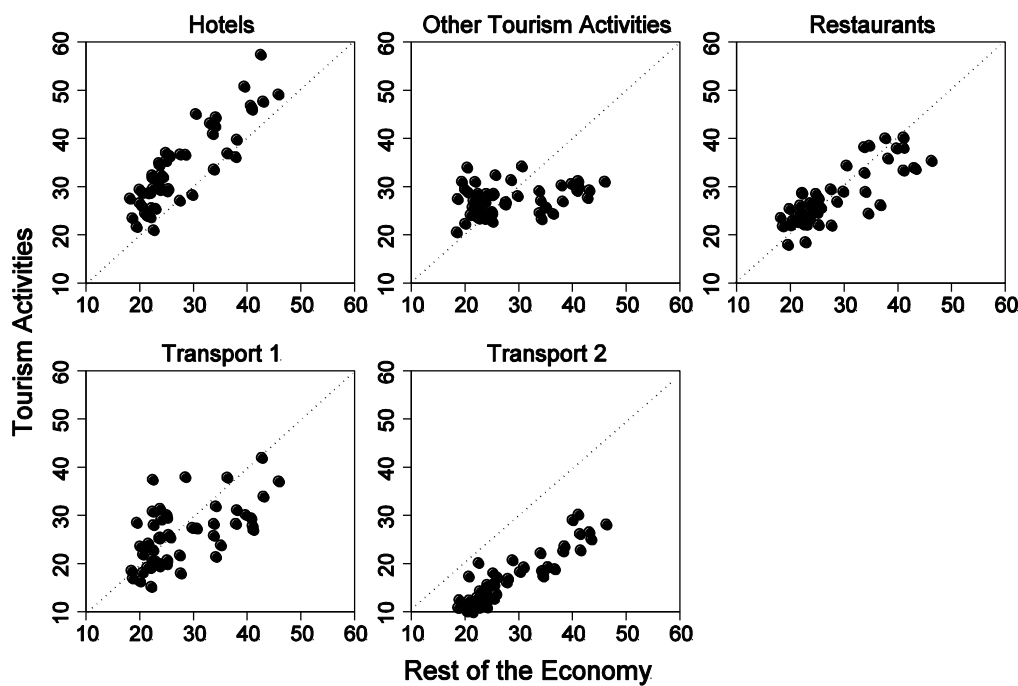
Neither in all tourism activities nor in all Spanish provinces, the percentage of employees with temporary jobs is higher than in the Rest of the Economy. The percentage of employees with temporary contracts is higher in Accommodation establishments for all the Spanish provinces. All the Andalusian provices (except Málaga), Canary Islands, Pontevedra and Alicante are the regions with the highest percentage of temporality in hotels and restaurants. Nevertheless, Baleares, La Rioja, Málaga and Ávila have over 50% of permanent contracts in the workers at Hotels. In this line, Madrid and Barcelona are the provinces with the highest proportion of permanent contracts in accommodation and restaurants activities, although the permanent contracts ratio is higher for the rest of the economic activities. On the opposite side, all the regions have a higher percentage of permanent contracts relative to the rest of the economy for transport 2.

Figure 2.16 Evolution of Percentage of Temporary workers
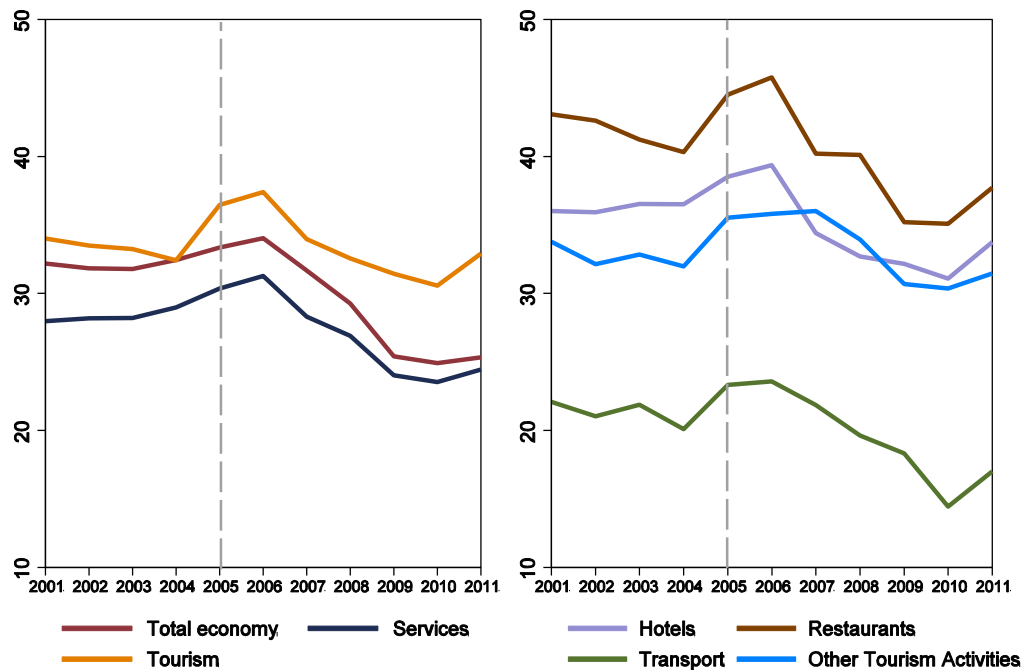
Although, the percentage of fixed-term contracts in Spain is highest among all economic activities compared with other countries in Europe, it is not homogenous between them. In fact, Figure 2.16 shows that the incidence of the fixed-term contracts in Tourism is much higher than in the total economy in Spain, and even much higher that the services sector. The problem is even trickier in Tourism sector than in other sectors since seasonality is much important. The higher temporality is concentrated in restaurants and hotel specially. And for the Spanish average, transports present the lowest level of temporary contract among its workers.

2.3.3.3 Part-time

The higher proportion of part-time employees is common in the tourism industry. Vaughan & Long (1982) explain this characteristic could be worrying when employees do not earn a satisfactory wage. On the contrary, part-time jobs constitute an advantage job position for providing an additional income, as for example, women who have a family, and students looking for a complementary job (Andriotis, 2004)

Figure 2.17: Part-time employees
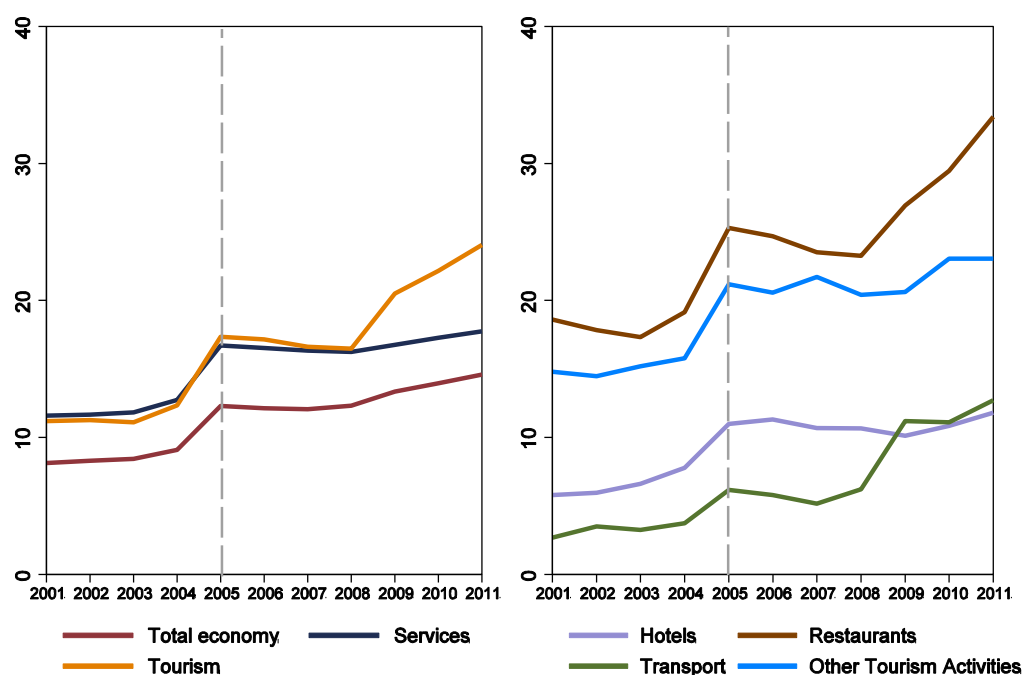
Given that we do not have this variable disaggregated for the Spanish provinces, we represent the evolution throughout the years. The proportion of part-time employees has grown nearly 5 points for Tourism since the economic crisis. The Figure 2.17 makes evident how restaurants and other tourism activities show the highest percentage of part-time employees. Moreover, restaurants and transport are the tourism activities with the biggest increased in this kind of employees. Once again, we observe that the economic crisis have relevant consequences on the characteristic of Tourism labour.

2.3.3.4 Working hours

Working hours are expected to be quite different in these activities, especially among workers (self-employed, family workers, employees). Given the limitations of data, we only have aggregated data for all tourism characteristic activities. Notwithstanding these limitations, disaggregated data for tourism characteristic activities confirms the average number of hours worked in tourism is higher than in the rest of the economy.

Figure 2.18: Hours worked in the Tourism Activities relative to the Rest of the Economic Activities
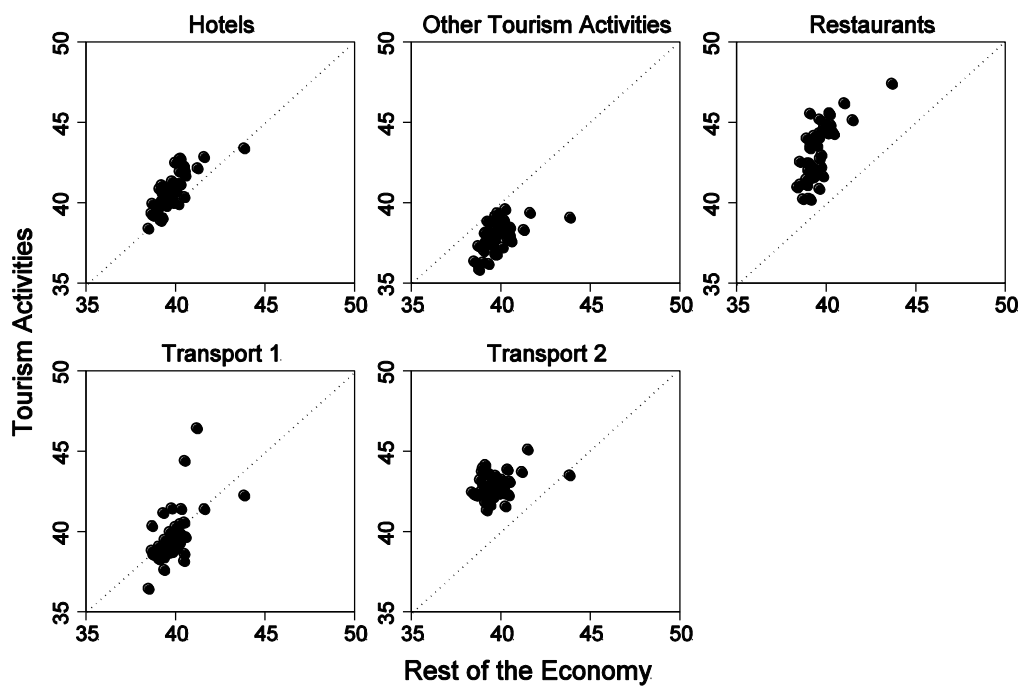
Source: Own elaboration based on Census data (INE)

The number of working-hour is another important factor to take into account when we are studying labour conditions. As we have mentioned before, the average number of hours worked in tourism is higher than in the rest of the economy for majority of activities, except for transport 2 and other tourism activities. The top position in number of hours in the tourism activities are placed by A Coruña, Lugo, Pontevedra, Almería, Cádiz. On the contrary, Álava, La Rioja and Navarra have the lower proportion of hours of work in tourism activities relative to the rest of the economy.

2.3.3.5 Type of workers

In the tourism industry, as well in the rest of the labour market, we can distinguish workers into 2 categories: 1)*Paid employment*: a person who works for the enterprise in return for a remuneration in cash or any kind (employee). 2)*Self-employment:* are those workers who work on their own account.

The, previous variables have been studied for employees. However for the Tourism Characteristic Activities is worth to observe the existence self-employment, because most tourism activities are carried out by small family business.

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Figure 2.19: Percentage of Self-employees in the Tourism Activities relative to the Rest of the Economic Activities
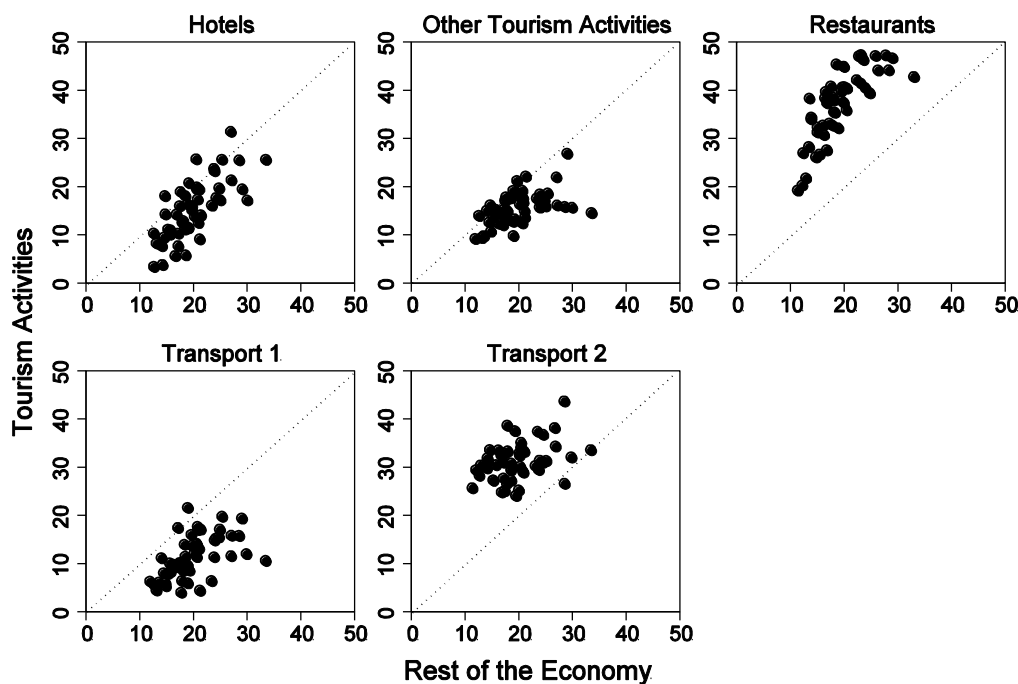
Source: Own elaboration based on Census data (INE)

Then, we pay attention to the proportion of self-employment.[34] We can observe that for Restaurants and Transport 2 the percentage of self-employees in these tourism activities is higher than in the rest of the economy, situated over the 30% for all the regions. Within this group, it is worth to highlight that Tenerife, Madrid and Palmas which have the lowest figures of self-employment in restaurants. In the case of hotel activities, only Huesca, Asturias, Cantabria and Álava have a stronger presence of self-employment relative to the rest of the economy. And the lowest percentages of self-employment in the accommodation activities are for Palmas, Tenerife, Baleares, Málaga.

Furthermore, we also analyze the proportion of family workers: those who assist in family tourism companies. Family workers present a low quality job since, by definition, they do not get neither a formal contract nor pension or unemployment insurance.

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[34] Accordingly with Census data, self-employers are: *employers* (those who work on their own account and have engaged one or more persons to work for them) and *own-account workers* (they work own their own account but not have engaged people on a continuous basis any employees) (OECD, 2008).

Figure 2.20: Percentage of Family workers in the Tourism Activities relative to the Rest of the Economic Activities
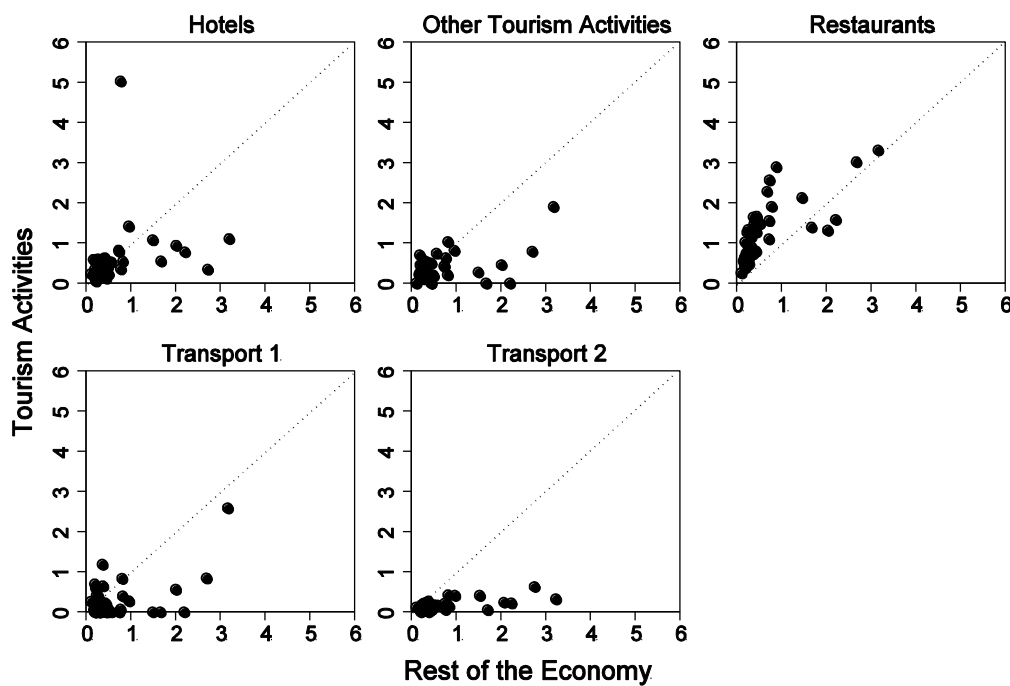
Source: Own elaboration based on Census data (INE)

Concerning the percentage of family workers, there are no notable differences between the tourism sector and the rest of the economy. Nevertheless, we can observe a higher incidence of family workers in Hospitality sector and big regional differences. Only it is worth to stressed that the highest percentage of family workers are for Restaurants, in regions like Cáceres, Almería, Toledo, Albacete or Jaén.

2.3.3.6 Wages

As it was shown in the previous sections, tourism activities as a global group generate employment opportunities for younger people, low-skilled employees, women and foreign. These kinds of workers have a higher probability of receiving a low-wage in the Spanish labour market (Fernández et al,. 2006). Recent empirical research evidences that tourism sector is a low-income sector in other world countries (Lee & Kang, 1998; Lacher & Oh, 2012)[35].

Nevertheless, the monthly wage of tourism activities has been higher than the rest of the economic activities. This fact has changed since 2008 with the effects of the economic crisis. If we focus in the hourly wage instead of the monthly wage, we can observed that

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[35] See EU-SILC information in Chapter 4.

the evolution of the hourly wage from 2004 is very similar between Tourism and the rest of the economic activities. Nonetheless, since the beginning of the economic crisis, the Tourism hourly wage has worsened their relative position. Consequently, the higher monthly wages in tourism activities are due to a longest working day.

Figure 2.21: Evolution of wage
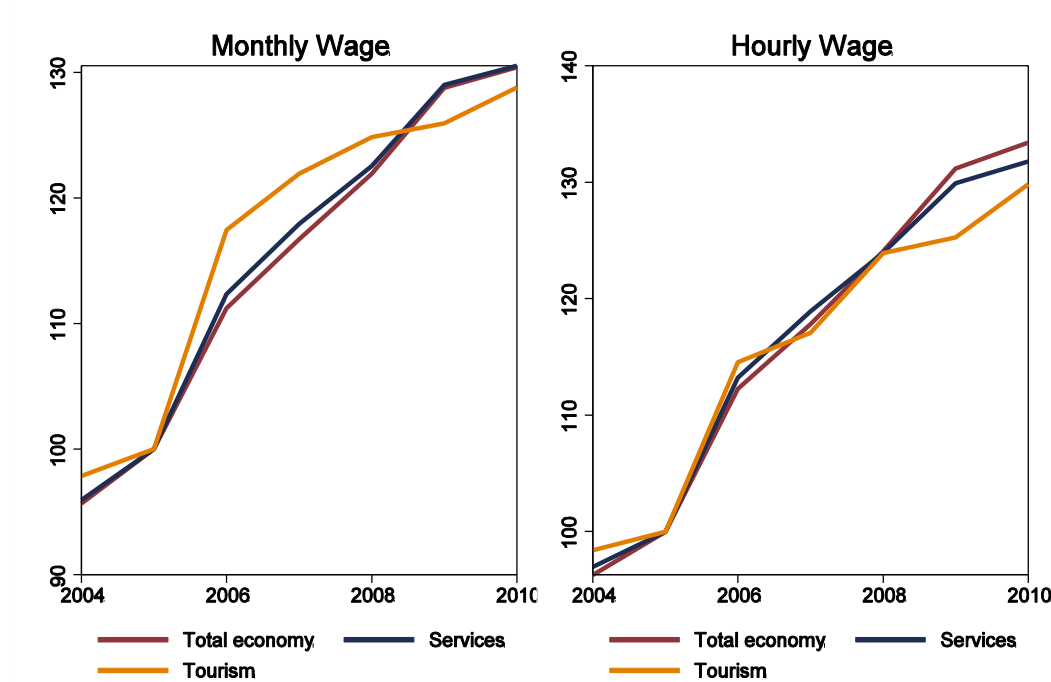
However, if we focus in the monthly wage we find that tourism wage has been higher the wages for the rest of the economic activities. This fact has changed since 2008 with the effects of the economic crisis.

Again we can observe that there are two separated groups of regions in Figure 2.22. País Vasco, Aragón, Baleares, Madrid, Cataluña and Navarra have the highest monthly wages in the Tourism sector. The hourly wage shows us that is bigger for the rest of the economic activities tan tourism activities for all the Spanish regions. The tourism sector has higher hourly wages that the rest of the economic activities. In addition, figure displays that those regions with highest hourly wages in the economy, also have higher wages in the tourism activities. Figure 2.22 shows again two separately groups, the ones with higher wages in the economy and in tourism, and another group with lower level of monthly wages. Finally, both figure (21 & 22) display that monthly and hourly wage are lower in tourism activities than the rest of the economic activities.

Figure 2.22: Wages by Region (2006)

2.3.3.7 Seasonal employment

As we have in the previous sections, the inequality tourist flows throughout the year have a strong impact in the tourism employment. Thus, the temporal imbalance in tourism has important consequences for local labor markets (BarOn, 1975). In the labor market, Wales (1988) found that there are two types of seasonal tourism workers. The first group is seasonal voluntary worker, who has an alternative occupation at certain times of the year, such as students or inactive people. Also, there are seasonal voluntary workers looking for work after the peak period in other regions with less seasonality, or in other industries. The second type is a involuntary worker, those who are new in the labor market, for example recent school or college graduates, working in the tourism industry during a season while they look for a regular job. There are also other involuntary seasonal workers, which are the ones displaced from jobs in the regular market. Along the same lime, Atkinson (1984) distinguishes between core and peripheral labor to tourism activities: Managers and highly-skilled staff constitute the core group, the smallest proportion of tourism employees (receiving high earnings and having job security), whereas the peripheral labor force would be made-up of less-educated and less-skilled workers with temporary contracts (Shaw and Williams, 1994;

Riley, 1991).Because of the relevance of seasonality in tourism in Spain, it is relevant to study its effects on the tourism employment.

Figure 2.23: Growth rate of employees by quarterly
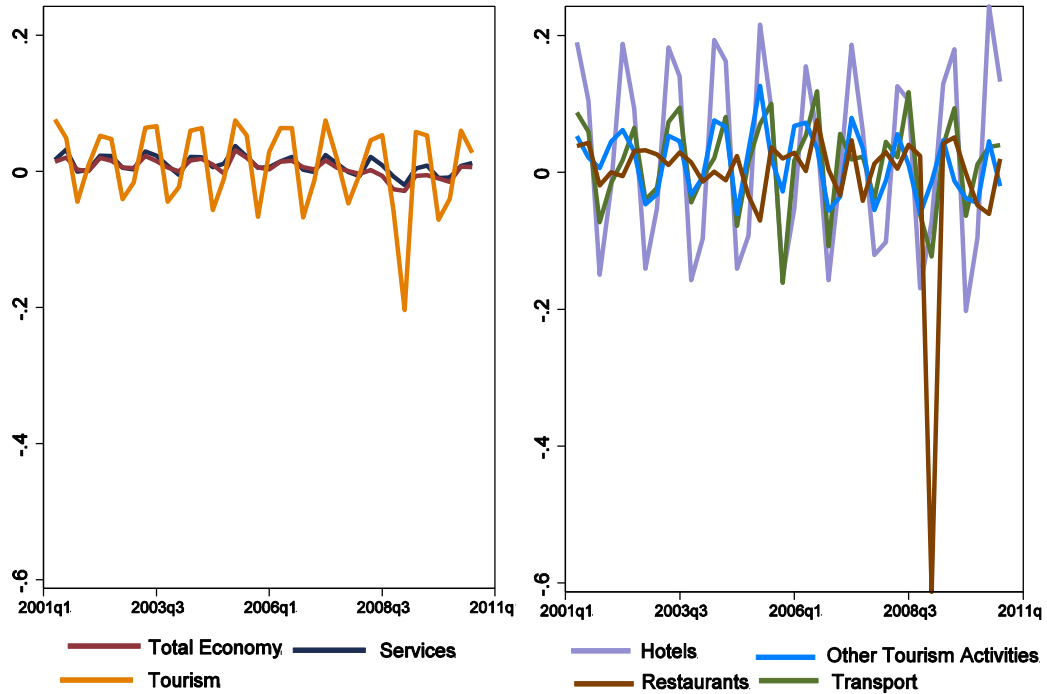
Source: Own elaboration based on Labour Force Survey (IET)

Figure 2.24: Percentage of Temporary Contracts

Source: Own elaboration based on Labour Force Survey (IET)

85
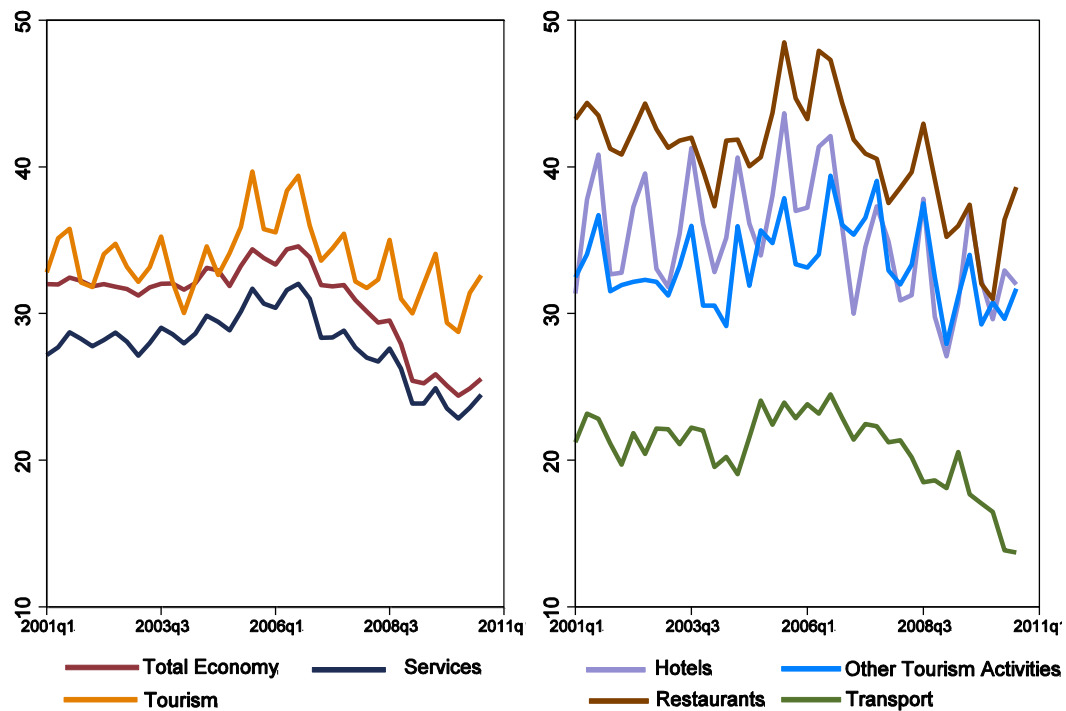
These oscillations along the year present obviously a strong relationship with the percentage of temporary contracts. This is the most worrying feature of the Spanish labour market, and even worse for the tourism characteristics activities as we can observe in the following figure. Tourism Characteristic Activities have a higher percentage of temporary employees: over 30% of total employees of the sector, with rise located in the summer. This aspect will be study in the next chapter.

2.4 Conclusions

In the present chapter we characterize the labour employment of the tourism sector. As we have explained, the supply-side approach is the proper methodology to measure and describe the composition of tourism-related employment (OECD, 2000). Accordingly with international methodology, INE have defined the Tourism Characteristic Activities which include a wide variety of activities depending on the tourism ratio. From our point of view, it is essential to analyze the tourism activities taking into account these disparities, because tourism impacts depends on the degree of specialization of each region, industry…(OECD, 2000)

Throughout this chapter we use complementarily databases in order to study tourism employment: Census has the disaggregation at a province level but only for the year 2001, and Labour Force Survey allows us to examine the temporal evolution for Spain. Both analyses, quantitative and qualitative, show the existence of relevant disparities at a province level. On the one hand, the regions with a higher weight of tourism employment are both Archipelagos, coastal provinces and a few internal regions like Madrid, Burgos, Huesca and Salamanca. The high relevance of the tourism employment relative to the rest of the economic activities is probably linked with the tourism specialization explained in the previous chapter.

When we focus our attention to the qualitative analysis, the main findings justify the selected disaggregation between the tourism activities accordingly the tourism ratio, overall by the important differences between transport 1 and transport 2 usually aggregated.

We find that accommodation services, restaurants and transport 1 are female dominated. Moreover, all the tourism activities with the exception of transport 2 show a high

incidence of young and foreign workers. On the contrary, elderly workers only have a higher proportion on transport 1.

When we analyse the educational level, the most remarkable fact is the bigger percentage of workers with primary studies in the tourism characteristic activities, except transport 1 which have the highest presence of tertiary studies. Although the improvement of the level of education in tourism and in the rest of the economic activities in the last years, it is necessary to increase the level of education of tourism workers. This finding is linked to the elevated proportion of blue-collar workers in the tourism characteristic activities (except transport 1 and other tourism activities).

Furthermore, outcomes show the worrying presence of temporary employees in tourism activities, and the slightly increase of part-time employees. Also, the results displays the consequences of the economic crisis as for example the diminution of young workers, the increase of fixed-term and part-time contracts, and the decrease of hourly and monthly wage of tourism activities relative to the rest of the economy.

References

Atkinson, J. (1984): Flexibility uncertainly and manpower management. Institute of Manpower Studies. Report 89. Falmer. University of Sussex.

Andriotis, K.; Vaughan, D. R. (2004): "The tourism workforce and policy: Exploring the assumptions using Crete as the case study". *Current Issues in Tourism*, *7*(1): 66-87.

Ball, R. (1989): "Some aspects of tourism, seasonality and local labour markets". *Area 21*(1): 35-45.

Baum, T. (1995): *Managing Human Resources in the European Tourism and Hospitality Industry*. A strategic Approach. International Thomson Business Press. London.

Baum, T.; Amoah, V.; Spivack, S. (1997): "Policy dimensions of human resource management in the tourism and hospitality industries". *International Journal of Contemporary Hospitality Management*, 9/5/6:221-229.

Belau, D. e Budlender, D. (2006): *An introduction to labour statistics in tourism*. Ginebra. International Labour Office.

Blake, A. (2000):*The economic effects of tourism in Spain*. Christel DeHaan Tourism and Travel Research Institute.

Butler, R.W. (1994): *Seasonality in Tourism: issues and problems*. Tourism: The State of the Art, Seaton Av. (ed): Wiley:Chichester: 332-339

Campos, J. A.; Ortega, B.; Ropero, M. Á. (2010): "Efectos de la segregación sobre las diferencias salariales de género en la hostelería andaluza: una comparación entre distintas zonas turísticas". *Revista de estudios regionales*, (89): 43-66.

Charles, M. (1992): "Cross-National Variation in Occupational Sex Segregation". *American Sociological Review*, 57 (4): 483-502.

Choy, D. J. (1995): "The quality of tourism employment". *Tourism management*, *16*(2): 129-137.

Dueñas, D., Iglesias, C.; Llorente, R. (2010). *Job quality, job satisfaction and services in Spain.* Institute of Social and Economic Analysis (IAES). Working Paper 06/2010.

Dwyer, L.; Forsyth, P. (1993): "Assesing the Benefits and Costs of Inbound Tourism". *Annals of Tourism Research*, 20: 751-768.

Eugenio-Martín, J.; Martín, N.; Scarpa, R. (2004). *Tourism and economic growth in Latin American countries: A panel data approach*. Nota di lavoro 26.2004. Fondazione Eni Enrico Mattei.

Fernández, M.; Meixide, A.; Simón, H. (2006): "El empleo de bajos salarios en España". *Información Comercial Española ICE: Revista de Economía*, 833: 177-198.

Fernandez, M.; Pena-Boquete, Y.; Pereira, X. (2009): "Labor Conditions in the Spanish Hotels and Restaurants Industry". *Tourism Analysis*, 14(3): 293-312.

Fletcher, J. (1994): "Input-output analysis". *Tourism marketing and management handbook*, second ed. United Kingdom:Prentice – Hall International: 480-484

García-Pozo, A., et al. (2012): "The regional wage gap in the Spanish hospitality sector based on a gender perspective". *International Journal of Hospitality Management*, *31*(1): 266-275.

Guardia, T. (2004): "The labour market in the tourism industry". *Estudios turísticos*, (161/162), 157-190.

ILO (2009): "Employment in the Tourism Industries: Measurement Issues and Case Studies". In the *5th International Conference on Tourism Statistics: Tourism: An Engine for Employment Creation*. Indonesia

IES (National Centre for Education Statistics) (2001): *International Comparisons in Education*, *Education Indicators: An International Perspective*. US Department of Education.

IET (2011): *Empleo en el sector turístico. Informe annual 2011*. Ministerio de Industria, Energía y Turismo.

Ioé, C. (1999): *Inmigración y trabajo en España: trabajadores inmigrantes en el sector de la hostelería*. Ministerio de Trabajo y Asuntos Sociales, Secretaría General de Asuntos Sociales, Instituto de Migraciones y Servicios Sociales, Observatorio Permanente de la Inmigración.

Johnson, P.; Thomas, B. (2001): "Employment in tourism: a review". *Industrial Relations Journal*, vol. 21 (1): 36-48.

Lacher, R. G.; Oh, C. O. (2012): "Is Tourism a Low-Income Industry? Evidence from Three Coastal Regions". *Journal of Travel Research*, *51*(4): 464-472.

Lee, C. K.; Kang, S. (1998): "Measuring earnings inequality and median earnings in the tourism industry". *Tourism Management*, *19*(4), 341-348.

Lillo-Banuls, A.; Casado-Diaz, J. M. (2010). "Rewards to education in the tourism sector: one step ahead". *Tourism Economics*, *16*(1), 11-23.

Marchante, A. J., Ortega, B.; Pagán, R. (2006): "Determinants of skills shortages and hard-to-fill vacancies in the hospitality sector". *Tourism Management*, 27(5), 791-802.

Mincer, J. A. (1974). Schooling and earnings. In *Schooling, experience, and earnings* (pp. 41-63). Columbia University Press.

Moreno, E. (2002): *Changes in the skill structure of the labour force. An empirical application to the Spanish Case.* Working paper, IRES, Université Catholique de Louvain.

Muñoz-Bullón, F. (2009):"The gap between male and female pay in the Spanish tourism industry", *Tourism Management* 30(2009): 638-649.

Muñoz-Bullón, F. (2012): The Dynamics of Temporary Jobs in the Tourism Industry. In *Strategies for Tourism Industry. Micro and Macro Perspectives*, Dr. Murat Kasimoglu (Ed.).

OECD (2000): "Measuring the role of tourism in OECD economies" en *Manual on Tourism Satellite Accounts and Employment*. Paris. OECD.

OECD; WTO; UN e Commission of the European Communities (2008): Tourism Satellite Account: Recommended Methodological Framework.

Riley, M. (1991): "An analysis of hotel labor markets".In *Progress in Tourism, Recreation and Hospitality Management*, C.P. Cooper (Ed), Vol.3. Press London.: 232-246.

Shaw, G.; Williams, A.M. (2004): *Tourism and Tourism Spaces*. London: SAGE Publications Ltd.

Simón, H., Sanromá, E.; Ramos, R. (2007): "Segregación laboral y estructura salarial de nativos e inmigrantes. Un análisis con datos emparejados empresa-trabajador." *VII Jornadas de Economía Laboral*.

Vaughan, D.R.; Long, J. (1982): "Tourism as a generator of employment: A preliminary appraisal of the position in Great Britain". *Travel Research Journal* 21 (2), 27–31.

Chapter 3: Effects of tourism development in temporality

Introduction

As we have seen in Chapter 2, Tourism activities are labor-intensive and contribute to regional growth and job creation. If we turn our attention to the labor market, we find that one of its positive aspects is generating employment among people with lower possibilities of entering the labor market such as women, immigrants, young people and less skilled workers (Sinclair, 1991, 1997; Santana, 2005). However, tourism employment has been criticized for generating temporary, part-time and low-waged jobs (Choy, 1995; Butler, 2001).

In accord with the relevance of tourism, a lot of studies have been focused on estimating the number of direct or indirect jobs that tourism development generates (OECD, 2000; Polo & Valle, 2008). Nonetheless, these quantitative approaches only take into account the number of jobs and not the "quality" of this employment. In fact, previous literature has identified Tourism activities as a source of low quality employment: workers with little or no formal training, high seasonality, long working hours, higher percentage of fixed-term contracts, and poor career prospects. (Belau & Budlender, 2006; Shaw & Williams, 2004; Sinclair, 1997; Sinclair & Stabler, 1997).

Concerning high seasonality, a lot of studies relate it to the existence of temporary jobs in tourism activities (Ball, 1989; Butler, 2001). The fixed-term contracts are one of the labor-market characteristics that identify it as low-quality employment. In fact, temporary jobs are associated with lower job training, lower wages, and decreases in productivity… (Caparrós, et al.2004; Ortega & Marchante, 2010) These problems are worse in Tourism activities due to the fact that the incidence of temporary jobs is higher than in other economic activities. And Spain is the country with the highest percentage of fixed-term contracts in the European Union.[36]

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[36] We find that employment in Tourism characteristic activities in Spain is characterized by a high percentage of fixed-term contracts (32.9%), even higher than in the total of the economy (25.3 %).

Nevertheless, Fernandez et al. (2009) yield supportive evidence that the incidence of low wages in Hotel and Restaurant industries is lower in those regions where Tourism is more developed. In line with this paper, our main aim is to test if the development of tourism has an effect on employment stability in Tourism activities. Moreover, we also account for seasonality due to its strong linkage with tourism and temporary jobs. Clearly, temporality is important in the normal development of tourism activities due to the seasonality of visitors, and consequently, firms would need to hire fixed-term workers in the peak season. The key point is to analyze the temporality of these activities in the off-season, because temporality could be also significant in regions with low seasonality. Thus, in this paper we tried to analyze if low stability is in the nature of Tourism or instead, if Tourism could combat it.

Our article is based on the model of Dolado et al. (2002) which explains the higher incidence of temporary contracts in Spain. We use labor market literature about fixed-term contracts regarding a segmented labor market, like the tourism industry in Spain, and also we attempt to account for the particularities of these activities including the degree of specialization in Tourism (also accounting for seasonality). We use data for provinces and Tourism activities in 2001 and to assess the robustness of the results we also estimate the model using quarterly data from 2001-2011 for Tourism activities for all of Spain, i.e. without accounting for the regional dimension.

The purpose of this article is to contribute to bridging the gap of working conditions in the Tourism industry. The second section provides a conceptual framework for the incidence of temporary employment in the Spanish labor market, especially in Tourism. In the second section, we analyze the incidence of fixed-term contracts both by province and Tourism activity. In the next sections, we describe the databases and methodology used. Later on, we present the results of each model, which attempt to study the determinants of fixed-term contracts. The final section sums up the main conclusions of the analysis.

3.1 Background

Literature affirms that temporary workers are likely to be women, youth and less educated people, and that they receive lower wages (Alba, 1996; Montellón, 2008).

Evidence shows that temporary contracts in Spain could reduce long-term unemployment, albeit increasing worker turnover. As a consequence of this high turnover, in addition to a decline in regional migrations and in the fertility rate, there is a fall in investment in specific human capital which could lead to a decrease in labor productivity (Dolado et al., 2002).

Although temporary contracts can diminish some labor market inflexibilities (Bentolila & Saint-Paul, 1994) and decrease unemployment in the long run (Bentolila and Bertola, 1990) they also have some potential costs. Booth et al. (2002) shows that temporary jobs typically pay less, are associated with lower satisfaction, and provide less work-related training. Recent research has also examined whether a temporality trap exists or not for employees (Toharia & Cebrián, 2007). Booth et al. (2002) find evidence that fixed-term contracts are effective stepping-stones to permanent jobs rather than seasonal employment. The costs of fixed-term contracts (lower wages, etc) are typically transitory, in the sense that they move into permanent jobs and catch up to their counterparts who started in permanent jobs. Nevertheless, this does not happen with seasonal employees.

In the case of tourism employment, literature approaches the study of temporary employment from the point of view of seasonality. As we explained in Chapter 2, the existence of fixed term contracts is linked to the seasonal character of tourism activities. Ball (1989) remarks that fixed-term contracts in tourism are widely typified as low-paid, although it is necessary to consider other benefits related to extra income for workers, worker migrations, or revenues for destination areas. Moreover, research supports the idea that temporary employees receive higher wages in tourism activities during the summer and allow them to complement their temporary jobs with other activities during the off-season (Mourdoukoutas, 1988; Andriotis, 2004). Even Ball (1988) affirms that "*seasonal jobs provide substantial non-pecuniary benefits, especially where offered in attractive holiday locations*". As a consequence of the strong relationship between seasonality and temporary employment, the private sector and policy makers make a great effort to tackle seasonality. (Yacoumis, 1980; Jolliffe & Farnsworth, 2003; Koening & Bischoff, 2003; Koening & Bischoff, 2005)

However, few researchers have turned their attention to temporary employment in tourism characteristic activities in Spain. Muñoz-Bullón (2012) explores the existence

of the temporary trap in the tourism industry. Their main results confirm that temporality constitutes a trap when the employee is linked to the tourism sector with repeated temporary jobs. On the contrary, they conclude that temporary jobs are not prejudicial when working in the tourism industry is occasional. Another paper shows a joint analysis of employment and wage conditions in Spanish Hospitality (Fernández, et al.2009). Their main findings reveal that the higher tourism development, the lower the incidence of low wages. They also incorporate a regional perspective and find that those regions which are more specialized in tourism have better working conditions.

Consequently, we are not going to assess the severity of the consequences of fixed-term contracts for employees as the literature has already analyzed them. The objective of this paper is to see whether particular conditions surrounding tourism activities shown in Chapter 1 could affect the labor conditions of workers. Could the share of workers with fixed-term contracts be affected by the development of Tourism demand? Could seasonality have an influence on the temporary tourism employment?

3.2 A brief characterization of Temporary jobs

The existence of temporary contracts is one of the prominent characteristics of the Spanish labor market. Spain is the country with the highest percentage of employees with fixed-term contracts in the European Union (Figure 3.1). In fact, the share of temporary employees in Spain is double the average in the European Union in 2001. Although the difference has decreased in the last decade, Spain has kept its first place position throughout the entire period[37]. As a result, the Spanish case has been much studied.

If we focus on the Spanish labor market, we observe that although the percentage of fixed-term contracts in Spain is high among all economic activities compared with other countries in Europe, it is not homogenous between them. In fact, previous literature highlights the Spanish hospitality sector as the activity with the highest proportion of temporary employment (Toharia, 2006; Ortega & Marchante, 2010), but there are no references to tourism characteristic activities as a whole. Thus, as is expected,

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[37] The differences between Spain and most of the countries in the European Union are still very wide despite the fact that there were several labor market reforms in 1994, 1997, 2001, which provided a less stringent EPL for permanent contracts and considerable restrictions for the use of fixed-term contracts.

temporary employment has an even higher incidence in tourism characteristics activities given the seasonal character of tourism flows. In fact, Figure 3.2 shows that the incidence of fixed-term contracts is an even trickier problem in the Tourism sector than in other sectors since seasonality is much more important.

Figure 3.1: Share of employees with fixed-term contracts
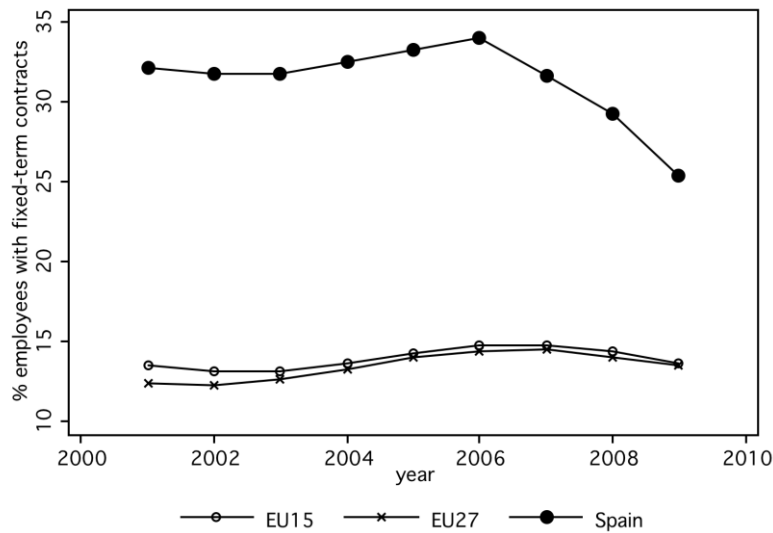
Source: Own elaboration based on Labor Force Survey (Eurostat).

Figure 3.2: Percentage of employees with fixed-term contracts in Spain
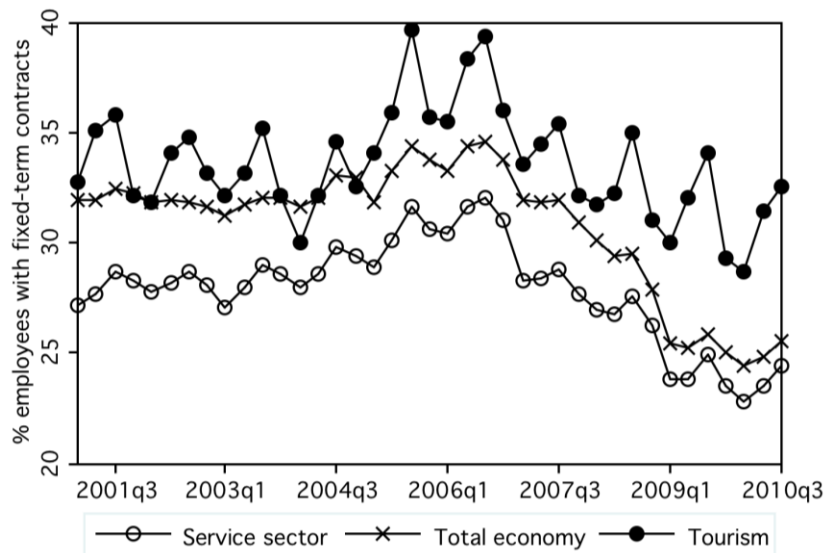
Source: Own elaboration based on Labor Force Survey (IET)

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Therefore, the increasing interest in research on the tourism labor force has encountered some problems related with the particularities of the activity. As we have explained before, tourism is not a traditional sector according to the quoted definition of OECD et al. (2008). As the results in Chapter 2 show, neither in all tourism activities nor in all Spanish provinces is the percentage of employees with temporary jobs higher than in the Rest of the Economy. For instance, in Transport 2[38] this share is lower for all provinces. This percentage differs considerably from Transport 1[39], which demonstrates that it is necessary to analyze both kinds of transport activities separately. Moreover, we discover that the highest proportion of temporary employees is in Hotels, which is the tourism characteristic activity with the highest tourism ratio[40].

As shown before, the relevance of tourism seasonality influences the existence of high percentages of temporary employees. Moreover the difference with the rest of economic activities increases over time so we should take them into account in the empirical analysis. In the context of tourism, the literature finds that seasonality has a strong relationship with the high percentage of temporary jobs. And at the same time, previous papers indicate that labor conditions improve in those regions which are specialized in tourism. In light of previous results, in the next section, we study how the results obtained in Chapter 1 (seasonality and tourism specialization differences by province) affect this particular characteristic of tourism employment.

3.3 Databases

In this chapter we use two kinds of databases in order to include the aspects concerning temporary employment and the specific characteristics of tourism activities (seasonality and tourism specialization). First, as we have explained previously, we use the 2001 Census in order to be able to use Tourism Characteristic Activities disaggregated at a province level, and the Labor Force Survey (LFS) for the study of temporal evolution of Spain as a whole.

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[38] Transport 2 includes tourism activities from the Transport sector which dedicates about 90.17% of their production to tourism demand.

[39] In the case of activities included in Transport 1, the tourism ratio is around 44%.

[40] Hotels are considered the quintessential tourism activity, because they dedicate 94.97% of their output to tourists.

The main analysis is based on the 2001 Census data due to the unavailability of LFS data with the required level of provincial and sectorial disaggregation, and as we have stated before, both dimensions are really important. Moreover, LFS data was collected from a secondary source, the *Institute of Tourism Studies* (IET), instead of the Spanish National Statistical Institute (INE), and as a result we must use the aggregation of tourism activities that they provide for us. As we have explained in previous chapter, the IET´s classification is not accurate due to the existing disparities between the activities included in the group of Transport and Other activities. However, LFS enables us observe the temporal evolution.

Moreover, both sources are suitable for looking at the temporary employment as the figures in the previous section reveal. First, the Census was done in November of 2001 which is not a seasonal month. The questions asked to employees refer to previous week, so it does not include those employees hired only during the summer. Thus, if the Census shows that the percentage of temporary employees in tourism characteristic activities is higher than in the rest of the economy, it means that tourism has a higher incidence of temporality independent of seasonality. Second, given that LFS is a quarterly survey, it permits us to study the fluctuations of temporary employment in each term, i.e. the fluctuation in temporary jobs due to seasonality.

Concerning the measurement of seasonality and tourism specialization, we must include a wide variety of databases in order to measure all the concepts; the Hotel Occupancy Survey provides information referring to the demand side and supply side such as the number of open establishments, bed places, number of employees, tourists, overnights… Besides, the data linked to amenities is drawn from a range of public organisms such as the National Geographical Institute, the Spanish Meteorological Agency, the Central Business Register, the Ministry of Agriculture and Environment, and the World Heritage Sites from Unesco.[41]

3.4 Methodology

To test if the development and seasonality of Tourism affects temporary employment in Tourism characteristic activities, we analyze the determinants of the percentage of

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[41] See Chapter 1 for more details about the databases used for measuring specialization and seasonality.

employees with fixed-term contracts. First, we estimate a regression model using data from the Census of 2001 for Tourism Characteristic Activities and Spanish provinces. We estimate the following model:

$$l\tau_{ij} = \beta_0 + \beta_1 Z_{ij} + \beta_2 T_{ij} + \lambda_i + \lambda_j + \varepsilon_{ij}$$

i being industry and j being the provinces[42]. Z_{ij} would be a set of variables which explain the percentage of fixed-term contracts ($l\tau_{it}$) following Dolado´s model, $\mathbf{T_{ij}}$ would be the set of variables accounting for the Tourism effect and ε_{ij} would be the error term. We also include a dummy for provinces (λ_j) and for Tourism characteristic activities (λ_i). [43]

In the set of variables which explains the share of fixed-term contracts (Z_{ij}) we include the proportion of young employees (under 30 years old) and the proportion of employees with a university degree. Those variables should capture the effects of the wage gap between permanent and temporary workers, the elasticity of substitution, and the relative efficiency of temporary contracts (Dolado et al., 2002).[44]

Our main aim is to see if the degree of specialization in Tourism of a particular area improves labor market conditions, in this case, job stability. Thus, in order to capture tourism specialization effects we have include the Principal Component Analysis (PCA) scores calculated in Chapter 1. As we have seen in Chapter 1, Tourism has many dimensions and we can find many indicators accounting for a particularity of the tourism specialization. Hence, PCA allows the summary of all this information. As we have explained in Chapter 1, we are able to distinguish four dimensions of Tourism specialization: demand side for international visitors, demand side for domestic visitors,

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[42] Spain is composed of 52 provinces. Although from a political point of view, the regional disaggregation could be more relevant, we have chosen this disaggregation since the arrival of tourists is very different from provinces even inside the same region (see results Chapter 1). The aggregation of the sectors depends on the proportion of production dedicated to tourists. We include this data in the Annex.

[43] The complete disaggregation of Tourism activities (3 digits) is not suitable for our analysis by province since the data is not statistically significant for some of the sectors in particular provinces. For example, analyzing the employment of "Sea and coastal water transport" in provinces without coast does not make much sense. It is the same case for employment linked to "Scheduled air transport" in those provinces without airports.

[44] Dolado, et al. (2002) also includes the proportion of employees covered by collective bargaining and those working in the public sector. We do not have these variables in our database; nevertheless, they do not seem to be very important in our case. On one hand, the public sector usually does not provide services to tourists, so the employees working for the public sector should be close to zero. On the other hand, the inclusion of union coverage was more linked to the 1997 reform.

supply side, and amenities. As a result, the variables included in T_{ij} would be the PCA score for each dimension. Moreover, we also include the simple average of the PCA scores for the four dimensions in order to capture the general effect of tourism specialization.

Nevertheless, the effect of tourism specialization could be different depending on how seasonal the tourism is, especially with a variable like fixed-term contracts that are regularly linked to seasonal movements, as we have seen in Chapter 2. In order to include these differences, we first estimate the model for all Spanish provinces. Next, we estimate the model for provinces with high level of seasonality and for ones with lower levels of tourism seasonality[45].

Related to those variables we also include the Tourism ratio (contribution of tourism characteristic activities to tourism demand). We only include this variable in the disaggregated model for provinces since in the aggregate model, the activity classification is done according to other criterion different from the share of production that these activities dedicate to Tourism.[46] We consider that this variable is very important since this factor determines if these activities are classified as activities characteristic of Tourism or not. On one hand, we use the Tourism Ratio in order to account for how a tourism characteristic activity depends on Tourism. On the other hand, we include different tourism specialization indices by province as a proxy of their dependence on tourism.[47]

3.5 Results

The main outcomes of the regional model (Table 3.1) are very similar and in line with the results of Dolado et al. (2002). The share of young employees has a positive impact on the percentage of employees with fixed-term workers and appears to be significant. This is an expected result since youth are likely to be more affected by temporary

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[45] We select provinces with high levels of seasonality according to the results of the PCA scores. So, when the score is higher than zero, the province has a high level of seasonality. Seasonal provinces are Almería, Asturias, the Balearic Islands, Cantabria, Castellón, A Coruña, Cádiz, Girona, Huelva, Huesca, León, Lleida, Lugo, Málaga, Navarra, Palencia, Pontevedra, Tarragona and Zamora.

[46] For example transport activities are a combination of very different shares. See the Annex for more details.

[47] Although we are not able to use a demand-side methodology to analyze employment quality, we use both approaches when we include tourism specialization and the tourism ratio in the model. As we have explained in Chapter 1, it is necessary to include both the demand and supply side.

contracts than adult workers. Nevertheless, the proportion of employees with tertiary education is found to not be significant (due to the fact that they have a lower incidence of temporary contracts).

First, we observe that tourism contributions have a negative impact on the dependent variable. This means that the development of tourism has a positive effect on job stability for Tourism characteristic activities (independent of the level of seasonality). Besides we find that international tourism specialization reduces the share of fixed-term employees. The reason could be that employers prefer to keep their employees during the entire year because the competitiveness for hiring highly skilled employees is too high in the peak season. Tourism firms know that their success depends on customer satisfaction and experience, which depend on employee behavior (Jollife & Farnsworth, 2003)

Nevertheless, we obtain different results for domestic tourism specialization. When the region has high seasonality and is specialized in tourism, it decreases the percentage of temporary employment. This fact could be related to the aforementioned employers´ desire to recruit, train and keep employees during the whole year. On the contrary, when the province is tourism-specialized with low seasonality, it increases temporary employment. The explanation could be that firms´ managers know that they will not have any problem recruiting employees because of the absence of the peak season.

Another important result is that the contribution of the supply side appears to be significant and positive in the percentage of temporary employment. This could be as a result of a business strategy focused on hiring short-term staff. In this case, firms only pay attention to increasing profits during the peak season, so the rest of the year they also cover their workforce with temporary workers given that retaining them is not relevant. Moreover, we obtain that the presence of amenities has a positive impact on temporary employment for all provinces. The reason could be that provinces receive more tourists when they have good weather conditions, so local companies adapt to demand flows hiring temporary employees during the entire year. Finally, the aggregated index presents a positive and significant impact on temporary employment when we include all the provinces: when a province is tourism specialized, it raises the level of temporary employees. If we distinguish between high and low seasonality the

effects are the opposite. It seems that the beneficial effects of tourism specialization are only effective in provinces with high seasonality.

Table 3.1: Results for the Tourism Activities by Spanish provinces (2001)

	Total Provinces	High Seasonality	Low Seasonality	Total Provinces	High Seasonality	Low Seasonality
ln(% workers with tertiary education)	0,083	0,124	0,091	0,083	0,124	0,091
ln(% workers aged 16-29)	0.472***	0,14	0.757***	0.472***	0,14	0.757***
ln(Contribution to tourism)	-0.101***	-0.083*	-0.146***	-0.101***	-0.083*	-0.146***
Tourism Specialization						
International Tourists	-0,034	-0.435***	-0.223***			
Domestic Tourists	0.042***	-0.317***	0.048***			
Supply side	0,016	0.648***	0.141***			
Amenities	0.067***	-0.056*	0.075***			
Aggregated Index				0.023**	-0.022**	0.070***
constant	1.710***	2.742***	0.838**	1.561***	2.795***	0.781**
Observations	250	95	155	250	95	155
R2	0,855	0,846	0,876	0,855	0,846	0,876
Adjusted_R2	0,814	0,793	0,838	0,814	0,793	0,838

* p<.1, ** p<.05, *** p<.01

3.6 Robustness

In the previous section, we have estimated the effect of tourism specialization on the share of fixed-term contracts for 2001 since we do not have disaggregated data for a more recent period. Consequently, in this section as a robustness check, we are going to estimate the same model using quarterly data from the LFS from 2001 to 2011, limited to sectorial desegregation provided by IET for Spain. The handicap in this model is measuring tourism specialization because of the lack of territorial disaggregated data. To partially solve this problem, we have constructed the PCA (and consequently the degree of specialization) in the temporal dimension. Meaning that in this model we measure the effects fixed-term contracts when Spain is more specialized in Tourism in a particular year than other.

As in the previous sections, the effect of the specialization could be different depending on the degree of seasonality in that particular year. Nevertheless, in this model we cannot divide the sample between high and low years of seasonality for two reasons:

first, the sample is too short and we do not have enough observations. Secondly, highly seasonal years are not consecutive and we would lose the panel characteristics. Instead, we have included a set of variables which are: interaction between the Tourism Specialization and a dummy variable taking the value 1 for years with high seasonality and 0 otherwise.[48]

We estimate the model using the fixed-effect estimator since we have a panel and include time dummies (λ_j) instead of province dummies. In the estimation of the aggregated model we do not include the contribution of tourism since the data is not available for the entire temporal sample. [49]

3.6.1 Principal Component Analysis

As we have explained in Chapter 1 and in the previous section, the PCA enables us to summarize a lot of information in order to represent a limited number of variables. In this case, our main purpose is to aggregate the variables accounting for seasonality and tourism specialization from a temporal point of view, and to establish a ranking for the different years of the sample. In this case, we have to drop the pillar of amenities, because we suppose that the amenities would be constant in recent years in Spain.[50] So, we have the three pillars described in Chapter 1. Of course, we have applied the PCA for tourism specialization and seasonality. The main outcomes are shown in the following tables.

Table 3.2 shows that 2011 is the year that Spain reaches the maximum level of tourism specialization in the Aggregated Index. Also, we can observe that the evolution is not constant in recent years, because there is a decrease in 2009, returning to similar levels of specialization as 2005. The main cause of this diminution is the slump in domestic tourism specialization. Actually, starting from 2007, the demand of domestic tourists has decreased to the levels of the year 2004. The reason for this decline could be the

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[48] This interaction approaches the effect of tourism specialization coupled with high seasonality. PCA results show that the years with high seasonality are 2003, 2009, 2010 and 2011 (dummy=1).

[49] Despite the unavailability of data for the contribution ratio from 2001 to 2011, we have done an estimation for the period available from 2001 to 2007 The results show that contribution to tourism appears to not be significant, so this variable is not correlated with the rest of the variables. Consequently, not including it in the aggregated model does not change the result (See Annex: table A.3)

[50] As we have seen in Chapter 1, we are assuming that amenities are constant in the short-run, as the idea that a visitor has of a place.

economic crisis, and we observe that it has not recovered yet. On the contrary, international tourists have already recovered in 2011 from the decline in 2009 due to the global crisis. Referring to the supply side, the results reveal a delay in the time it took to adapt to the fall in demand.

Table 3.2: Year ranking for Tourism Specialization in Spain

Year	Aggregated Index	Domestic Tourists	International Tourists	Supply side
2001	10	11	7	11
2002	11	10	11	10
2003	9	9	9	9
2004	8	8	10	8
2005	7	6	8	7
2006	5	2	4	6
2007	3	1	2	5
2008	4	3	3	4
2009	6	7	6	1
2010	2	4	5	2
2011	1	5	1	3

In the case of Tourism seasonality, Table 3.3 also shows that the last two years are the most seasonal in Spain according to the sample. Similar to tourism specialization, we find that the level of seasonality decreases until 2007-2008 in the aggregated index, and the demand pillars (international and domestic tourists). The explanation for this increase in tourism seasonality could be that people have modified their behavior and decision-making regarding holidays due to the economic crisis. So, they travel only in a few holidays instead of distributing them along the year.

Table 3.3: Year ranking for Tourism Seasonality in Spain

year	Aggregated Index	Domestic Tourists	International Tourists	Supply side
2001	11	11	7	10
2002	10	10	5	11
2003	4	5	3	9
2004	6	4	6	8
2005	5	6	4	7
2006	8	7	10	6
2007	9	8	11	5
2008	7	9	8	4
2009	3	2	9	1
2010	1	3	1	2
2011	2	1	2	3

As in a previous table, the supply-side pillar shows a delay relative to the changes on the demand side. Moreover, these findings can reveal a number of establishments have closed and the only ones that remain are the least seasonal.

3.6.2 Results

The results for the aggregated model are similar to the results for the regional model (Table 3.4) and Dolado et al. (2002). Actually, the share of young employees remains significant with a positive impact on the percentage of employees with temporary contracts.

Variables accounting for the Tourism Specialization PCA appear to be significant (except international tourists). As in the model for provinces, we find domestic tourism specialization has a significant positive impact on the percentage of temporary contracts when we do not account for seasonality. This could be due to the preference of employers to take on temporary employees because they know that competitiveness is not going to be high during the peak season. However, the supply-side specialization (that did not turn out to be significant in the provincial model) has a significant negative effect on temporary employment, i.e., if Spain is specialized in the variables accounting for the supply side, they would need more on the job training and for this reason they offer more stability to their workers, hiring employees during the whole year, not only in the peak-season.

When we focus on the years with higher seasonality, we find opposite impacts depending on the type of tourist. International tourism has a significant positive impact on the percentage of temporary employment given that regions specialized in tourism with high seasonality hire employees only for the peak season. This is the main change relative to the provincial model since the effect was negative. The reason could be the concentration of international visitors in just a few provinces[51], thus the Spanish model is not able to capture these effects properly.

On the contrary, as in the provincial model, we obtain that being specialized in domestic tourism with high seasonality decreases the share of temporary employees. In this case, years with high seasonality have a positive effect on the stability of employment. On the

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[51] See Chapter 1.

contrary, being specialized from the supply side with high seasonality increases the share of fixed-term contracts. The explanation could be that when supply-side tourism specialization is coupled with seasonality, firms only offer a brief orientation and specific training to employees, but they are not interested in employee development, nor retention of the workforce.

In addition, as we have remarked before, the estimations for LFS indicate the direct effect of seasonal tourism on temporary employment. In fact, variables for Quarter 2 and Quarter 3[52] have a significant and positive impact on the percentage of temporary employment. This result explains that there is a strong impact of tourism seasonality on hiring people with fixed-term contracts during the peak season. Thus, the impact is bigger for Quarter 3 which has the concentration of the majority of tourism activities.

Table 3.4: Results for the Spanish Tourism Activities (2001-2011)

	(1)	(2)	(3)	(4)
ln(% workers with tertiary education)	0,043	0,034	0,034	0,049
ln(% workers aged 16-29)	0.372***	0.454***	0.550***	0.525***
Employment growth	0,092	0,081	0,112	0,116
Tourism Specialization				
International Tourists	0,007	0,001		
Domestic Tourists	0.031***	0.062***		
Supply side	-0.028***	-0.053***		
Aggregated Index			0,009	0.011*
Tourism Specialization * High Seasonality				
International Tourists		0.025**		
Domestic Tourists		-0.120***		
Supply side		0.059***		
Aggregated index				-0,01
1st Quarter	*Ref.*	*Ref.*	*Ref.*	*Ref.*
2nd Quarter	0.032*	0.032**	0,024	0,025
3rd Quarter	0.068***	0.064***	0.053***	0.056***
4th Quarter	0,021	0,023	0,024	0,025
constant	2.050***	1.772***	1.499***	1.536***
Observations	172	172	172	172
R2	0,678	0,711	0,605	0,608
Adjusted_R2	0,654	0,683	0,581	0,581

* p<.1, ** p<.05, *** p<.01
Note. *Ref.:Reference*

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[52] Quarter 2 includes April, May and June; and Quarter 3 is composed of July, August, and September.

3.7 Conclusions

Tourism contribution is really important in some countries such as Spain, especially for some specific regions, generating a significant amount of jobs. In spite of this, some researchers argue that the quality of these jobs is low. Thus, in this paper we attempt to analyze a particular characteristic of low-quality jobs: temporary employment. Stability is an important variable when we evaluate the quality of a job because it is related to other labor dimensions such as training, employee motivation, work organization, and productivity... Furthermore, since Spain has the highest percentage of employees with fixed-term contracts in the European Union, researchers and policy-makers stress the relevance of its study.

We apply Dolado´s model using two databases in order to distinguish temporary employment as a characteristic of Spanish labor market and temporary employment linked to seasonality separately. In line with Dolado, et al. (2002), our results for both models show that the presence of young workers has a positive effect on the percentage of temporary employment since they are the group most affected by this type of contract.

Focusing on the particular effects of tourism development on temporality, results indicate that international and domestic tourism has an opposite effect for all provinces. While specialization in international tourism appears to decrease the share of employees with fixed-term contracts, specialization in domestic tourism seems to increase them. The explanation could be that specialization in international tourists means needing higher human capital and on the job training, and consequently, employers are keen on retaining their workers and offer employment stability.

From the supply-side point of view, tourism specialization linked to seasonality increases the share of fixed-term jobs. This result reveals that industry responses to managing seasonal employment are based on hiring temporary workers, without complex training. In the aggregated model we take into account that seasonality has decreased throughout the years, it has reduced the number of establishments open during only the peak season. In fact, only years with high seasonality present a negative influence on employment stability.

We also need to highlight that the effects of specialization also depend on the province´s degree of seasonality. Actually, the decrease of temporality due to the specialization in the domestic tourism only appears in highly seasonal regions. This is probably because of higher competitiveness in hiring employees during the peak periods causing employers to prefer to maintain a core staff during the whole year.

The results using the LFS confirm that our results are robust even when using more recent years affected by the economic crisis.

References

Alba, A. (1996): "Labor market effects of fixed-term employment contracts in Spain".*UC3M Working Paper. Economics .96-60. Economic Series 26.*

Andriotis, K.; Vaughan, D. R. (2004): "The tourism workforce and policy: Exploring the assumptions using Crete as the case study". *Current Issues in Tourism*, *7*(1): 66-87.

Ball, R. (1988): "Seasonality: A problem for workers in the tourism labour market?". *Service industries journal*, 8(4): 501-513.

Ball, R. (1989): "Some aspects of tourism, seasonality and local labour markets". *Area 21*(1): 35-45.

Belau, D. e Budlender, D. (2006): *An introduction to labour statistics in tourism*. Ginebra. International Labour Office (ILO).

Bentolila, S.; Bertola, G. (1990): "Firing costs and labour demand: how bad is eurosclerosis?". *The Review of Economic Studies,* 57 (3): 381-402

Bentolila, S.; Saint-Paul, G. (1994): "A model of labor demand with linear adjustment costs". *Labour Economics*, 1: 303-326.

Booth, A. L.; Francesconi, M.; Frank, J. (2002): "Temporary jobs: stepping stones or dead ends?". *The Economic Journal*, 112 (June): F189-F213.

Butler, R. W. (2001). Seasonality in tourism: Issues and implications. In T. Baum, & S. Lundtorp (Eds.), *Seasonality in tourism*. Oxford: Pergamon, 5-21.

Caparrós, A.; Navarro, M. L.; Rueda, M. F. (2004): "Efectos de la temporalidad sobre la formación recibida durante el empleo". *Cuadernos de economía: Spanish Journal of Economics and Finance*, *27*(74): 51-73.

Choy, D. J. (1995): "The quality of tourism employment". *Tourism management*, *16*(2): 129-137.

Dolado, J. J.; Garcia-Serrano, C.; Jimeno, J. F. (2002): "Drawing lessons from the boom of temporary jobs in Spain". *The Economic Journal,* 112(June): F270-F295.

Fernandez, M.; Pena-Boquete, Y.; Pereira, X. (2009): "Labor Conditions in the Spanish Hotels and Restaurants Industry". *Tourism Analysis*, 14(3): 293-312.

Jolliffe, L.; Farnsworth,R. (2003): "Seasonality in tourism employment: human resource challenges". *International Journal of Contemporary Hospitality*, 15(5): 312-316.

Koening, N.; Bischoff, E (2003): "Seasonality of tourism in Wales: a comparative analysis". *Tourism Economics*, 9(3): 229-254.

Koening, N.; Bischoff, E. (2005): "Seasonality Research: The State of the Art". *International Journal of Tourism Research*, 7: 201-219.

Motellón, E. (2008): "Un análisis de las diferencias regionales en el impacto de la contratación temporal en España". *Investigaciones regionales*, (12): 107-131.

Mourdoukoutas, P. (1988): "Seasonal employment, seasonal unemployment and unemployment compensation: The case of the tourism industry of the Greek Islands". *American Journal of Economics and Sociology* , 47 (3): 315–29.

Muñoz-Bullón, F. (2012): The Dynamics of Temporary Jobs in the Tourism Industry. In *Strategies for Tourism Industry. Micro and Macro Perspectives*, Dr. Murat Kasimoglu (Ed.),

OECD (2000): "Measuring the role of tourism in OECD economies". in *Manual on Tourism Satellite Accounts and Employment*. Paris. OECD.

OECD; WTO; UN and CEC (2008): *Tourism Satellite Account: Recommended Methodological Framework.*

Ortega, B.; Marchante, A. J. (2010): "Temporary contracts and labour productivity in Spain: a sectoral analysis". *Journal of Productivity Analysis*, 34(3): 199-212.

Polo, C.; Valle, E. (2008): ".A general equilibrium assessment of the impact of a fall in tourism under alternative closure rules: the case of the Balearic Islands. International". *Regional Science Review,* 31(1): 3-34.

Santana, M. A. (2005): ".Turismo, empleo y desarrollo". *Papers,* 77:79-104

Sinclair, M.T. (1991): ".The economics of tourism". In C. Cooper (ed.), *Progress in tourism, recreation and hospitality managemen*t. Londres: Bellhaven Press.

Sinclair, M. T. (1997*): Gender, Work and Tourism*. Routledge, London.

Sinclair, M. T.; Stabler M. (1997): *The Economics of Tourism*. Routledge, London.

Shaw, G.; Williams, A.M. (2004): *Tourism and Tourism Spaces*. London: SAGE Publications Ltd.

Toharia, L. (2004): El mercado de trabajo en España: situación y perspectivas. *CLM economía,* 1-27.

Toharia, L.; Cebrián, I. (2007): *La temporalidad en el empleo: atrapamiento y trayectorias*. Colección Informes y Estudios, Serie Empleo, nº 32 .Ministerio de Trabajo y Asuntos Sociales.

Yacoumis, J. (1980): "Tackling seasonality: the case of Sri Lanka". *International Journal of Tourism Management,* 1 (2): 84-98.

Chapter 4: Effects of tourism on wages and employment for the Spanish regions: seasonality versus tourism Specialization[53]

Introduction

To the best of our knowledge, few have investigated the effects of tourism development on the labor market. Nonetheless, authors such as Fernandez et al. (2009) argue that tourism specialization improves labor market conditions in Tourism characteristic industries. Actually, they show that the incidence of low wages in the Hotels and Restaurants industry is lower in those regions where tourism is more developed. At the same time, specialization in tourism could be linked with decent working conditions, which means staff are more motivated, provide an increased service quality, and augment competitiveness.

However, all Spanish regions do not show the same level of tourism specialization, i.e. tourists are not evenly distributed by regions nor by time period (37% of the tourist arrivals in Spain are seasonal) (IET b, 2011). Nevertheless, the net effect of seasonality on the labor market is not clear. Firstly, authors such as Commons & Page (2001) or Goulding et al., (2004) suggest that tourism seasonality could reduce employee earnings. They argue that the sporadic demand for labor increases the cost of recruitment: shortages of seasonal workers lead to seeking workers beyond local areas. Therefore, the negative effect of seasonality on wages could compensate for the positive effect of tourism specialization.

On the contrary, seasonal work generates benefits for local areas and families providing casual and part-time work that gives them additional income (Lee et al., 2008). Consequently, the literature has studied the seasonal character of tourism employment, indicating economic effects in terms of private and social costs that usually exceed its few benefits. Indeed, there is no agreement regarding its effects on wages.

In this paper we will shed light on the effects that tourism specialization could have on wages and employment, not only on tourism activities, but also on the rest of the economy, for example, attempting to account for possible spillover effects. We will base it on the wage equation (Mincer, 1974) including not just standard socio-demographic variables but also indicators accounting for tourism specialization. However, we do not observe the wages of the entire population, but rather only those who are working. As a result, we implement the Heckman estimator, in order to correct this selection bias.

As we have explained in the first chapter, the best method for including the wide variety of indicators is to construct a synthetic indicator. We also account for seasonality, analyzing whether or not specialization effects vary if a region shows a high degree of seasonality.

This paper is structured as follows: the first part provides a review of the literature about the influence of tourism on earnings. Secondly, we present the databases used, describe the methodology and variables included in the wage equation, correcting for the sample selection in order to see the effects on wages and employment. Next, we test the robustness of the model in order to confirm that the results are consistent using an alternative database. The final section sums up the main conclusions of the analysis.

4.1 Background

To our knowledge, no paper analyzes the effects of tourism specialization on wages. Moreover, no paper analyzes wages in all tourism activities as well as in some particular activities.

Those papers that analyze wages in tourism activities focus mainly on the Hotels and Restaurants sector. Muñoz-Bullón (2009) and García-Pozo examine wage differentials between males and females in this particular industry. Muñoz-Bullón (2009) use Oaxaca´s approach for estimating wage discrimination of full-time workers from a representative sample of companies, while García-Pozo et al. (2012) estimate an expanded version of the Mincer Equation and Blinder decomposition from a gender perspective. Both of them find unexplained gender wage differences, and in the second

paper they also obtain lower education returns in the hospitality sector compared to other private services.

Closer to the objective of this paper would be Fernández et al. (2009), who analyze the low-quality conditions in the Hotels and Restaurants industry. Their main findings show that the incidence of low wages in these tourism activities is lower in those regions where tourism is more developed. Also, another study (IET a, 2011) measures the impact of tourism flow variations on employment. They find that regions more specialized in tourism, the Balearic and Canary Islands, present a strong association between the tourist flows of non-residents and employment, but these results are slightly weaker for the total of the economy.

The literature shows some debate about seasonality impacts. Koening & Bischoff (2003) review a wide variety of articles stressing that seasonality is not bad across the board. These studies agree on the idea of the existence of volunteer seasonal workers, for example students or immigrants in Norway who alternate between seasonal jobs and work or study in the off-peak season (Flognfeldt, 2001). Consequently, seasonal work generates additional income which is beneficial to local areas and families (Witt & Moutinho, 1995). Furthermore, Andriotis (2005) shows that seasonal workers prefer better seasonal employment than unemployment. Along this same line, it has been confirmed that tourism employees work on average more hours than the rest of economic activities, so many of these employees are probably willing to work this increased amount of hours during only one season (Mourdoukoutas, 1988). The cost of tourism seasonality supposes that the sporadic demand for labor affects the recruitment process: shortages of seasonal workers lead to seeking workers beyond local areas and high recruitment costs reduce employee earnings (Commons & Page, 2001; Goulding et al., 2004). Vaughan et al. (2000) find that tourism employees receive higher wages per hour than the industrial sector in Crete. So, the effects of seasonality on wages are not very clear and could be related to the degree of tourism specialization.

Consequently, the purpose of this article is to contribute to filling the gap in the literature about the influence of tourism specialization on the level of wages and employment, attempting to add the seasonality perspective. As we have mentioned in Chapter 2, the influence that tourism has on tourism employment can generate direct, indirect, and induced effects. For this reason, it is important to analyze its effect on the

overall economy (spillover effects), even so, we will check for a possible higher effect in the Hotels and Restaurants Industry as the main tourism sector.[54]

4.2 Databases

In this chapter we use two databases in order to evaluate the effects of tourism on wages in the Spanish labor market. The first database is the European Survey on Income and Living Conditions (EU-SILC). This survey offers information about monetary and non-monetary earnings for both households and individuals for the 27 countries of the European Union, Croatia, Iceland, Norway, Switzerland, and Turkey[55]. Even if it is a longitudinal database, some variables (among them monthly wages and industry) are only available for cross-sectional data. For this reason, we are not able to use the panel data information for this analysis.

In terms of personal characteristics, the sample includes demographic data about: age, gender, marital status, citizenship, educational level, etc. Moreover, the personal register includes labor information about the current activity status (working, unemployed, student, retired, inactive…), basic information about their main job: status (self-employed, family worker or employee); wages; total of hours worked; type of contract; full-time or part-time; occupation; the economic activity of the local unit (NACE); number of people working at the local unit) and other detailed information about activity history (current work experience). Moreover, the sample also offers information about people who are not in the labor market and as a result, it allows us to correct for selection bias. Finally, this database is accurate for our analysis because proportionate data is disaggregated at NUTS 2 level.

The EU-SILC is a household survey; therefore it is lacking the necessary matched employer-employee information. Also, their samples are significantly smaller. For this reason, we have used data from the Wage Structure Survey (WSS) of 2006 for Spain (annual survey elaborated by the INE) in order to analyze if our results with the EU-

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[54] This sector concentrates 50% of tourism employment and provides 94% of its output to tourism. The databases used do not provide information disaggregated at 3 digits NACE in order to identify all Tourism Characteristics Activities. So, we assume that Hospitality effects approach the total effects of tourism characteristic activities.

[55] The basis of the EU-SILC is to generate a common framework for a list of variables, common guidelines and procedures, common classification and concepts aimed at maximizing the comparability of the results produced. Also, the EU-SILC is included in the European Statistical System.

SILC are robust. The WSS has a large sample size and it includes detailed information about wage earners and the establishments where they are employed. The Survey comprises a sample of workers at each firm and consists of matched employer–employee data with a wealth of basic information about factors concerning the characteristics of the individual, job and workplace used for our analysis. It was elaborated by the INE in 1995, 2002, 2006 and 2010. We have chosen 2006 so that the results would not be affected by the economic crises.[56]. Nevertheless, the use of this survey for the analysis of wages presents a drawback. There is a lack of data concerning variables like working experience or marital status which are potentially significant for explaining wages.

4.3 Methodology

4.3.1 Mincerian Wage Equation

In the classic framework, differences in wages show differences in productivity. Heterogeneous workers (supply-side) or heterogeneous employers (demand-side) could explain differences in productivity. The human capital approach is the most important in explaining supply-side factors (heterogeneous workers). Human capital models single out individual investment behavior as a basic factor in the heterogeneity of labor income. For example, Mincer (1958) starts out by assuming a complete absence of environmental inequalities in order to reveal the effects of individual choice unhindered by non-competitive forces. The model takes the length of training as the basic source of heterogeneity in labor incomes. Training raises productivity, but the time spent in training necessitates the postponement of earnings to a later time.[57] Empirical evidence shows that the schooling model explains a part of the earnings among schooling groups, but it is a rather blunt instrument when applied to the whole distribution of individual earnings. However, when average earnings of all individuals in a schooling group are replaced by earnings of individuals who have the same amount of labor force experience results improve. Becker (1964) incorporates post-school investments, such as "experience" into the earnings model.

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[56] Of course, it would be interesting to compare 2006 and 2010 in order to see the effects of the economic crises.

[57] The model is formulated in terms of training periods which are completed before earnings begin. Therefore, it applies strictly to schooling rather than to all occupational training.

Authors like Groshen (1991) look at the demand-side factors of wage differentials, i.e. heterogeneous firms and heterogeneous employers. The first source of variation between jobs is compensating wage differentials, described by A. Smith (1776) and summarized by R. S. Smith (1979). Monetary wage overstates (understates) the returns to work because it ignores extra costs (benefits) imposed by working conditions. In order to fill their labor demand, firms that offer undesirable jobs need to improve the working conditions or offer wages above the market rate. One example is a part-time job; a worker gets a lower wage due to the time flexibility which this kind of job offers.

We have to take into account that many working conditions are occupation-specific. Sorting models assume that some workers are more productive than others and that employers consistently hire their workers from a single quality stratum, regardless of occupation. Each establishment could have a distribution of productivity levels within each occupation.

Job matching is another type of sorting model (Jovanovic, 1979a, 1979b). Workers accept jobs that pay more than their current jobs. As the accuracy of measuring productivity improves with tenure, employees with bad matches eventually leave, hoping to find a better match elsewhere. Thus, employers give an extra payment with tenure in order to encourage the productive worker not to leave.[58]

Wage differentials do not have one single source and in addition, they may come from different sources in different markets. For instance, wage variations among competitive employers in small firms may be due to sorting or compensating differentials, while in large firms with market power they may reflect shared income and/or efficiency wages. Thus, wage differentials may depend on a wide range of employer characteristics: unions (e.g. Krueger and Summers, 1988; and Gibbons and Katz, 1992), firm size (e.g. Brown and Medoff 1989; Oi and Idson 1999), and productivity (e.g. Nickell and Wadhwani, 1990).

In summary, both heterogeneous workers and heterogeneous employers could explain differences in wages. Following this kind of interpretation, we can divide the classification of these factors into two groups:

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[58] Other models which explain demand-side wage differentials are insider-outsider, bargaining, or rent-sharing models.

Variables controlling for firm characteristics of the workers: firm sector, occupation, full or part-time status, type of contract, and firm size.

Variables controlling for personal characteristics of the workers: level of education and years of experience. We also include a quadratic coefficient for work experience indicating that earnings tend to rise steeply during the younger years (where human capital investments are most intense), and eventually deteriorate at older ages. This last variable is problematic, because the actual number of years of work experience for large samples of workers is usually unavailable, but according to the underlying theory Mincerian wage equations, it cannot be excluded. In the SILC survey, we have a variable that provides a direct measure of the labor force experience of the individual. Thus, the experience refers to the number of years, starting from the first regular job, that the person has spent working, whether as an employee or self-employed. For those individuals who do not answer the question referring to labor experience, we calculate it with the usual procedure: defining a proxy variable called "potential experience" calculated as age-years of education-6.

Based on this literature we want to extend this framework in order to explain the effect of tourism development. Thus, we estimate the following equation:

$$\ln w_i = \alpha_0 + \beta_1 HC_i + \beta_2 SD_i + \beta_3 T_i + \varepsilon_i$$

i being the individuals, and j the different regions[59], lnw_i the natural logarithm of the hourly wage for the individual i. Moreover, HC_i represents the human capital variables (worker characteristics), SD_i refers to firm characteristics of the individuals, T_i captures the tourism effect. Finally, ε_i would be the error term.

In order to measure the tourism effect, we have calculated a specialization index by region using the scores of the Principal Component Analysis from Chapter 1. As we have explained before, this statistical multivariate technique yields a better

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[59] Spain is composed of 17 regions. We have chosen this disaggregation according to the available data from the SILC. However, from the point of view of tourism, the provinces disaggregation could be more relevant, since differences in the level of tourism specialization and seasonality are found in provinces even inside same region (See Chapter 1). Thus, we have included region dummies for controlling for these particularities.

understanding of both tourism concepts, because it summarizes all the indicators included[60]. We will also include the different dimensions of tourism specialization.

Nevertheless, wages are only observable when the worker is employed. This would not be a problem if the decision of participating were random; otherwise, the coefficients are biased. To correct for sample selection we looked to Heckman (1975). First, we estimate a probit about the decision of whether they are working or not. [61] Analyzing the probit results, we also identify the effects of tourism specialization on employment. From the probit we calculate the inverse of the Mills ratio and we will include it in the wage equation to correct the sample bias.

Note that, as we have mentioned before, results could be different depending on the degree of seasonality. For this reason, we estimate the equations of highly seasonal regions and low seasonal regions separately.

4.3.2 PCA for Spanish Regions

Given that in Chapter 1 we use data disaggregated at a province level, here we display PCA results for Spanish regions (autonomous communities) for a better understanding of regional differences. The main findings on tourism specialization show that both Spanish archipelagos are in the top positions (Table 4.1), with the best scores for each dimension except in the amenities pillar. The next regions in the ranking are Andalusia and Catalonia where coastal provinces have an important weight. Both regions also present higher specialization in both international and domestic tourists. Next, we find regions like Galicia, Castilla León and Castilla La Mancha with higher aggregated indices due to their better positions in the amenities dimension. Further down in the rankings, Table 4.1 displays northern regions like Cantabria and Asturias with better positions in domestic tourism and supply-side specialization, whereas País Vasco has a higher specialization in international tourism. When we focus on the seasonality ranking in tourism, the most specialized regions present the opposite behavior: whereas the Balearic Islands are the most seasonal region in all pillars, the Canary Islands are at the

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[60] See the detailed description of databases included in Chapter 1.

[61] In the selection equation we have included age, sex, marital status, the highest level of educational program successfully completed, number of children younger than 3 years-old in household, and household non-labor capital income.

bottom of the table with the lowest degree of seasonality due to international visitors, and one of the least seasonal due to the supply-side dimension.

Table 4.1:Regions ranking for Tourism Specialization

Region	Aggregated Index	Domestic Tourists	International Tourists	Supply side	Amenities
Balearic Islands	1	1	1	1	6
Canary Islands	2	2	2	2	7
Andalusia	3	6	5	4	2
Catalonia	4	7	3	10	5
Galicia	5	11	9	11	1
Castilla León	6	12	10	9	4
Valencia	7	4	6	5	9
Castilla La Mancha	8	17	16	17	3
Madrid	9	5	4	3	16
Cantabria	10	3	8	7	13
País Vasco	11	13	7	15	8
Asturias	12	8	15	6	12
Aragón	13	9	13	12	10
Extremadura	14	16	17	8	11
Rioja	15	10	11	13	15
Navarra	16	14	12	14	14
Murcia	17	15	14	16	17

Table 4.2: Regions ranking for Tourism Seasonality

Region	Aggregated Index	Domestic Tourists	International Tourists	Supply side
Balearic Islands	1	1	1	1
Catalonia	2	7	2	2
Cantabria	3	2	3	3
Galicia	4	4	6	5
Asturias	5	3	7	6
Andalusia	6	6	10	4
Navarra	7	10	5	10
Rioja	8	13	4	12
Valencia	9	8	15	7
Castilla León	10	9	9	14
País Vasco	11	12	8	11
Canary Islands	12	5	17	15
Aragón	13	15	12	9
Extremadura	14	14	11	16
Murcia	15	11	16	8
Castilla Mancha	16	16	13	13
Madrid	17	17	14	17

As expected according to the results of Chapter 1, the regions with the next highest aggregated indices are Catalonia and the northern part of Spain. Cantabria, Galicia and Asturias are sun and beach destinations but only during summer time (the peak season) when tourists expect good weather conditions. In these regions, the supply side also

adapts to demand flows. We highlight the last position, Madrid, which represents the least seasonal region given that it constitutes a relevant destination for residents and international tourists year round. We also observe that Castilla La Mancha is the second to last least seasonal region. The reason could be its location near Madrid, so it regularly receives domestic tourists throughout the year.[62]

4.4 Results

In Table 4.3 we present the results of the probit estimation accounting for the effect of tourism.[63] The results show that international tourists have a significant positive impact on the employee's hourly wage, independent of the degree of seasonality. This positive impact is bigger when there is a low level of seasonality. Thus, we can think of examples like the Canary Islands that receive a lot of international tourists throughout the year. So, the tourism sector needs highly qualified employees, and wages will be higher.

In the case of international tourists, Table 4.3 displays the opposite effect. Domestic tourism has a positive effect on wages when tourism specialization is linked to high seasonality, whereas its effect is negative and significant for regions with low seasonality. This fact could be due to the increase of activities during the peak month, so it has a positive effect on the economy in general. Moreover, employees work more hours during peak periods and extra hours worked are paid at a higher rate than normal hours, so the hourly wage is increased.

In the case of the supply side and amenities, we observe that both variables have a significant negative effect on wages. This could be because when regions are specialized in the supply side, the number of open establishments does not vary much during the year, so employees receive stable wages, but at a lower rate. Indeed, the negative impact is higher in those regions with low seasonality. We could also argue that if they are specialized in Tourism from the supply side, workers have lower

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[62] A few regions that placed in the positions of lowest levels of the foreign dimension should be considered carefully because some regions receive very few tourists throughout the year. See Chapter 1.

[63] Due to the fact that the main purpose of this research is related to the Tourism effect, we do not report the coefficients of variables related to human capital (HD) and firm characteristics in Table 3. Most of the variables appear to be significant and show the expected sign. For further details, see Annex, table.

probabilities of being employed in other sectors[64] and consequently, employers would have some monopsony power allowing them to pay lower wages.

As we can see, the effect of the aggregated index of specialization is positive and significant when there is high seasonality. On the contrary, the aggregated index for specialization in tourism with low seasonality reveals a negative effect on hourly wages. As a result, we can conclude that seasonality has positive effect on the economy´s wages when linked to tourism specialization.

We have also included the degree of tourism specialization for only those employees working in the Hotels and Restaurants industry in order to capture if the effects of tourism specialization are higher in all tourism characteristic effects.[65] Nevertheless we did not get significant results (see Annex Table A.21). Only in the aggregated index of tourism specialization is the effect on wages significantly higher in Hotels and Restaurants than the rest of the industries.

Table 4.3: Results estimation for Hourly Wage Regressions (EU-SILC 2006)

	All Regions	High Seasonality	Low Seasonality	All Regions	High Seasonality	Low Seasonality
Ln Hourly Wage						
International Tourists	0.070***	0.067***	0.258***			
Domestic Tourists	0.000	0.065**	-0.030**			
Supply side	-0.062***	-0.106***	-0.151***			
Amenities	-0.006***	-0.023***	0.007*			
Aggregated index				0.000	0.015***	-0.027***
HC	Yes	Yes	Yes	Yes	Yes	Yes
SD	Yes	Yes	Yes	Yes	Yes	Yes
Worker						
International Tourists	0.159***	0.485***	-0,038			
Domestic Tourists	0.102***	-0,007	0.204***			
Supply side	-0.162***	-0.483***	-0.083*			
Amenities	-0,005	0,025	-0.024**			
Aggregated index				0.049***	0.110***	0,001
Probit controls	Yes	Yes	Yes	Yes	Yes	Yes
Mills (lambda)	0,055	-0,004	0,092	0,045	0,001	0,085
Observations	15412	6389	9023	15412	6389	9023

* p<.1, ** p<.05, *** p<.01

Note: Control variables: age, education, civil status, households earnings and children younger than 3 years as the selection variables

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[64] Note: To calculate the PCA we are not using all tourism characteristic activities, only Hospitality.

[65] The EU-SILC does not supply 3-digit sectoral disaggregation, and consequently, we are not able to identify all tourism characteristic activities, only for the Hotels and Restaurants industry.

Analyzing the probit equations used to correct for the selection bias, we are able to see the effects of tourism specialization on the probability of being employed. Actually, tourism specialization from the demand-side point of view appears to have a significant positive effect on the probability of being employed. However, the probability of being employed increases when the region is specialized in tourism having high levels of seasonality from the international tourism point of view, and with low levels of seasonality from the domestic tourism point of view. The explanation could be that regions specialized in tourism with low seasonality do not have other relevant economic activities, so tourism has important influence in the economy.[66]

Again, specialization in the supply side and amenities has a significant negative impact on the probability of being employed. Finally, the aggregated index of tourism specialization indicates a significant positive effect on the decision of being employed. This effect is bigger when a region has low seasonality because there are no relevant economic activities in any specific period of the year, so people do not have the possibility of other compatible activities.

4.5 Robustness

In order to check the robustness of the results, we are going to make a comparison between the SILC and the WSS. Nevertheless, the WSS only provides data for wage earners so we cannot correct the sample selection using the Heckman estimator. Then, we estimate wage equations by OLS in order to examine the main results.

First, we need to homogenize databases in order to compare results. For this reason, we delete the following economic activities from the EU-SILC: *agriculture, farming, fishing, Public Administration, Defense, Social Security, private households* and *extra-territorial organizations and bodies*. Along the same line, we delete the economic activities *other community, social and personal service activities* from WSS since they appear together with *extra-territorial organizations and bodies* in the EU-SILC. Moreover, we do not control for marital status since the WSS does not give us this information.

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[66] It is necessary to highlight that the Canary Islands are also placed in this group.

For both databases, we have calculated the hourly wage which constitutes the dependent variable of the wage equation.[67]. Regarding work experience, we have calculated a proxy variable using age and education for the WSS[68] since we do not have actual experience as in case of the EU-SILC.

Results in Table 4.4 show that the results of both databases are in agreement and are consistent with results in the previous section.[69] The specialization in international tourism has a positive effect on wages in all regions, independent of the level of seasonality. This fact is linked to the higher remuneration of employees that have to deal with international tourists, because they need higher qualifications, languages skills, etc. Those impacts on wages are more pronounced for low seasonality. In the case of domestic tourism, results indicate a significant positive effect for all regions taking into account the WSS. The effect becomes negative when we focus on those regions with high levels of seasonality.

Regarding the supply side, both databases indicate a significant negative effect on wages. This result is in line with the literature that marks tourism labor as a source of low wages and unskilled employees, so its negative effect is expected in wages. Results do not change for supply-side specialization when we distinguish between regions with high or low seasonality. Findings relating to Amenities are consistent in both the EU-SILC and the WSS. Thus, specialization in amenities has a negative impact on wages, but when the region is specialized with low seasonality, the impact become positive. The explanation could be that those regions (with amenities that receive visitors in a stable manner during the year) need to hire employees throughout the year and they need to pay more to keep them. So, companies could have special training for their workers. Moreover, these amenities can also be linked to cultural or amusement activities, so employees are more highly skilled. To conclude, the effects of the aggregated index are also homogeneous. Taking into account all the dimensions of tourism specialization results have a significant negative impact on economy wages. However, when we estimate the wage equation for highly seasonal regions, the impact becomes positive. At that point, we can affirm that tourism specialization grouped with

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[67] For more details about hourly wage See Annex: II Variables and Databases.

[68] Potential experience: is calculated as age minus years of formal schooling minus 6.

[69] Note that the results could be sligtly different from the previous section since we are not able to correct this for selection bias.

seasonality has a positive effect on wages. On the contrary, when tourism specialization is linked to low seasonality, the effect on wages depends on the type of specialization: international tourism and amenities have a positive influence, whereas the impact of the supply side is negative.

Table 4.4: Results estimation for EU-SILC and WSS: Tourism dimensions

	All regions		High seasonality		Low seasonality	
Dependent Variable Ln Hourly wage	**WSS**	**EU-SILC**	**WSS**	**EU-SILC**	**WSS**	**EU-SILC**
International Tourism	0.064***	0.066***	0.087***	0.063***	0.206***	0.213***
Domestic Tourism	0.004*	-0,011	-0.072***	0,022	0,003	-0.031**
Supply side	-0.059***	-0.053***	-0.049***	-0.075***	-0.135***	-0.126***
Amenities	-0.005***	-0.008***	-0.025***	-0.030***	0.007***	0.007*
HC	Yes	Yes	Yes	Yes	Yes	Yes
SD	Yes	Yes	Yes	Yes	Yes	Yes
Observations	205886	7999	78367	3270	127519	4729
R2	0,471	0,487	0,471	0,507	0,476	0,483
Adjusted_R2	0,47	0,485	0,471	0,502	0,476	0,48

* p<.1, ** p<.05, *** p<.01

Table 4.5: Results estimation for EU-SILC and WSS: Aggregated index

	All regions		High seasonality		Low seasonality	
Dependent Variable Ln Hourly Wage	**WSS**	**EU-SILC**	**WSS**	**EU-SILC**	**WSS**	**EU-SILC**
Aggregated index	-0.001*	-0,001	0.013***	0.017***	-0.023***	-0.030***
HC	Yes	Yes	Yes	Yes	Yes	Yes
SD	Yes	Yes	Yes	Yes	Yes	Yes
Observations	205886	7999	78367	3270	127519	4729
R2	0,465	0,48	0,464	0,499	0,469	0,476
Adjusted_R2	0,465	0,478	0,464	0,495	0,469	0,473

* p<.1, ** p<.05, *** p<.01

4.6 Conclusions

Tourism has become a key sector in the Spanish economy, especially during times of crisis. Nevertheless, some authors argue that tourism activities offer low-quality jobs to their workers. However, although tourism has been classified as a low-wage sector by some researchers, Fernandez et al. (2009) show the incidence of low wages is lower in the Canary and Balearic Islands, i.e. in those regions where tourism is more developed. In line with this paper, we analyze the effect of tourism development on wages and employment, not just in tourism activities but also in the whole economy, i.e. we measure possible spillover effects to the rest of the economy.

In this paper, we have shown that development of tourism is an important determinant of Spanish employees' wages, not only for tourism workers, but also for the global economy. Nevertheless, this positive effect on the Spanish labor market is higher for international tourist than for residents. This fact could indicate that in order to get positive effects from tourism in the labor market we need a minimum amount of development.

Furthermore, tourism jobs have a seasonal character in most regions. Some authors argue that seasonality has a negative impact on wages. Nevertheless, our results, after controlling for different variables and correcting for sample selection, show that seasonality has a positive effect on normal hourly wages, i.e. on the wages outside of the peak season.

References

Becker, G. S. (1964): *Human Capital. National Bureau of economic research*. New York.

Belau, D., Budlender, D. (2006): *An introduction to labor statistics in tourism*. Ginebra. International Labor Office.

Brown, Ch.; Medoff, J. L. (1989): "The employer size-wage effect". *The Journal of Political Economy*, 97(5): 1027-1059.

Commons, J.; Page, S. (2001): "Mananing seasonality in peripheral tourism regions: The case of Northland, New Zealand". In T. Baum and S. Lundtorp (ed), *Seasonality in Tourism*, New York, Pergamon.

Fernandez, M.; Pena-Boquete, Y.; Pereira, X. (2009): "Labor Conditions in the Spanish Hotels and Restaurants Industry" *Tourism Analysis*, 14(3): 293-312

Flognfeldt, T. (2001): "Long-Term Positive Adjustments to Seasonality: Consequences of Summer Tourism in the Jotunheimen Area, Norway" :109-117. In T. Baum and S. Lundtorp (ed), *Seasonality in Tourism*, New York, Pergamon.

García-Pozo, A., et al. (2012): "The regional wage gap in the Spanish hospitality sector based on a gender perspective". *International Journal of Hospitality Management*, *31*(1): 266-275.

Gibbons, R.; Katz, L. (1992): "Does Unmeasured Ability Explain Inter-Industry Wage Differentials". *The Review of Economic Studies*, 59 (3): 515-535

Goulding, P.J.; Baum, T.G.; Morrison, A.J. (2004): "Seasonal trading and lifestyle motivation: Experiences of small tourism businesses in Scotland", *Journal of Quality Assurance in Hospitality & Tourism*, 5(2/3/4): 209-238.

Groshen, E. L.(1991): "Five reasons why wages vary among employers". Industrial Relations, 30(3): 350-381.

Heckman, J. J. (1976): "A Life-Cycle Model of Earnings, Learning, and Consumption". *The Journal of Political Economy,* 84(4): S9-S44. Essays in Labor Economics in Honor of H. Gregg Lewis.

IET (2011a): "The impact of tourism flows on the creation of employment", in *5th UNWTO International conference tourism Statistics*.

IET (2011b): *Empleo en el sector turístico.Informe anual 2011.* Madrid. Instituto de Estudios Turísticos.

ILO (2009): "Employment in the Tourism Industries: Measurement Issues and Case *Studies*". In the *5th International Conference on Tourism Statistics: Tourism: An Engine for Employment Creation*. Indonesia

Jang, S. (2004): "Mitigating tourism seasonality", Annals of Tourism Research, 31(4): 119-140.

Jovanovic, B (1979b): "Job Matching and the theory of Turnover". The Journal of Political Economy. 87(5): 972-990.

Jovanovic, B. (1979a): "Firm-specific human capital and turnover". Journal of Political Economy, 87 (6): 1246-1260.

Koening, N.; Bischoff, E (2003): "Seasonality of tourism in Wales: a comparative analysis". *Tourism Economics*, 9(3): 229-254.

Krakover, S. (2000): "Partitioning Seasonal Employment in the Hospitality Industry", *Tourism Management*, 21(5): 461-471.

Krueger, A. B.; Summers, L. H. (1988): "Efficiency wages and the inter-industry wage structure", Econometrica. 56 (2): 259-293

Lee, Ch. Et al. (2008): "Seasonality in the Tourism Industry, Impacts and Strategies*"*, in *Sustanaible Tourism Cooperative Research Centre´s Monograph Series*. Australia

Lundtorp. S. (2001): Measuring tourism seasonality. In T. Baum & S. Lundtorp (Eds.) *Seasonality in tourism.* Oxford. Pergamon.

Mourdoukoutas, P. (1988): "Seasonal employment, seasonal unemployment and unemployment compensation: The case of the tourism industry of the Greek Islands". *American Journal of Economics and Sociology ,* 47 (3): 315–29.

Mincer, J. A. (1958): "Investment in Human Capital and Personal Income Distribution". The Journal of Political Economy. 66(4): 281-302

Mincer, J. A. (1974). Schooling and earnings. In *Schooling, experience, and earnings*:. 41-63. Columbia University Press.

Muñoz-Bullón, F. (2009):"The gap between male and female pay in the Spanish tourism industry", *Tourism Management* 30(2009): 638-649.

Nickell and Wadhwani (1990): "Insider Forces and Wage Determination". The Economic Journal, 100 (401): 496-509.

OECD (2000): "Measuring the role of tourism in OECD economies" in *Manual on Tourism Satellite Accounts and Employmen*t. Paris. OECD.

OECD; WTO; UN and Commission of the European Communities (2008): *Tourism Satellite Account: Recommended Methodological Framework.*

Oi and Idson (1999): "Workers Are More Productive in Large Firms". The American Economic Review. 89(2): 104-108, *Papers and Proceedings of the One Hundred Eleventh Annual Meeting of the American Economic Association*.

Pena-Boquete, Y. Pérez-Dacal, D. (2011): "Effects of tourism development in temporality",*Working Papers Idega*, nº 47.

Polo, C.; Valle, E. (2008): "A general equilibrium assessment of the impact of a fall in tourism under alternative closure rules: the case of the Balearic Islands. International", *Regional Science Review*, 31(1), 3-34.

Shaw, G.; Williams, A.M. (2004). *Tourism and Tourism Spaces*. London: SAGE Publications Ltd.

Sinclair, M. T. (1997*): Gender, Work and Tourism*. Routledge, London.

Sinclair, M. T.; Stabler M. (1997). *The Economics of Tourism*. Routledge, London.

Smith, A. (1776): The wealth of Nations. 1982. Penguin English Library Edition.

Smith, R. S. (1979): "Compensating wage differentials and public policy: A review". *Industrial and labor relations review*, 32(April): 330-352.

Thrane, C.(2008): "Earnings differentiation in the tourism industry: Gender, human capital and socio-demographics effects", *Tourism Management* 29 (2008): 514-524.

UNWTO (2011): *Tourism Highlights 2011*. Madrid, World Tourism Organization.

Vaughan, D.R.; Long, J. (1982): "Tourism as a generator of employment: A preliminary appraisal of the position in Great Britain". *Travel Research Journal* 21 (2), 27–31.

Witt, S.F.; Moutinho, L. (1995): *Tourism Marketing and Management Handbook*. London, New York, Prentice Hall.

Conclusions

Considering the analysis that has been carried out in this thesis, we make the requirement of evaluating the nature and characteristics of tourism activities very clear, particularly those related to seasonality and tourism specialization, for a better understanding of the influence of tourism on labor conditions. Although Spain is in one of the top positions in the world in terms of tourism, not all provinces reach the same level of prosperity. In fact, there are striking regional disparities and variations within tourism characteristic activities.

In the first chapter, the review of the concepts and measurements confirm that when studying seasonality and tourism specialization, it is necessary to incorporate a dual perspective (demand and supply side) in addition to looking at the influence of amenities. In order to summarize the information provided by all types of indicators, the Principal Components Analysis is a step forward. The main findings demonstrate that Spanish provinces achieve different degrees of seasonality and tourism specialization.

On one hand, we find a clear pattern of a higher tourism specialization in the provinces with sun and beach destinations. Coastal regions (even in the North of Spain) are specialized in domestic tourism arrivals, whereas some provinces have a higher international tourism specialization (the Balearic and Canary Islands, Málaga, Madrid, the Catalonian coast and Castellón). The only exceptions in this model of tourism specialization are Huesca, and more recently Girona, which are skiing destinations. Also, it is notable to highlight the regions surrounding Madrid, which also receive a significant number of domestic tourists.

Focusing on the supply-side, again, the northern and southern coastal regions have the biggest accommodation capacities relative to their area, while the archipelagos, Barcelona, Tarragona, Huelva, Málaga, Almería and Alicante have the biggest hotels. In addition, location quotients reveal that tourism is relevant for coastal regions, and for a few internal regions due to the absence of other economic activities. Adding the amenities perspective supports the differences between north and south, and between the coast and interior. The explanation for this is linked to the main motivation of visitors to Spain: to enjoy nice weather and relax on the beach.

On the other hand, the analysis of seasonality demonstrates that this phenomenon is linked to sun and beach destinations and affects coastal regions. As with tourism specialization, seasonality results show that Huesca has a higher degree of seasonality as a winter destination. On the contrary, the least seasonal provinces are the Canary Islands, Madrid, Seville and Toledo. Finally, the PCA also shows that specialization and seasonality remain stable from 2001 to 2011. These finding are the perfect starting point for our research, because it allows us to draw clear conclusions about the disparities between all Spanish provinces in terms of seasonality and tourism development.

In the second chapter, we examine the main characteristics of labor conditions in the tourism industry following the supply-side approach and integrating data from the Census and the LFS, a suitable method proposed by the OECD et al. (2008). Tourism activities in Spain employed 11.8% of the total workers of the economy in 2011, though, again, there are regional disparities. The Balearic and Canary Islands, coastal provinces, and a few other provinces (Madrid, Huesca, Salamanca and Burgos) present a higher weight of tourism employment relative to the rest of the economic activities. We can conclude that this labor specialization is linked to the model of tourism specialization explained in Chapter 1.

Regarding employment profiles, our results show that Hotels and Restaurants, and Transport 1 are female-dominated activities. Moreover, there is a higher presence of younger workers and foreigners in all tourism activities except Transport 2. Regarding educational levels, the disaggregation of tourism activities displays a high incidence of workers with primary studies, with the exception of Transport 1 where there is a higher level of tertiary studies. Consequently, we can observe that the generally assumed profiles for tourism do not hold true for all characteristic activities.

When we focus on the quality of employment, the concentration of blue-collar workers in Hospitality and Transport 2 is quite remarkable. Despite the improvement of educational levels, it is necessary to increase training and skills of tourism workers. Furthermore, results also show a higher percentage of part-time employees in Restaurants and other kind of activities, a higher average of working hours in Hotels, Restaurants, and Transport 2, and a remarkable percentage of family workers in Restaurants. Finally, the most noteworthy features of tourism employment found are the

higher degree of fixed-terms contracts and the lower level of wages as compared to the rest of economic activities.

Consequently, with all the results from Chapters 1 and 2 in mind, we focus on the analysis of two characteristics of labor conditions: temporary employment and wages, trying to give some insight into them. Our main objective is to explain their determinants including differences in seasonality and tourism specialization.

As we have already mentioned, researchers and policy-makers are keen on studying temporality, given that the Spanish labor market has the highest percentage of fixed-term workers in the European Union. Results from Chapter 2 signal that temporary employment has an even higher presence in tourism characteristics activities. This higher incidence of temporary employment is the highest in Hotels and Restaurants. The seasonal character of tourism activities has a strong influence on temporary jobs. This relationship is displayed by the LFS survey, which allows us to observe the level of fixed-term contract by quarters.

Consequently, we use Dolado´s model (2002) to study the determinants of the incidence of temporary jobs, accounting for seasonality and tourism specialization. Our estimations show that the higher presence of young employees in tourism characteristic activities has a positive effect on the percentage of temporary employment. Regarding tourism specialization, international tourism appears to cause a decrease in the incidence of fixed-term contracts in tourism activities, whereas domestic tourism seems to increase temporality. This result is linked to higher requirements of skills, professional training, and human capital tasks necessary for dealing with international tourists. Also, we have to bear in mind that the positive effect of international tourism on job stability disappears in the aggregated model for Spain, due to the low number of provinces specialized in international tourism arrivals.

From the supply-side point of view, tourism specialization increases the share of fixed-term jobs for the regional model. So we could conclude that most tourism companies´ strategies are based on hiring temporary workers, without complex training for tasks. In the robustness section, the aggregated model shows that only years with high seasonality present a negative influence on employment stability.

We also need to highlight that the effects of specialization also depend on the province´s degree of seasonality. Actually, the decrease of temporality due to the specialization in domestic tourism only appears in highly seasonal regions. It seems that employers prefer to maintain a core staff throughout the whole year. In summary, we found the opposite effect in the incidence of fixed-term contracts depending on the kind of tourism specialization and the degree of seasonality.

Finally, the main finding of Chapter 4 is the evaluation of the tourism industry´s contribution to the performance of the economy, more specifically the level of employment and wages. We base this on a wage equation (Mincer, 1974) and we correct it for the selection bias (Heckman, 1979) including not just the demographic characteristics of workers, but also accounting for tourism specialization and seasonality. Previous literature has prioritized the negative effects of tourism on labor market, although recent research suggests that labor conditions improve in those regions with higher tourism development.

The estimation results highlight the essential role of tourism specialization, not only for tourism workers, but also for the economy overall. Indeed, the aggregated index calculated with the PCA methodology (which summarizes the demand and supply perspective, including amenities) remarks on the positive effects of tourism specialization on the probability of being employed. Also, when we turn our attention to seasonality impacts, it seems that seasonality coupled with tourism specialization has a positive impact on the normal hourly wages of the economy.

Therefore, from the measurements and rankings obtained in the first chapter, we are able to assess the influence of seasonality and tourism specialization in labor market. Given the ongoing relevance of tourism in our economy, it is necessary to understand regional differences in order to plan strategies for tourism development at a regional and local level. The main outcomes highlight that most Spanish regions follow the model of sun and beach tourism, with some exceptions related to skiing destinations (Huesca, and recently Girona) and other provinces surrounding big cities. Although results show that international tourism specialization has a positive influence on job stability and on the level of wages and employment, only a few regions attract international visitors. Besides, the seasonality of domestic tourists is higher than for international tourism. In fact, many governments at a national and regional level have made an effort to try to

diminish the seasonal flow of tourists. However, our results show that seasonality does not have a negative effect when linked to higher tourism specialization.

This research is open to future extensions. Regarding the definition and different measures proposed, as well as the statistical method used for summarizing information (PCA), it would be useful to carry out this analysis at a local level, eg., Spanish municipalities. In fact, most Spanish councils and other local administrations do publicity campaigns for local destinations. Thus, it will be necessary to evaluate the degree of tourism specialization and seasonality in order to know their effects on local economies. This will allow better considerations to be made about which type of tourism matters, and how to develop supply-side facilities.

Some of the most relevant extensions would be to incorporate recent data from the year 2010, from the EU-SILC and the WSS, into the ones used here (from 2006) in order to obtain a larger sample. Furthermore, new data from 2010 would be perfect to study how the economic crisis has affected the tourism labor market. Related to Spanish tourism employment, it would be useful to carry out the general human capital model of earnings differentiation, using Heckman´s sample selection approach, for women and men separately. Compared to previous wage-related empirical studies, we could add a new perspective by correcting for selection bias.

As a future extension, we also should take into account the role played by the geographical situation of each province. The new economic geographical models include distance variables in order to include the spillover effects of the spatial dependence between provinces (Mion, 2003; Maza & Villaverde, 2009).

Regarding the limitations of our analysis, we center this study on the official part of tourism because we use data of tourists staying in formal accommodation. Despite the fact that hotels are the quintessential tourism activity, including those tourists that stayed at second-home residences or rented houses would enrich the analysis. Although there is a problem with data reliability, the Spanish government announced that it would make an effort to measure this kind of tourism due to its relevance. Consequently, it will be useful to find new reliable data or to calculate accurate proxies to take this effect into account.

References

Dolado, J. J.; Garcia-Serrano, C.; Jimeno, J. F. (2002): "Drawing lessons from the boom of temporary jobs in Spain" The Economic Journal, 112(June): F270-F295

Heckman,J. (1979):"Sample Selection Bias as a Specification Error." Econometrica. 47(1):153{161.

Maza, A., & Villaverde, J. (2009). "Provincial wages in Spain: convergence and flexibility." *Urban Studies*, *46*(9), 1969-1993.

Mion, Giordano (2003 : "Spatial Externalities and Empirical Analysis: The Case of Italy". *ZEW Discussion Papers*, No. 03-38.

Mincer, J (1958): "Investment in Human Capital and Personal Income Distribution". *The Journal of Political Economy*. 66(4): 281-302

Song, H., Dwyer, L., Li, G.; Cao, Z. (2012): "Tourism economics research: A review and assessment". *Annals of Tourism Research*, 39(3): 1653–1682.

UNWTO (2012): Tourism Highlights 2012. Madrid, World Tourism Organization.
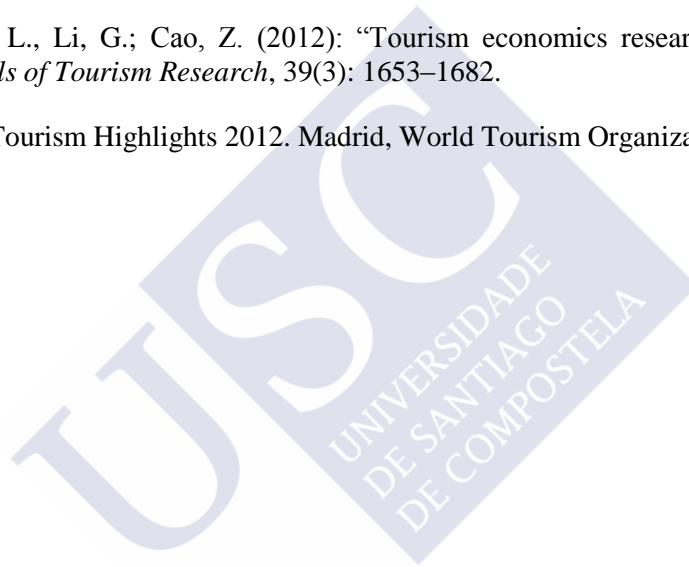
Annex

I.   List of Abbreviations

CEC	Commission of European Communities
EU	European Union
EU-SILC	European Union Statistics on Income and Living Conditions
Eurostat	Statistical Office of the European Communities
IET	Institute of Tourism Studies
ILO	International Labor Organization
IMF	International Monetary Fund
INE	National Statistics Institute
ISCED	International Standard Classification of Education
ISCO	International Standard Classification of Occupations
LFS	Labor Force Survey
NACE	European Classification of Economic Activities
OECD	Organization for Economic Cooperation and Development
PCA	Principal Component Analysis
TSA	Tourism Satellite Account
UNWTO	United Nations World Tourism Organization
UN	United Nations
UNSD	United Nations Statistics Division
WSS	Wage Structure Survey

II.   *Variables and Databases*

❖ Wage Structure Survey (WSS) and European Union Statistics on Income and Living Conditions (EU-SILC)

As we have explained in the Chapter 4, EU-SILC is a survey that offers information about monetary and non-monetary earnings for both households and individuals for European Union Countries. In this case we use the sample for Spanish regions (NUTS-2) that proportionates demographic data and labor information on the main job of individuals. In order to assess the robustness of the results, we also use the WSS. We use this survey because it has a large sample size and it includes detailed information about wage-earners and about the establishments where they are employed. The Survey comprises a sample of workers at each firm and it consists of matched employer–employee data with a wealth of basic information used for our analysis on factors concerning the characteristics of the individual, job and workplace. The main variables included are:

- *Economic activity:* the classification used for economic activities is the Statistical Classification of Economic Activities (NACE 93 Rev.1.1):

- Primary sector: From NACE A to NACE C.
- Manufacturing: From NACE D to NACE E.
- Construction: NACE F.
- Trade: NACE G
- Hotels and Restaurants:NACE H.
- Transport: NACE I.
- Finance and renting: From NACE J to NACE K.
- Other services: From NACE O to NACE P.
- Public sector, education and health: From NACE L to NACE N.

- *Hourly wage*:   For the case of WSS the hourly wage is obtained as the monthly earnings divided by the number of hours worked in October, the reference month (extra hours are included). This month does not feature payments or periods of absence of a seasonal character such as payments due beyond the month or holiday periods. In this way it is possible to obtain "normal" or "ordinary" monthly earnings, minimizing the

incidences in questionnaire answers due to the beginning or end of labour activity during this month. The resulting hourly wage is lower than what it would be if annual data were used. In this case, extraordinary prizes and payments made in random periods or with a regularity of more than one month would be added. The reason for using this method is that the estimation of hours worked in the reference month is more precise than the estimation of annual hours. In the case of EU-SILC, the hourly wage is calculated as the gross monthly earnings for employees divided by the number of hours worked per month in the main job.

- *Occupation*: The classification used for occupation is the International Standard Classification of Occupations (ISCO-88- 1 digit). In Chapter 2 when we use the variable *Blue-collar* that includes ISCO-5, ISCO-7, ISCO-8, ISCO-9.

- Managers: ISCO-1

- Professionals: ISCO-2

- Technicians: ISCO-3

- Clerks: ISCO-4

- Service: ISCO-5

- Skilled: ISCO-6

- Craft: ISCO-7

- Operators: ISCO-8

- Elementary: ISCO-9

- *Experience:* In the WSS we have to calculate the *Potential experience* given that we do not have the variable in the database. The proxy of experience is calculated as age minus years of formal schooling minus 6. On the contrary, EU-SILC we use the variable Number of year spent in paid work. This indicator provides a summary measure of the labour force experience of the individual.

- *Education level completed*: We use the level recorded to the International Standard Classification of Education 1997:

- Pre-primary education: ISCED-0

- Primary Education: ISCED-1

- Lower Secondary Education: ISCED-2

- Upper Secondary Education: ISCED-3

- Post-Secondary Non tertiary education: ISCED-4

- Tertiary Education: ISCED-5

III. Additional tables and maps

Table A 1: Correspondence NACE 93 rev.1 to NACE 2009 rev.2

	NACE 93 rev.1		NACE 2009
55.1	Hotels	55.1	Hotels and similar accommodation
55.2	Camping sites and other provision of short-stay accommodation	55.2	Holiday and other short-stay accommodation
		55.3	Camping grounds, recreational vehicle parks and trailer parks
		55.9	Other accommodation
55.3	Restaurants	56.1	Restaurants and mobile food service activities
55.5	Canteens and catering	56.2	Event catering and other food service activities
55.4	Bars	56.3	Beverage serving activities
60.1	Transport via railways	49.1	Passenger rail transport, interurban
60.2	Other land transport	49.3	Other passenger land transport
61.1	Sea and coastal water transport	50.1	Sea and coastal passenger water transport
61.2	Inland water transport	50.3	Inland passenger water transport
62.1	Scheduled air transport	51.1	Passenger air transport
62.2	Non-scheduled air transport		
63.2	Other supporting transport activities	52.2	Support activities for transportation
63.3	Activities of travel agencies and tour operators; tourist assistance activities n.e.c.	79.1	Travel agency and tour operator activities
71.1	Renting of automobiles	79.9	Other reservation service and related activities
71.2	Renting of other transport equipment	77.1	Rental and leasing of motor vehicles
		77.3	Rental and leasing of other machinery, equipment and tangible goods
92.1	Motion picture and video activities		
92.3	Other entertainment activities	90.0	Creative, arts and entertainment activities
92.5	Library, archives, museums and other cultural activities	91.0	Libraries, archives, museums and other cultural activities
92.6	Sporting activities	93.1	Sports activities
92.7	Other recreational activities	93.2	Amusement and recreation activities

Source: Own Elaboration based on Correspondance tables (INE)

Table A 2: From Tourism activities in NACE 93 to Non tourism activities in NACE 2009.

	NACE 93 rev.1		NACE 2009
60.10*	Transport via railways	49.20	Freight rail transport
60.24*	Freight transport by road	49.42	Removal services
		49.41	Freight transport by road
61.10*	Sea and coastal water transport	50.20	Sea and coastal freight water transport
61.20*	Inland water transport	50.40	Inland freight water transport
62.10*	Scheduled air transport	51.21	Freight air transport
62.20*	Non-scheduled air transport		
63.23*	Other supporting air transport activities	85.32	Technical and vocational secondary education
92.34*	Other entertainment activities n.e.c.	85.52	Cultural education
92.62	Other sporting activities	85.51	Sports and recreation education
92.71	Gambling and betting activities	92.00	Gambling and betting activities

* Part of the branch
Source: Own Elaboration based on Correspondance tables (INE)

Table A 3: Changes from Non tourim activities in NACE 93 to tourism activities in NACE 2009

NACE 93 rev.1		NACE 2009	
63.11*	Cargo handling	52.24	Cargo handling
63.40	Activities of other transport agencies	52.29	Other transportation support activities
11.10*	Extraction of crude petroleum and natural gas	52.21	Service activities incidental to land transportation
		52.22	Service activities incidental to water transportation
50.30	Sale of motor vehicle parts and accessories	52.21	Service activities incidental to land transportation
71.31	Renting of agricultural machinery and equipment	77.31	Rental and leasing of agricultural machinery and equipment
71.32	Renting of construction and civil engineering machinery and equipment	77.32	Rental and leasing of construction and civil engineering machinery and equipment
71.32	Renting of construction and civil engineering machinery and equipment	77.39	Rental and leasing of other machinery, equipment and tangible goods n.e.c
71.33	Renting of office machinery and equipment, including computers	77.33	Rental and leasing of office machinery and equipment (including computers)
71.34	Renting of other machinery and equipment n.e.c.	77.39	Rental and leasing of other machinery, equipment and tangible goods n.e.c.

* Part of the branch
Source: Own Elaboration based on Correspondance tables (INE)

Table A 4: Tourism Activities that keep being tourism but change the class

NACE 93 rev.1		NACE 2009	
55.10*	Hotels	55.90	Other accommodation
55.23*	Other provision of lodgings n.e.c.		
60.10*	Transport via railways	52.21	Service activities incidental to land transportation
71.21*	Renting of other land transport equipment	77.12	Rental and leasing of trucks
92.32*	Operation of arts facilities	79.90	Other reservation service and related activities
92.33*	Fair and amusement park activities	93.21	Activities of amusement parks and theme parks
92.34*	Other entertainment activities n.e.c.		
92.61*	Operation of sports arenas and stadiums	93.29	Other amusement and recreation activities
92.62*	Other sporting activities		

* Part of the branch
Source: Own Elaboration based on Correspondance tables (INE)

Table A 5: Tourism ratio (sectoral aggregation depending on the Tourism ratio). 2001

Tourism Characteristic Activities	Tourism ratio
Hotels and the like (NACE: 551 and 552)	**94.51%**
Restaurants and the like (NACE: 553, 554 & 555)	**30.43%**
Transport 1	**39.70%**
Railway Tranport (NACE: 601)	55.30%
Transport of passengers by road (NACE: 602)	32.15%
Vehicle rental (NACE: 711 and 712)	44.40%
Transport 2	**90.17%**
Transport of passengers by sea (NACE: 611 and 612)	80.40%
Air transport (621 and 622)	86.94%
Travel agencies (NACE: 633)	99.37%
Other Activities	**9.41%**
Services related to transport (NACE:632)	12.50%
Market cultural, leisure and sport activities (923, 925, 926 & 927)	6.98%
Non-market cultural, leisure and sport activities (923, 925, 926 & 927)	7.07%

Source: Own elaboration based on Tourism Satellite Account (INE)

Table A 6: Tourism ratio for IET sectoral aggregation. 2001

Tourism Characteristic Activities	Tourism ratio
Hotels and the like (NACE: 551 and 552)	**94.51%**
Restaurants and the like (NACE: 553, 554 & 555)	**30.43%**
Transport	**60.98%**
Railway Tranport (NACE: 601)	55.30%
Transport of passengers by road (NACE: 602)	32.15%
Transport of passengers by sea (NACE: 611 and 612)	80.40%
Air transport (621 and 622)	86.94%
Other activities (IET aggregation)	**16.04%**
Travel agencies (NACE: 633)	99.37%
Vehicle rental (NACE: 711 and 712)	44.40%
Services related to transport (NACE:632 and 712)	12.50%
Market cultural, leisure and sport activities (923, 925, 926 & 927)	6.98%
Non-market cultural, leisure and sport activities (923, 925, 926 & 927)	7.07%

Source: Own elaboration based on Tourism Satellite Account (INE)

Table A 7: Spanish regions ranking for 2001. Tourism Specialization

Province	Aggregated index	Domestic Tourism	International Tourism	Supply-side	Amenities
Baleares	1	2	1	1	4
Tenerife	2	3	2	3	1
Las Palmas	3	10	3	2	2
Girona	4	4	4	4	20
Alicante	5	1	7	6	10
Málaga	6	6	5	5	17
Tarragona	7	5	8	7	11
Huesca	8	7	21	9	14
Almería	9	11	11	14	8
Barcelona	10	15	6	17	18
Lleida	11	12	27	24	6
Castellón	12	8	19	20	13
Madrid	13	13	9	12	28
Huelva	14	20	28	10	7
Granada	15	19	10	18	12
Cádiz	16	16	12	8	23
Sevilla	17	43	13	23	5
Cantabria	18	9	22	19	31
Ciudad Real	19	50	48	47	3
Segovia	20	18	18	13	33
Pontevedra	21	14	24	22	36
Valencia	22	28	26	31	15
Salamanca	23	21	20	21	35
Toledo	24	45	23	48	9
Cáceres	25	33	37	16	27
Coruña (A)	26	26	25	25	29
Rioja (La)	27	25	30	36	25
Murcia	28	27	36	40	19
Asturias	29	24	42	30	26
Teruel	30	17	44	27	39
Cordoba	31	48	16	45	16
Burgos	32	29	15	11	45
Avila	33	30	33	15	41
Zaragoza	34	35	35	44	22
León	35	38	38	28	32
Badajoz	36	46	46	38	21
Cuenca	37	31	43	39	34
Jaén	38	47	41	46	24
Soria	39	22	40	26	46
Guipúzcoa	40	23	14	32	48
Palencia	41	37	32	34	40
Zamora	42	41	47	33	38
Albacete	43	44	49	50	30
Vizcaya	44	42	17	37	43
Valladolid	45	40	39	41	42
Navarra	46	36	31	42	44
Alava	47	32	29	35	47
Ourense	48	49	50	49	37
Guadalajara	49	34	34	29	50
Lugo	50	39	45	43	49
Kmo		0.5000	0.5808	0.6938	0.4880
Explained variance		0.7178	0.9642	0.6220	0.6356

Table A 8: Correlation between rankings of Tourism Specialization dimensions (2001)

	Aggregated index	Domestic Tourism	International Tourism	Supply side	Amenities
Aggregated index	1				
Domestic Tourism	0.7831*	1			
International Tourism	0.7453*	0.6959*	1		
Supply side	0.7830*	0.8519*	0.7505*	1	
Amenities	0.8111*	0.3629*	0.4570*	0.3694*	1

*p<0.5

Table A 9: Spanish regions ranking for 2006. Tourism Specialization

Province	Aggregated index	Domestic Tourism	International Tourism	Supply-side	Amenities
Baleares	1	1	1	1	4
Tenerife	2	2	3	3	1
Las Palmas	3	4	2	2	2
Málaga	4	7	6	4	9
Alicante	5	3	8	8	11
Girona	6	5	4	5	45
Tarragona	7	6	7	7	22
Huelva	8	13	16	9	6
Huesca	9	8	22	11	18
Almería	10	10	15	14	12
Cádiz	11	14	11	10	19
Castellón	12	9	20	17	15
Barcelona	13	20	5	21	25
Granada	14	17	10	22	13
Madrid	15	11	9	13	42
Lleida	16	16	26	27	10
Cáceres	17	32	41	12	8
Pontevedra	18	15	24	26	16
Sevilla	19	41	13	31	5
Cantabria	20	12	23	20	32
Coruña (A)	21	24	21	28	17
Zamora	22	43	46	6	31
Salamanca	23	18	18	16	30
Ciudad Real	24	50	48	48	3
Segovia	25	23	27	15	29
Valencia	26	27	17	30	21
Asturias	27	22	37	24	26
Cordoba	28	45	25	46	7
Guipúzcoa	29	19	12	32	39
Avila	30	28	34	19	37
Toledo	31	46	29	47	14
Rioja (La)	32	26	28	36	33
Teruel	33	21	44	25	44
Badajoz	34	49	47	39	20
León	35	37	36	29	36
Soria	36	25	42	18	48
Cuenca	37	31	43	35	34
Murcia	38	34	33	45	27
Burgos	39	30	19	23	47
Jaén	40	48	45	43	24
Palencia	41	40	35	38	35
Ourense	42	44	49	44	28
Vizcaya	43	29	14	50	38
Albacete	44	47	50	49	23
Lugo	45	35	39	37	43
Zaragoza	46	38	32	42	40
Navarra	47	33	31	41	46
Valladolid	48	42	40	40	41
Alava	49	39	30	34	49
Guadalajara	50	36	38	33	50
Kmo		0.5000	0.5257	0.7354	0.5504
Explained variance		0.7453	0.9540	0.6475	0.6875

Table A 10: Correlation between rankings of Tourism Specialization dimensions (2006)

	Aggregated index	Domestic Tourism	International Tourism	Supply-side	Amenities
Aggregated index	1				
DomesticTourism	0.7914*	1			
International Tourism	0.7243*	0.7836*	1		
Supply-side	0.8140*	0.8161*	0.6051*	1	
Amenities	0.6867*	0.2610	0.3407*	0.2788*	1

*p<0.5

Table A 11: Spanish regions ranking for 2011. Tourism Specialization

Province	Aggregated index	Domestic Tourism	International Tourism	Supply-side	Amenities
Baleares	1	3	1	2	8
Las Palmas	2	4	2	1	2
Tenerife	3	1	3	3	1
Alicante	4	2	9	6	12
Málaga	5	8	6	4	14
Girona	6	6	5	5	28
Tarragona	7	5	8	9	20
Huelva	8	9	18	7	6
Barcelona	9	18	4	13	26
Huesca	10	11	21	8	15
Almería	11	7	24	12	11
Madrid	12	12	7	11	42
Castellón	13	10	25	17	16
Cádiz	14	13	12	10	23
Granada	15	16	10	20	10
Lleida	16	20	32	28	9
Cáceres	17	29	40	19	7
Sevilla	18	44	14	30	4
Pontevedra	19	15	27	25	19
Cantabria	20	14	22	23	33
Segovia	21	24	23	14	29
Ciudad Real	22	50	49	49	3
Coruña (A)	23	27	20	27	18
Teruel	24	17	38	16	38
Salamanca	25	19	15	24	37
Valencia	26	28	16	29	21
Cordoba	27	45	19	47	5
Asturias	28	25	36	22	36
León	29	35	35	26	31
Rioja (La)	30	26	30	35	32
Vizcaya	31	23	13	43	40
Avila	32	30	34	21	41
Guipúzcoa	33	21	11	36	46
Toledo	34	49	31	48	13
Badajoz	35	46	43	38	17
Murcia	36	36	41	40	24
Soria	37	22	45	18	48
Burgos	38	31	17	15	47
Zamora	39	42	44	32	30
Cuenca	40	37	42	34	35
Jaén	41	48	46	46	22
Ourense	42	43	48	41	27
Palencia	43	40	37	42	34
Zaragoza	44	38	33	39	39
Lugo	45	33	29	31	44
Albacete	46	41	50	50	25
Valladolid	47	39	39	37	43
Navarra	48	32	28	45	45
Alava	49	34	26	44	49
Guadalajara	50	47	47	33	50
Kmo		0.5000	0.5180	0.7066	0.5042
Explained variance		0.7191	0.9483	0.6479	0.6638

Table A 12: Correlation between rankings of Tourism Specialization dimensions (2011)

	Aggregated index	DomesticTourism	InternationalTourism	Supply-side	Amenities
Aggregated index	1				
Domestic Touristm	0.8090*	1			
International Tourism	0.7240*	0.7391*	1		
Supply-side	0.8116*	0.8665*	0.6514*	1	
Amenities	0.6746*	0.2463	0.2776	0.2764	1

*p<0.5

Table A 13: Spanish regions ranking for 2001. Tourism Seasonality

Province	Aggregated index	Domestic Tourism	International Tourism	Supply-side
Baleares	1	9	4	1
Girona	2	4	1	2
Tarragona	3	1	2	3
Cantabria	4	3	9	4
Pontevedra	5	2	13	5
Asturias	6	5	6	15
Castellón	7	7	29	6
Huesca	8	14	7	10
Lugo	9	13	5	33
Huelva	10	15	23	9
Coruña (A)	11	12	12	24
Lleida	12	18	14	11
Cádiz	13	11	30	14
Almería	14	10	35	12
Navarra	15	26	18	7
Málaga	16	6	44	16
Palencia	17	27	3	44
León	18	21	11	32
Zamora	19	16	20	30
Burgos	20	30	8	36
Teruel	21	17	21	34
Alicante	22	8	48	13
Guipúzcoa	23	33	10	20
Barcelona	24	44	26	8
Ourense	25	29	22	19
Avila	26	24	15	47
Cuenca	27	31	19	29
Rioja (La)	28	34	17	23
Cáceres	29	25	24	25
Salamanca	30	23	28	28
Soria	31	22	34	31
Segovia	32	32	16	40
Murcia	33	28	46	18
Zaragoza	34	37	31	27
Albacete	35	35	37	21
Cordoba	36	42	25	46
Guadalajara	37	43	38	17
Jaén	38	46	27	43
Badajoz	39	38	36	45
Granada	40	41	42	26
Toledo	41	39	40	37
Tenerife	42	19	49	50
Valencia	43	36	45	22
Sevilla	44	40	39	49
Valladolid	45	48	33	42
Palmas	46	20	50	41
Ciudad Real	47	47	43	35
Alava	48	50	32	48
Vizcaya	49	49	41	38
Madrid	50	45	47	39
Kmo		0.6526	0.5358	0.8084
Explained variance		0.7963	0.8638	0.8268

Table A 14: Correlation between rankings of Tourism Seasonality dimensions (2001)

	Aggregated index	Domestic Tourism	International Tourism	Supply-side
Aggregated index	1			
DomesticTourism	0.8526*	1		
InternationalTourism	0.7518*	0.4450*	1	
Supply-side	0.7358*	0.6138*	0.3351*	1

*p<0.5

Table A 15: Spanish regions ranking for 2006. Tourism Seasonality

Province	Aggregated index	Domestic Tourism	International Tourism	Supply-side
Balears (Illes)	1	1	2	1
Tarragona	2	2	1	3
Girona	3	9	3	2
Cantabria	4	3	7	5
Pontevedra	5	4	19	4
Cádiz	6	6	17	7
Huelva	7	5	18	8
Castellón	8	12	22	6
Asturias	9	7	20	14
Lugo	10	15	4	16
Almería	11	8	29	9
Huesca	12	17	9	12
Málaga	13	10	35	13
León	14	23	5	22
Coruña (A)	15	16	21	21
Lleida	16	19	27	11
Soria	17	18	8	32
Navarra	18	25	15	20
Avila	19	24	6	40
Palencia	20	20	14	37
Zamora	21	22	11	44
Burgos	22	27	10	24
Rioja (La)	23	30	12	26
Alicante	24	13	47	17
Vizcaya	25	33	13	29
Cáceres	26	29	16	36
Barcelona	27	36	31	10
Guipúzcoa	28	26	25	23
Segovia	29	31	24	25
Teruel	30	21	32	33
Tenerife	31	11	49	30
Albacete	32	42	26	18
Jaén	33	38	23	39
Palmas (Las)	34	14	50	43
Salamanca	35	32	34	38
Cuenca	36	41	30	27
Murcia	37	28	48	15
Alava	38	40	33	34
Ciudad Real	39	44	38	19
Cordoba	40	46	28	48
Ourense	41	35	42	45
Badajoz	42	39	37	50
Sevilla	43	43	39	46
Granada	44	45	41	28
Valencia/València	45	34	45	35
Toledo	46	49	36	49
Valladolid	47	48	40	47
Guadalajara	48	47	44	31
Madrid	49	37	46	41
Zaragoza	50	50	43	42
Kmo		0.6899	0.6114	0.7890
Explained variance		0.8347	0.9148	0.8592

Table A 16: Correlation between rankings of Tourism Seasonality dimensions (2006)

	Aggregated index	Domestic Tourism	International Tourism	Supply-side
Aggregated index	1			
Domestic Tourism	0.8962*	1		
International Tourism	0.7761*	0.4982*	1	
Supply-side	0.7866*	0.7024*	0.4433*	1

*p<0.5

Table A 17: Spanish regions ranking for 2011. Tourism Seasonality

Province	Aggregated index	DomesticTourism	International Tourism	Supply-side
Baleares	1	1	2	1
Tarragona	2	2	1	3
Girona	3	10	4	2
Pontevedra	4	8	10	5
Cantabria	5	11	13	7
Huelva	6	3	27	4
Asturias	7	9	7	10
Cádiz	8	4	24	8
Castellón	9	6	29	6
Almería	10	7	19	9
Huesca	11	16	3	12
Lugo	12	14	5	15
Málaga	13	5	35	11
Coruña (A)	14	15	12	22
Burgos	15	27	6	35
Alicante	16	12	45	16
Rioja (La)	17	28	8	24
León	18	24	9	23
Lleida	19	17	31	14
Navarra	20	23	15	20
Zamora	21	19	21	32
Segovia	22	31	11	37
Barcelona	23	30	33	13
Soria	24	22	22	34
Avila	25	26	16	42
Teruel	26	21	28	33
Guipúzcoa	27	33	18	26
Palencia	28	29	17	38
Alava	29	38	14	44
Palmas (Las)	30	13	49	19
Cáceres	31	34	23	28
Valencia	32	20	40	21
Salamanca	33	32	25	31
Jaén	34	41	20	36
Badajoz	35	35	43	18
Vizcaya	36	40	26	39
Ourense	37	36	37	29
Murcia	38	25	46	17
Cuenca	39	37	32	40
Zaragoza	40	39	34	45
Cordoba	41	45	36	30
Albacete	42	44	38	27
Guadalajara	43	48	30	41
Granada	44	46	41	25
Tenerife	45	18	50	48
Valladolid	46	43	39	50
Toledo	47	42	42	49
Sevilla	48	47	44	46
Ciudad Real	49	50	47	43
Madrid	50	49	48	47
Kmo		0.6403	0.5706	0.7955
Explained variance		0.8537	0.9024	0.8632

Table A 18: Correlation between rankings of Tourism Seasonality dimensions (2011)

	Aggregated index	DomesticTourism	International Tourisms	Supply-side
Aggregated index	1			
Domestic Tourism	0.8871*	1		
International Tourism	0.7467*	0.4543*	1	
Supply-side	0.8226*	0.8014*	0.4028*	1

*p<0.5

Table A 19: Correlation Index for the aggregated Tourism Specialization Rankings

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
2001	1										
2002	0.9873*	1									
2003	0.9879*	0.9939*	1								
2004	0.9811*	0.9802*	0.9890*	1							
2005	0.9669*	0.9740*	0.9861*	0.9905*	1						
2006	0.9378*	0.9469*	0.9612*	0.9749*	0.9851*	1					
2007	0.9509*	0.9630*	0.9735*	0.9827*	0.9905*	0.9827*	1				
2008	0.9424*	0.9583*	0.9672*	0.9740*	0.9853*	0.9753*	0.9937*	1			
2009	0.9344*	0.9503*	0.9620*	0.9672*	0.9812*	0.9691*	0.9881*	0.9957*	1		
2010	0.9468*	0.9560*	0.9673*	0.9756*	0.9856*	0.9707*	0.9891*	0.9950*	0.9957*	1	
2011	0.9552*	0.9646*	0.9710*	0.9759*	0.9843*	0.9670*	0.9879*	0.9928*	0.9905*	0.9945*	1

Table A 20: Correlation Index for the aggregated Tourism Seasonality Rankings

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
2001	1										
2002	0.9614*	1									
2003	0.9204*	0.9398*	1								
2004	0.9371*	0.9588*	0.9519*	1							
2005	0.9210*	0.9490*	0.9472*	0.9459*	1						
2006	0.8821*	0.9128*	0.9444*	0.9104*	0.9579*	1					
2007	0.9090*	0.9246*	0.9325*	0.9163*	0.9698*	0.9588*	1				
2008	0.9161*	0.9275*	0.9195*	0.9026*	0.9430*	0.9116*	0.9589*	1			
2009	0.8106*	0.8481*	0.9004*	0.8769*	0.9010*	0.8870*	0.9261*	0.9086*	1		
2010	0.7657*	0.8123*	0.8638*	0.8368*	0.8917*	0.8828*	0.9154*	0.8694*	0.9716*	1	
2011	0.8959*	0.8992*	0.9164*	0.8936*	0.9348*	0.9294*	0.9473*	0.9470*	0.8816*	0.8676*	1

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Table A 21: Results for the Spanish Tourism Activities including Tourism Contribution (2001-2011)

	(1)	(2)	(3)	(4)
ln(% workers with tertiary education)	0.391***	0.385***	0.492***	0.494***
ln(% workers aged 16-29)	0,08	0,101	0.161**	0.166**
Employment growth	0.236***	0.234***	0.238**	0.238**
Tourism Contribution	0,048	0,058	-0,089	-0,089
Tourism Specialization				
International Tourism	-0,001	0		
Domestic Tourism	0.056***	0.060***		
Supply side	-0.050***	-0.055***		
Aggregated Index			0,008	0,009
Tourism Specialization * High Seasonality				
International Tourists		-		
DomesticTourists		-		
Supply side		-0,013		
Aggregated index				-0,003
1st quarter	Ref.	Ref.	Ref.	Ref.
2 nd Quarter	0,021	0,022	0,021	0,021
3 rd Quarter	0.063***	0.065***	0.059***	0.059***
4 th Quarter	0.028*	0.029*	0.029*	0.029*
Constant	1.673***	1.583***	1.636***	1.614***
Observations	124	124	124	124
R2	0,575	0,584	0,467	0,467
Adjusted_R2	0,525	0,531	0,415	0,41

* p<.1, ** p<.05, *** p<.01
Note: *Ref.: Reference*

Table A 22: Results estimation for Hourly Wage Regressions (EU – SILC 2006)

Ln wage	All Regions	High Seasonality	Low Seasonality	All Regions	High Seasonality	Low Seasonality
Experience (years)	0.018***	0.016***	0.018***	0.018***	0.017***	0.019***
Experience^2	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
Civil Status						
Single	-0.087***	-0.080***	-0.097***	-0.083***	-0.076***	-0.090***
Married	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Nationality						
Spanish	0.113**	0,068	0.131*	0.106**	0,055	0.121*
European	0.055***	0,028	0.069***	0.037**	-0,001	0.060***
Other foreign	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Education (level completed)						
No education	-0.266***	-0.141*	-0.366***	-0.257***	-0.146*	-0.358***
Primary	-0.057***	-0.047**	-0.064***	-0.059***	-0.057***	-0.063**
Lower secondary	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Upper secondary	0.089***	0.075***	0.094***	0.088***	0.082***	0.094***
Tertiary	0.217***	0.173***	0.235***	0.216***	0.178***	0.243***
Occupation						
Managers	0.471***	0.506***	0.444***	0.471***	0.504***	0.448***
Professionals	0.454***	0.482***	0.440***	0.457***	0.485***	0.439***
Technicians	0.161***	0.208***	0.129***	0.164***	0.210***	0.132***
Clerks	0.050***	0.069***	0.037*	0.054***	0.067***	0.042**
Service	-0,014	0,009	-0.034*	-0,012	0,012	-0,032
Operators	0.060***	0.049*	0.064***	0.059***	0.044*	0.067***
Skilled workers	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Elementary	-0.071***	-0.064***	-0.079***	-0.072***	-0.066***	-0.076***
Activity sector (NACE)						
A & B	-0.236***	-0.212***	-0.246***	-0.236***	-0.224***	-0.241***
C & D & E	-0.119***	-0.125***	-0.126***	-0.108***	-0.107***	-0.111***
F	-0.075***	-0.053**	-0.104***	-0.071***	-0,042	-0.086***
G	-0.196***	-0.210***	-0.193***	-0.190***	-0.202***	-0.179***
H	-0.208***	-0.207***	-0.218***	-0.198***	-0.195***	-0.203***
I	-0.099***	-0.069**	-0.138***	-0.092***	-0.054*	-0.114***
J	0.121***	0.198***	0.064**	0.128***	0.209***	0.081***
K	-0.200***	-0.161***	-0.238***	-0.188***	-0.146***	-0.218***
L	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
M	-0.076***	-0.077**	-0.091***	-0.071***	-0.066**	-0.071***
N	-0.160***	-0.188***	-0.156***	-0.151***	-0.181***	-0.136***
O & P & Q	-0.221***	-0.195***	-0.262***	-0.211***	-0.183***	-0.236***
Firm size (employees)						
Less than 10	-0.069***	-0.066***	-0.072***	-0.071***	-0.066***	-0.075***
From 10 to 49	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
50 or more	0.090***	0.103***	0.075***	0.092***	0.109***	0.080***
Time status						
Full time	0,017	0,021	0,013	0,016	0,018	0,014
Part time	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Type of contract						
Permanent	0.133***	0.134***	0.129***	0.139***	0.148***	0.131***
Fixed-term	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Tourism specialization						
International Tourists	0.070***	0.067***	0.258***			
Domestic Tourists	0	0.065**	-0.030**			
Supply side	-0.062***	-0.106***	-0.151***			
Amenities	-0.006***	-0.023***	0.007*			
Aggregated Index				0	0.015***	-0.027***
Constant	1.755***	1.818***	1.802***	1.759***	1.789***	1.728***

* p<.1, ** p<.05, *** p<.01

Note: *Ref.: Reference*

Table A 23: Probit results (EU-SILC 2006)

Worker						
Age	-0.014***	-0.014***	-0.014***	-0.014***	-0.014***	-0.014***
Education (level completed)						
No education	-1.370***	-1.328***	-1.420***	-1.385***	-1.307***	-1.442***
Primary	-0.424***	-0.339***	-0.501***	-0.441***	-0.334***	-0.506***
Lower secondary	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Upper secondary	0.116***	0.114**	0.106**	0.117***	0.131***	0.115***
Tertiary	0.877***	0.877***	0.868***	0.881***	0.896***	0.874***
Civil status						
Single	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Married	0.752***	0.745***	0.754***	0.753***	0.747***	0.753***
Non labor income	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
Number of children	0.223***	0.340***	0.142***	0.231***	0.345***	0.150***
Tourism specialization						
International Tourists	0.159***	0.485***	-0,038			
Domestic Tourists	0.102***	-0,007	0.204***			
Supply side	-0.162***	-0.483***	-0.083*			
Amenities	-0,005	0,025	-0.024**			
Aggregated Index				0.049***	0.110***	0,001
Constant	0.605***	0.484***	0.621***	0.581***	0.490***	0.614***
Mills (lambda)	0,055	-0,004	0,092	0,045	0,001	0,085
Observations	15412	6389	9023	15412	6389	9023

* p<.1, ** p<.05, *** p<.01
Note: *Ref.: Reference*

Table A 24: Comparison EU-SILC & WSS (2006)

	All Regions		High Seasonality		Low Seasonality	
	WSS	EU-SILC	WSS	EU-SILC	WSS	EU-SILC
Experience (years)	0.019***	0.023***	0.019***	0.023***	0.020***	0.024***
Experience ^{2}	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
Sex						
Woman	-0.195***	-0.141***	-0.213***	-0.141***	-0.185***	-0.139***
Man	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Education (attained level)						
No education	-0.068***	-0.203***	-0.063***	-0.154**	-0.069***	-0.242**
Primary	-0.024***	-0.036***	-0.014***	-0.034*	-0.027***	-0.032**
Lower secondary	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Upper secondary	0.112***	0.089***	0.104***	0.088***	0.114***	0.084***
Tertiary	0.223***	0.197***	0.206***	0.171***	0.228***	0.205***
Ocuppation						
Managers	0.707***	0.478***	0.739***	0.487***	0.688***	0.475***
Professionals	0.487***	0.496***	0.504***	0.534***	0.477***	0.477***
Technicians	0.211***	0.169***	0.222***	0.222***	0.202***	0.135***
Office clerks	0.023***	0.114***	0.036***	0.137***	0.016***	0.098***
Service	-0.015***	0,011	-0.011**	0,027	-0.017***	-0,005
Operators	-0.016***	0.058***	-0.020***	0.048*	-0.012***	0.061***
Skilled workers	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Elementary	-0.109***	-0.042***	-0.112***	-0.052**	-0.106***	-0.040**
Activity Sector						
C & D & E	0.051***	-0,01	0.058***	0,015	0.043***	-0,023
F	0.060***	-0,002	0.086***	0.057*	0.044***	-0,039
G	-0.029***	-0.070***	-0.026***	-0.052*	-0.032***	-0.074***
H	0.021***	-0.077***	0.045***	-0,039	0,002	-0.095***
I	0.059***	0	0.074***	0,055	0.045***	-0,039
J	0.218***	0.231***	0.199***	0.326***	0.234***	0.176***
K	-0.061***	-0.074***	-0.059***	-0,007	-0.065***	-0.116***
L	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
M	0,001	0.069***	0,005	0.096***	0	0.049*
Firm Size						
Less than 10	-0.120***	-0.064***	-0.134***	-0.057***	-0.108***	-0.070***
From 10 to 49	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
50 or more	0.148***	0.097***	0.140***	0.109***	0.143***	0.083***
Time status						
Full time	0.034***	-0,02	0.022***	0,013	0.039***	-0.041**
Part time	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Type of contract						
Permanent	0.091***	0.123***	0.088***	0.126***	0.091***	0.119***
Part time	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Tourism Specialization						
International Tourism	0.064***	0.066***	0.087***	0.063***	0.206***	0.213***
Domestic Tourism	0.004*	-0,011	-0.072***	0,022	0,003	-0.031**
Supply Side	-0.059***	-0.053***	-0.049***	-0.075***	-0.135***	-0.126***
Amenities	-0.005***	-0.008***	-0.025***	-0.030***	0.007***	0.007*
Aggregated Index constant	1.554***	1.696***	1.600***	1.653***	1.578***	1.779***
Observations	205886	7999	78367	3270	127519	4729
R2	0,471	0,487	0,471	0,507	0,476	0,483
Adjusted_R2	0,47	0,485	0,471	0,502	0,476	0,48

* p<.1, ** p<.05, *** p<.01
Note: *Ref.:* Reference

Table A 25: Comparison EU-SILC & WSS (2006)

	All Regions		High Seasonality		Low Seasonality	
	WSS	**EU-SILC**	**WSS**	**EU-SILC**	**WSS**	**EU-SILC**
Experience (years)	0.019***	0.024***	0.019***	0.023***	0.019***	0.024***
Experience ^{2}	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
Sex						
Women	-0.193***	-0.136***	-0.209***	-0.136***	-0.184***	-0.139***
Man	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Education (attained level)						
No education	-0.071***	-0.209***	-0.073***	-0.153**	-0.069***	-0.239**
Primary education	-0.025***	-0.041***	-0.013***	-0.046**	-0.029***	-0.033**
Lower secundary	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Upper secondary education	0.113***	0.088***	0.106***	0.095***	0.118***	0.086***
Tertiary education	0.223***	0.199***	0.206***	0.173***	0.234***	0.215***
Occupation						
Managers	0.710***	0.477***	0.743***	0.480***	0.691***	0.475***
Professionals	0.490***	0.498***	0.509***	0.538***	0.479***	0.477***
Technicianss	0.214***	0.170***	0.231***	0.223***	0.205***	0.136***
Office clerks	0.023***	0.116***	0.036***	0.134***	0.015***	0.101***
Service	-0.015***	0,011	-0.012**	0,028	-0.015***	-0,002
Operators	-0.015***	0.057***	-0.019***	0,042	-0.012***	0.065***
Skilled workers	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Elementary	-0.111***	-0.042***	-0.114***	-0.054**	-0.108***	-0.035**
Activity sector (NACE)						
C & D & E	0.055***	-0,007	0.060***	0,028	0.052***	-0,027
F	0.062***	-0,003	0.086***	0.065**	0.050***	-0,04
G	-0.031***	-0.071***	-0.032***	-0,047	-0.027***	-0.079***
G	0.022***	-0.074***	0.045***	-0,03	0.010*	-0.099***
I	0.062***	-0,001	0.069***	0.066*	0.057***	-0,036
J	0.216***	0.229***	0.187***	0.334***	0.235***	0.175***
K	-0.061***	-0.071***	-0.062***	0,006	-0.057***	-0.117***
L	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
M	0	0.063***	-0,005	0.099***	0,004	0.048*
Firm Size						
Less than 10	-0.121***	-0.066***	-0.134***	-0.057***	-0.114***	-0.071***
From 10 to 49	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
50 or more	0.150***	0.099***	0.150***	0.115***	0.153***	0.086***
Time Status						
Full time	0.030***	-0,021	0.020***	0,009	0.039***	-0.039*
Part time	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Type of contract						
Permanent	0.095***	0.127***	0.099***	0.136***	0.092***	0.120***
Fixed- term	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Tourism Specialization						
International tourists						
Domestic tourist						
Supply side						
Amenities						
Aggregated Index	-0.001*	-0,001	0.013***	0.017***	-0.023***	-0.030***
constant	1.554***	1.687***	1.566***	1.596***	1.529***	1.727***
Observations	205886	7999	78367	3270	127519	4729
R2	0,465	0,48	0,464	0,499	0,469	0,476
Adjusted_R2	0,465	0,478	0,464	0,495	0,469	0,473

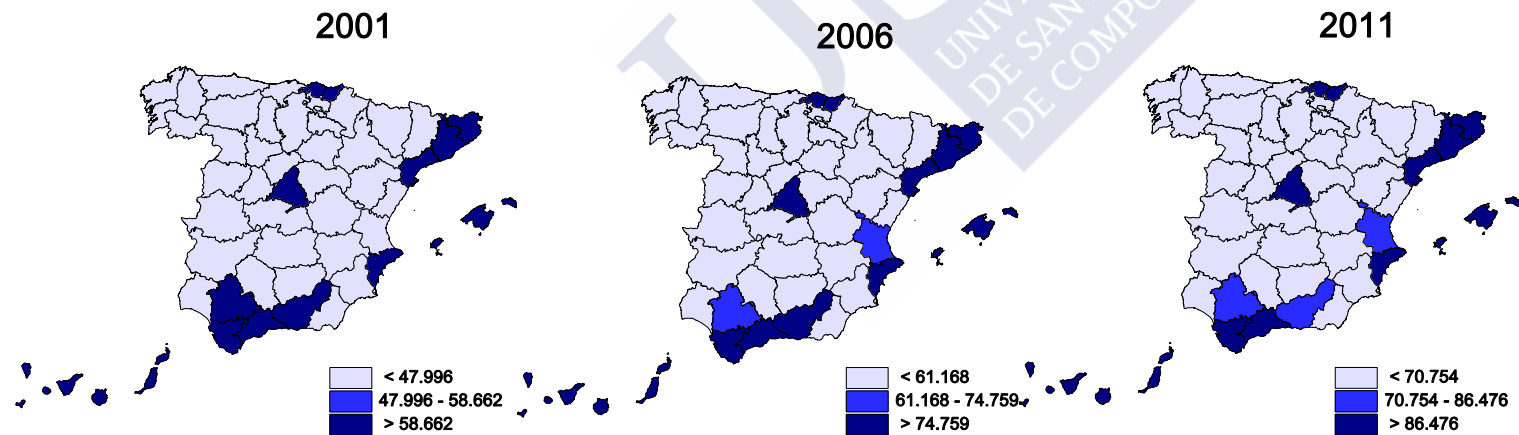* p<.1, ** p<.05, *** p<.01
Note: *Ref.: Reference*

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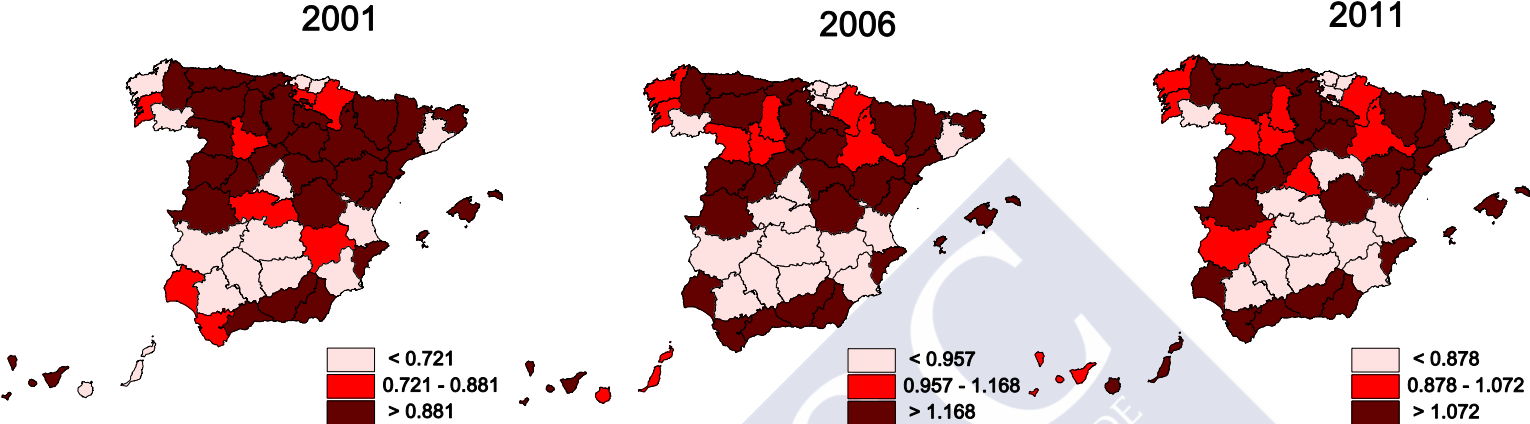**Map A 1:Tourism Density Ratio for Domestic Tourists (TDR)**

2001

2006

2011

< 58.389
58.389 - 71.363
> 71.363

< 84.234
84.234 - 102.952
> 102.952

< 81.598
81.598 - 99.731
> 99.731
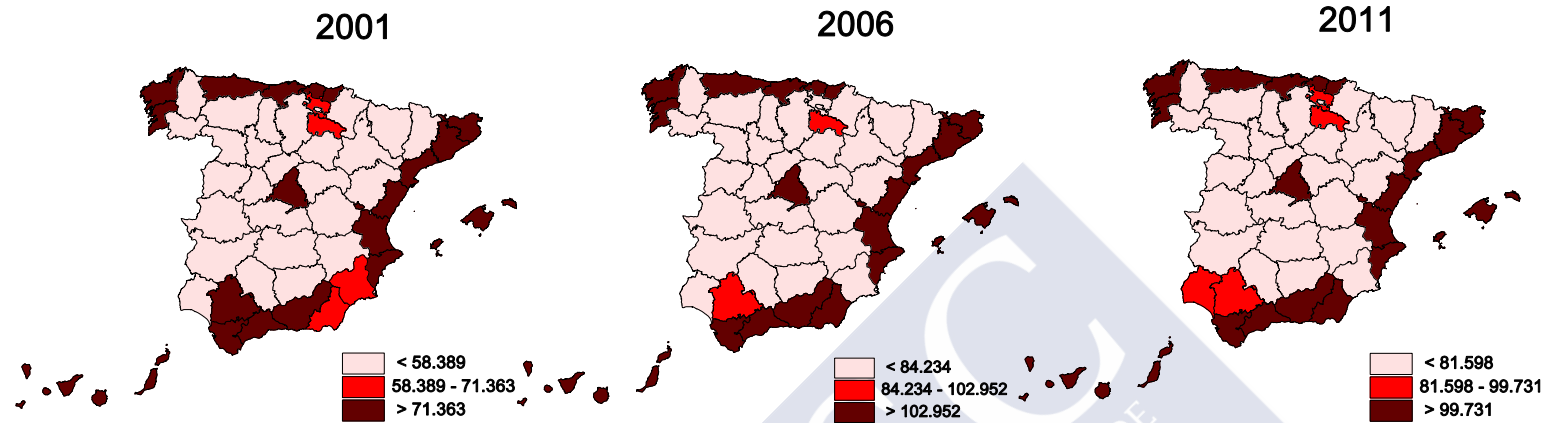
Source: Own elaboration based on HOS (INE)

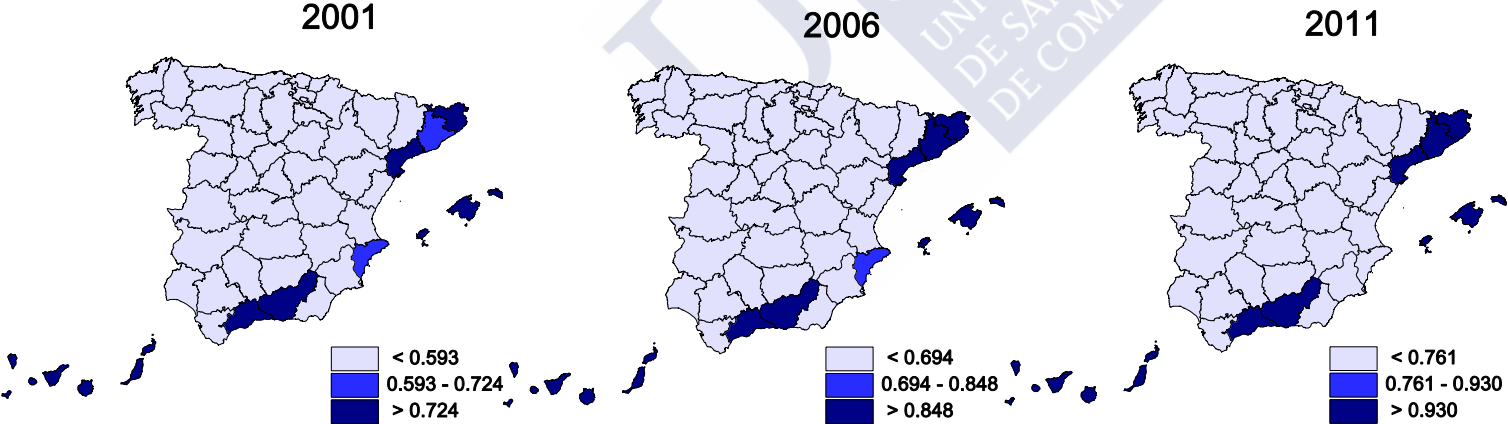**Map A 2: Tourism Density Ratio for International Tourists (TDR)**

2001

2006

2011

< 47.996
47.996 - 58.662
> 58.662

< 61.168
61.168 - 74.759
> 74.759

< 70.754
70.754 - 86.476
> 86.476

Source: Own elaboration based on HOS (INE)

Map A 3: Tourism Intensity Ratio for Domestic Tourists (TIR)

2001

2006

2011

	< 0.721
	0.721 - 0.881
	> 0.881

	< 0.957
	0.957 - 1.168
	> 1.168

	< 0.878
	0.878 - 1.072
	> 1.072

Source: Own elaboration based on HOS (INE)

Map A 4: Tourism Intensity Ratio for International Tourists (TIR)

2001

2006

2011

	< 0.593
	0.593 - 0.724
	> 0.724

	< 0.694
	0.694 - 0.848
	> 0.848

	< 0.761
	0.761 - 0.930
	> 0.930

Source: Own elaboration based on HOS (INE)

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Map A 5:Tourism Penetration Index for Domestic Tourists (TPR)

2001

< 5.120
5.120 - 6.256
> 6.256

2006

< 6.356
6.356 - 7.767
> 7.767

2011

< 5.834
5.834 - 7.130
> 7.130
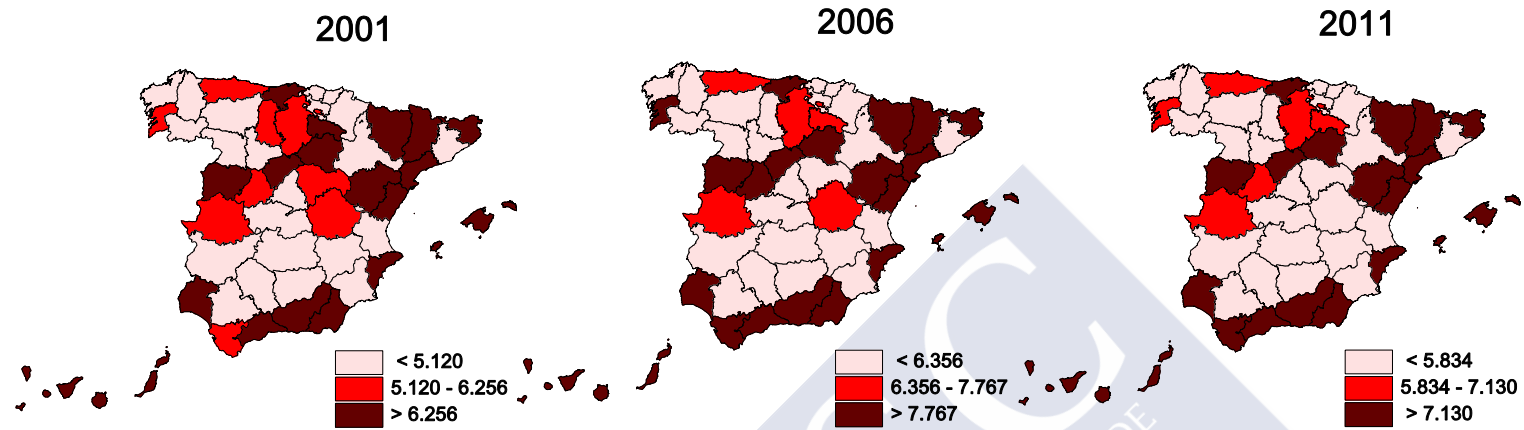
Source: Own elaboration based on HOS (INE)

Map A 6: Tourism Penetration Index for International Tourists (TPR)

2001

< 8.628
8.628 - 10.545
> 10.545

2006

< 8.628
8.628 - 10.545
> 10.545

2011

< 9.184
9.184 - 11.225
> 11.225
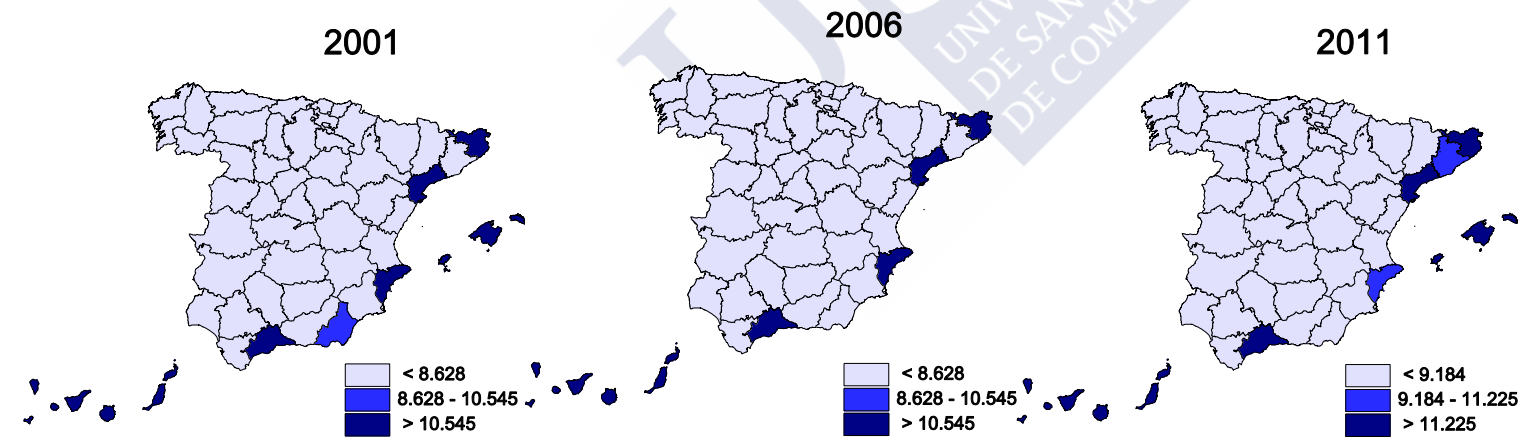
Source: Own elaboration based on HOS (INE)

Map A 7: Augmented Tourism Density Ratio for Domestic Tourists (ATDR)

2001

2006

2011

| < 0.415 |
| 0.415 - 0.506 |
| > 0.506 |

| < 0.560 |
| 0.560 - 0.684 |
| > 0.684 |

| < 0.543 |
| 0.543 - 0.662 |
| > 0.662 |
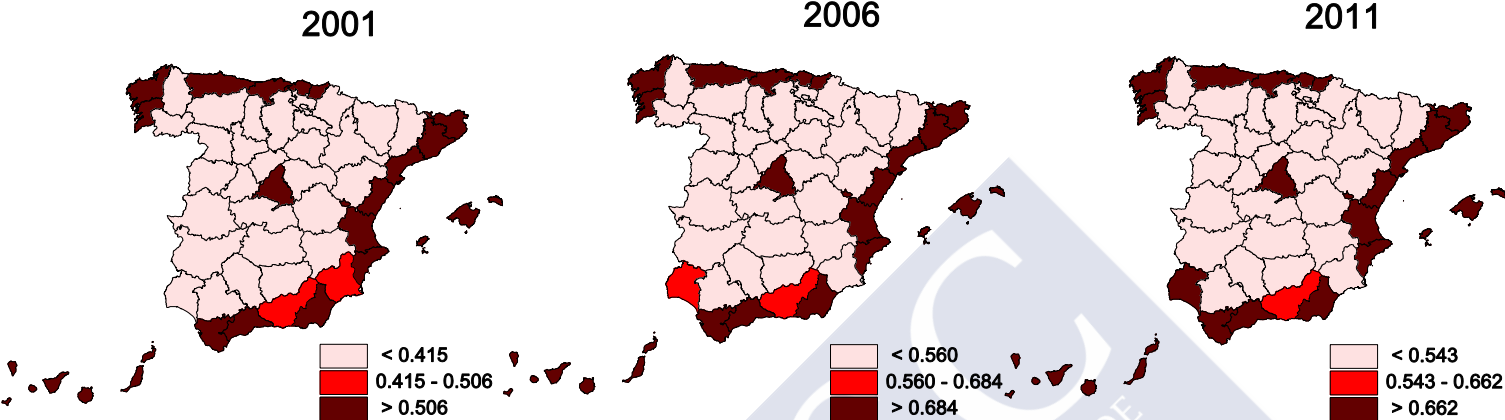
Source: Own elaboration based on HOS (INE)

Map A 8: Augmented Tourism Density Ratio for International Tourists (ATDR)

2001

2006

2011

| < 0.699 |
| 0.699 - 0.854 |
| > 0.854 |

| < 0.740 |
| 0.740 - 0.904 |
| > 0.904 |

| < 0.854 |
| 0.854 - 1.043 |
| > 1.043 |
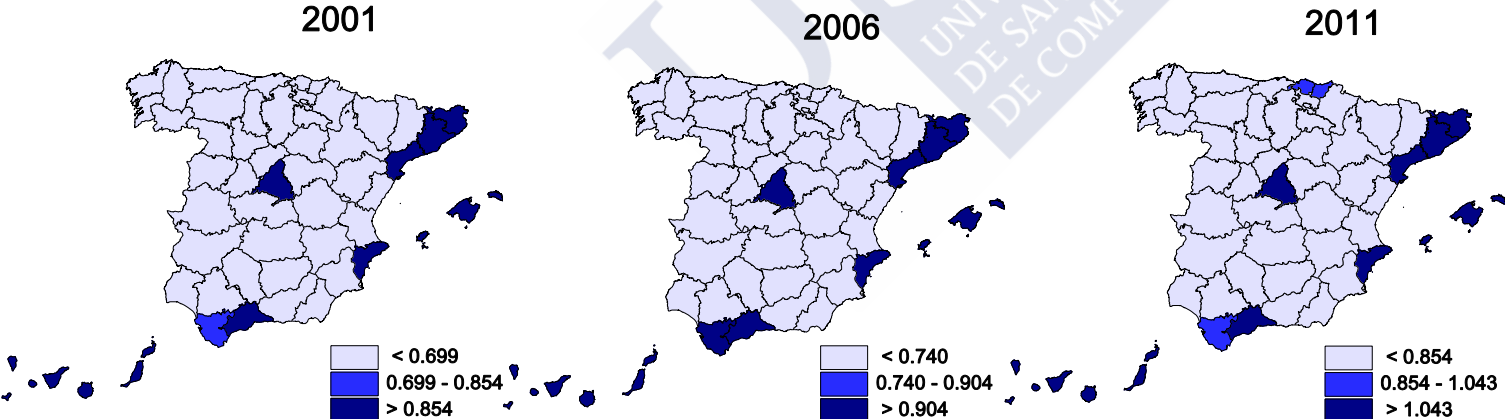
Source: Own elaboration based on HOS (INE)

Map A 9: Tourist Concentration Index for Domestic Tourist (TCI)

2001   2006   2011

< 90
90 - 110
> 110
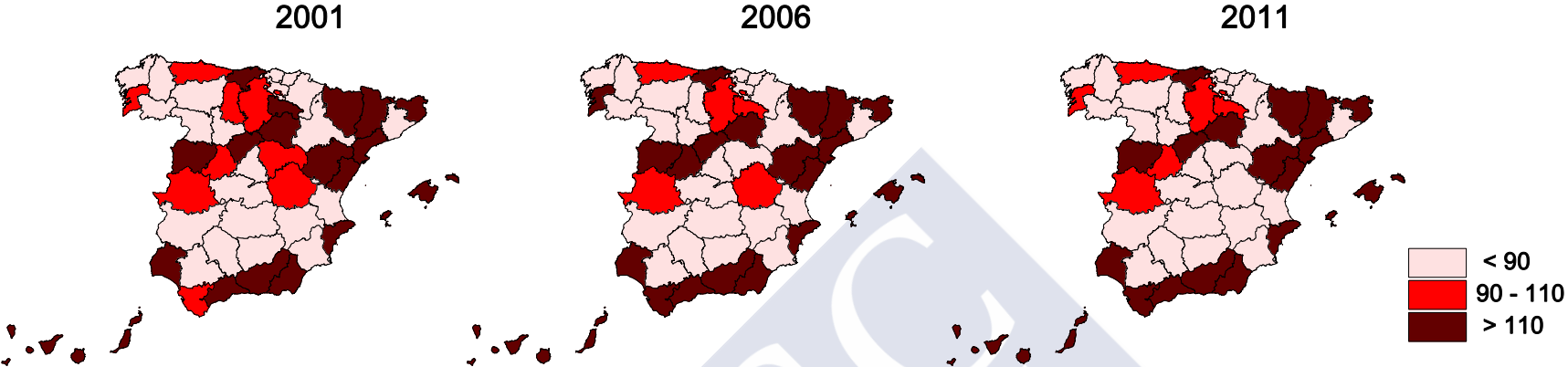
Source: Own elaboration based on HOS (INE)

Map A 10: Tourist Concentration Index for International Tourist (TCI)

2001   2006   2011

< 90
90 - 110
> 110

Source: Own elaboration based on HOS (INE)

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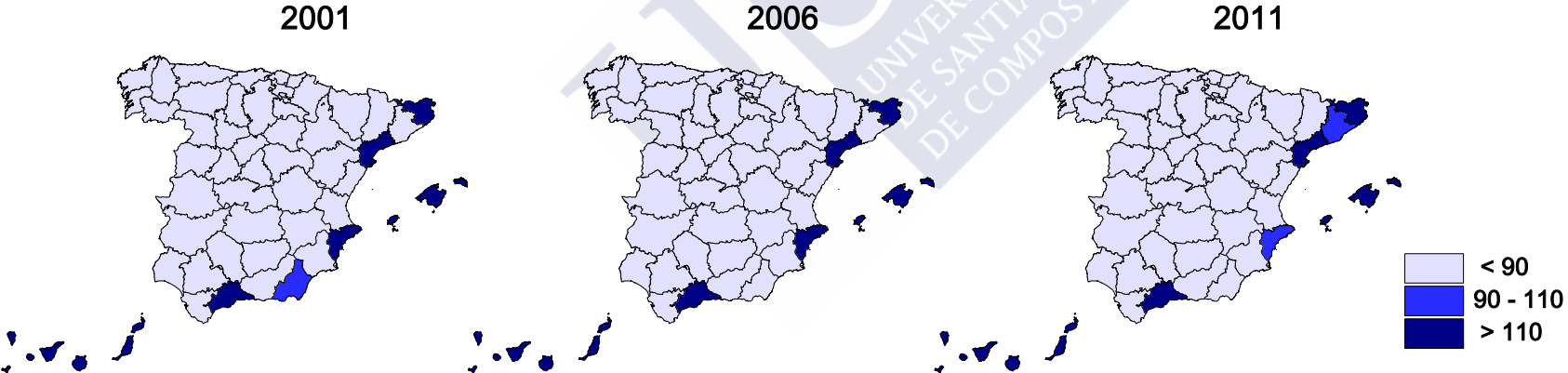
Map A 11: Function Index (FI)

2001

< 0.024
0.024 - 0.028
> 0.028

2006

< 0.026
0.026 - 0.031
> 0.031

2011

< 0.028
0.028 - 0.033
> 0.033
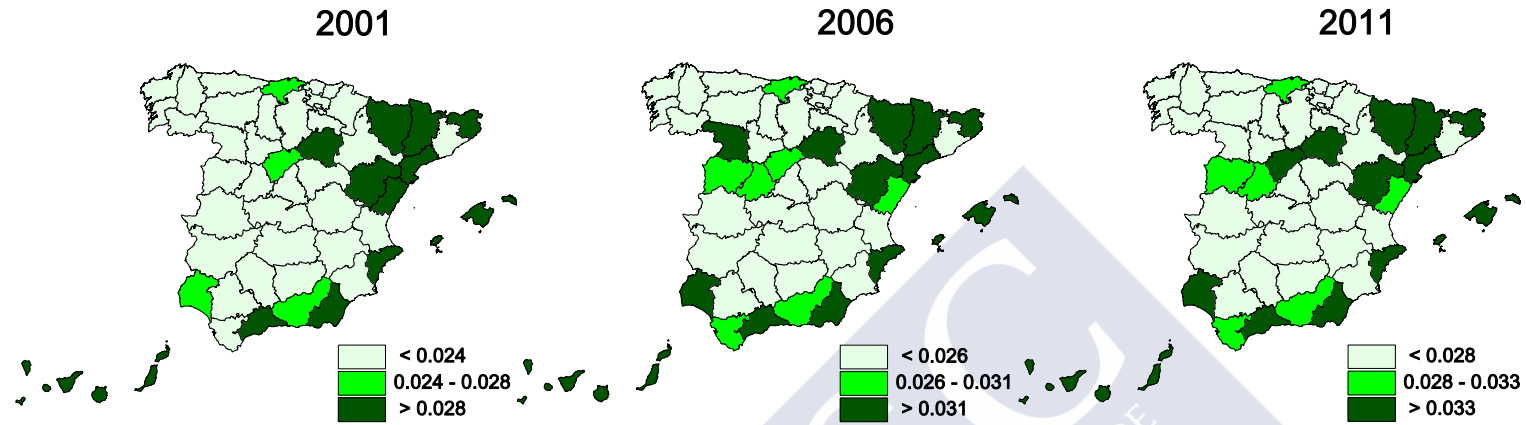
Source: Own elaboration based on HOS (INE)

Map A 12:Room Index (RI)

2001

< 1.875
1.875 - 2.291
> 2.291

2006

< 2.246
2.246 - 2.743
> 2.743

2011

< 2.561
2.561 - 3.129
> 3.129

Source: Own elaboration based on HOS (INE)

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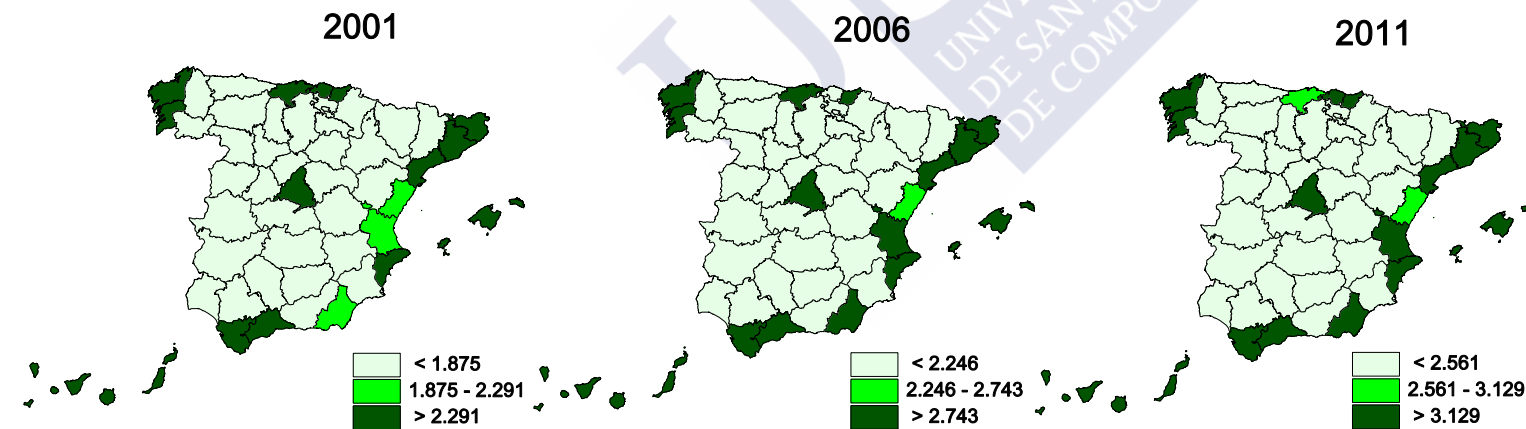
Map A 13:Location Quotient Beds by Establishment

2001   2006   2011
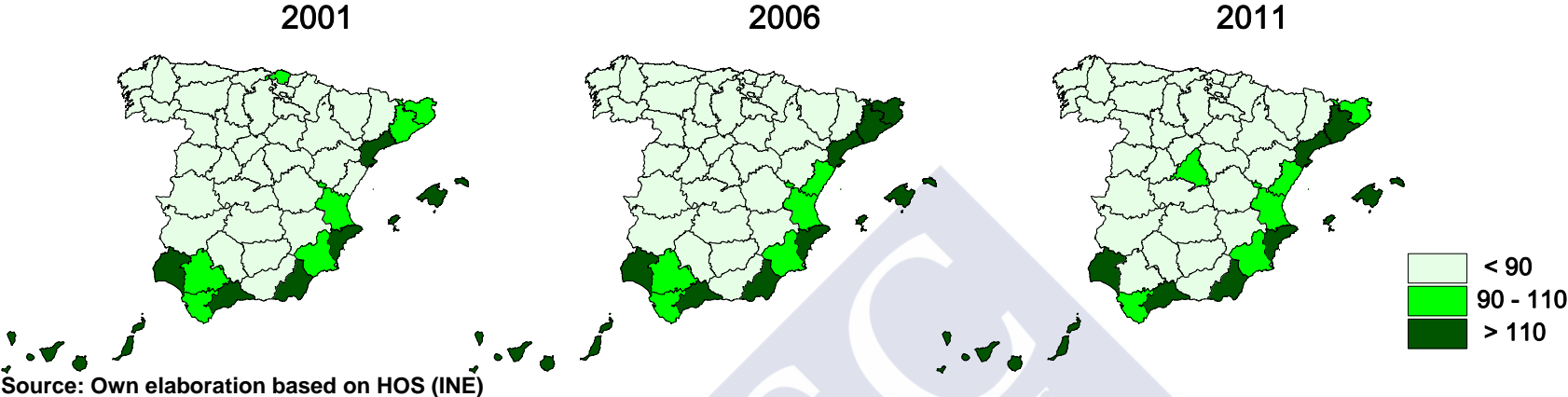
Map A 14: Employment Location Quotient

2001   2006   2011
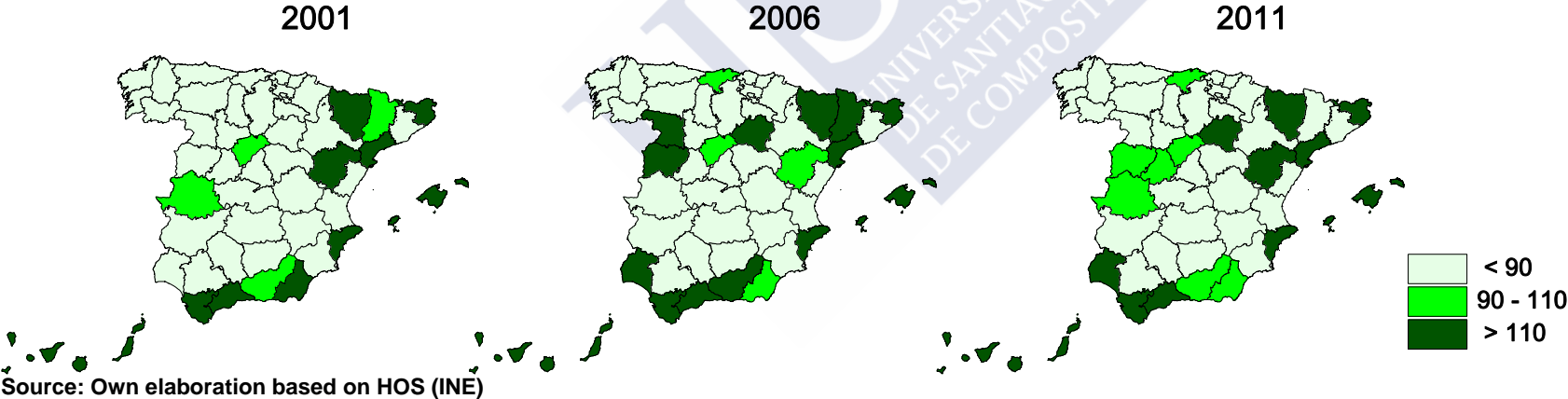
Map A 15: Establishments in Hotels and Restaurans Location Quotient

Source: Own elaboration based on Central Business Register (INE)
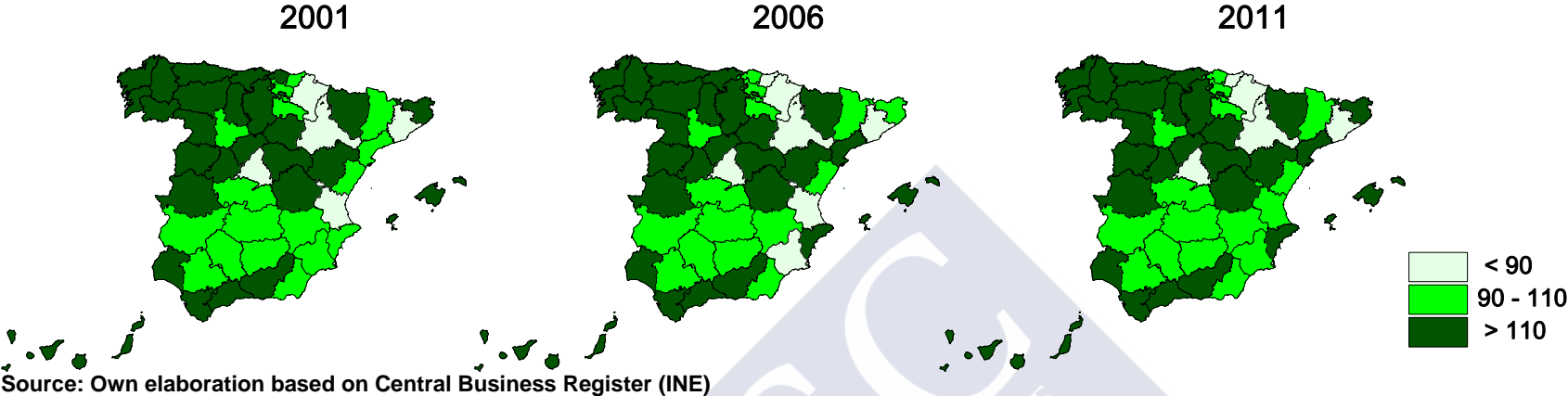
Map A 16: Establishments in Amusent, Cultural and Sports Location Quotient

Source: Own elaboration based on Central Business Register (INE)
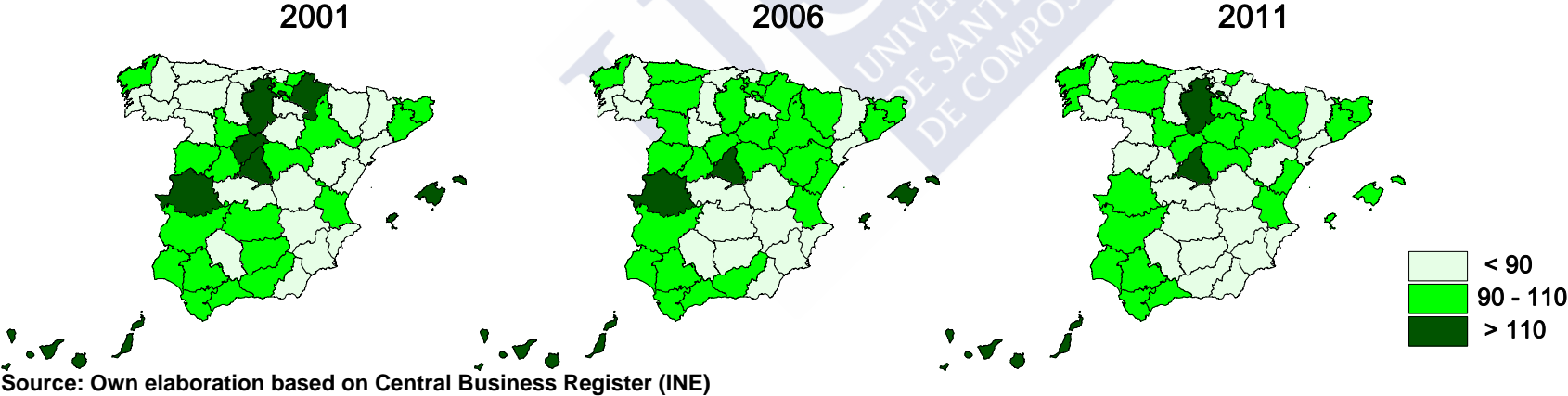
Map A 17:Annual Average Temperature
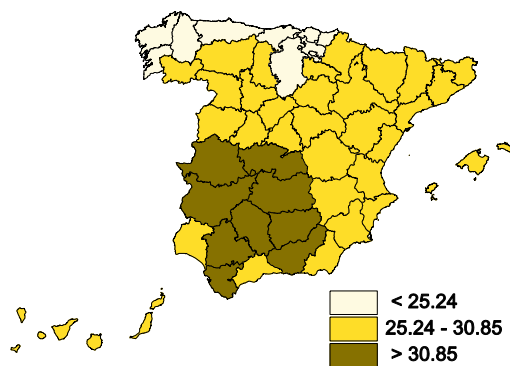
Source: Own elaboration based on AEMET
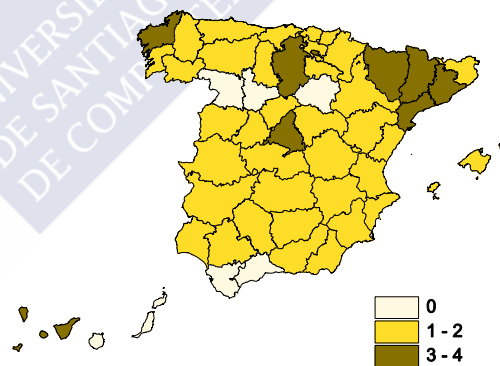
Map A 18: Annual Average Precipitation
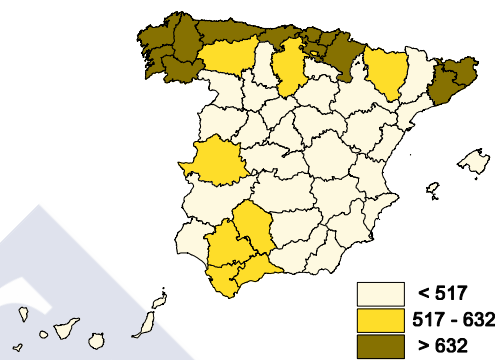
Source: Own elaboration based on AEMET.
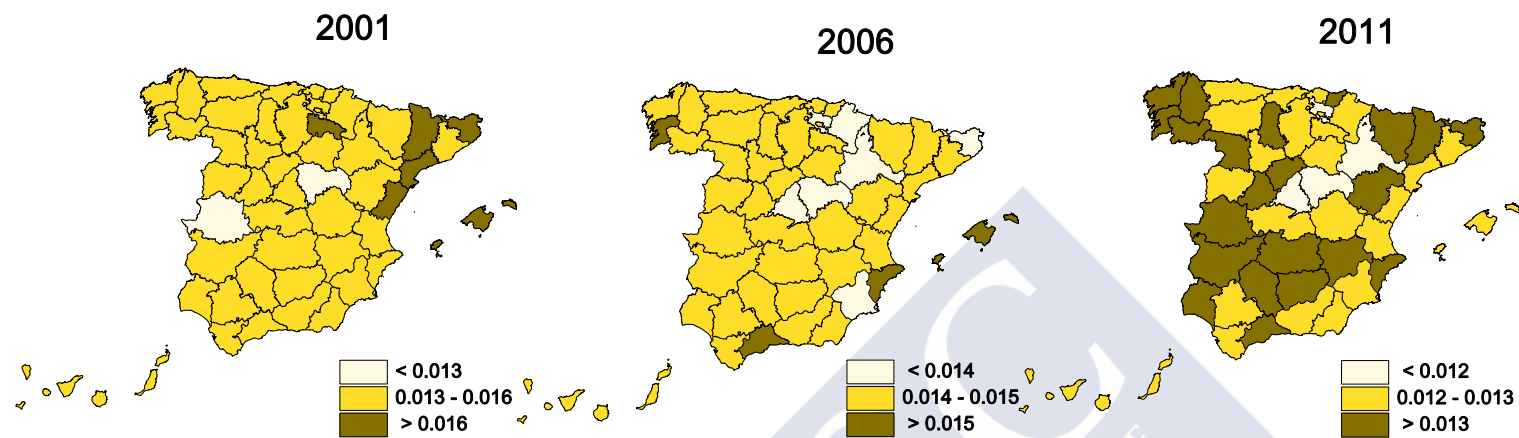
Map A 19: National Parks
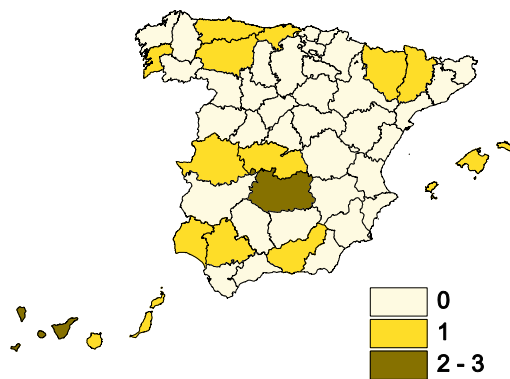
Source: Own elaboration based on Ministry Agriculture and Environment data.
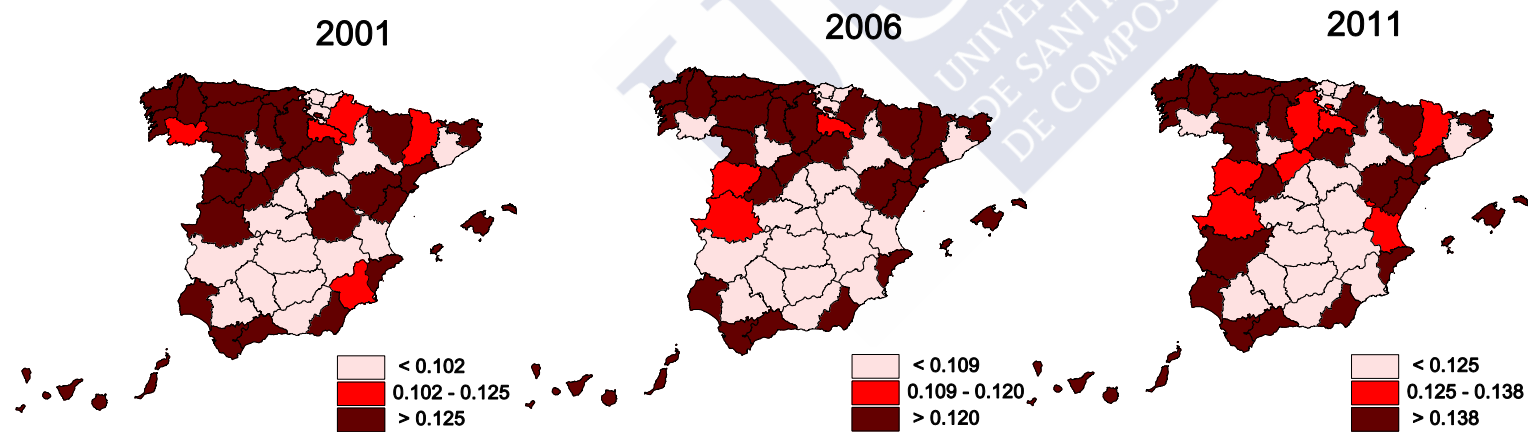
Map A 20: Unesco World Heritage

Source: Own elaboration based on World Heritage list.
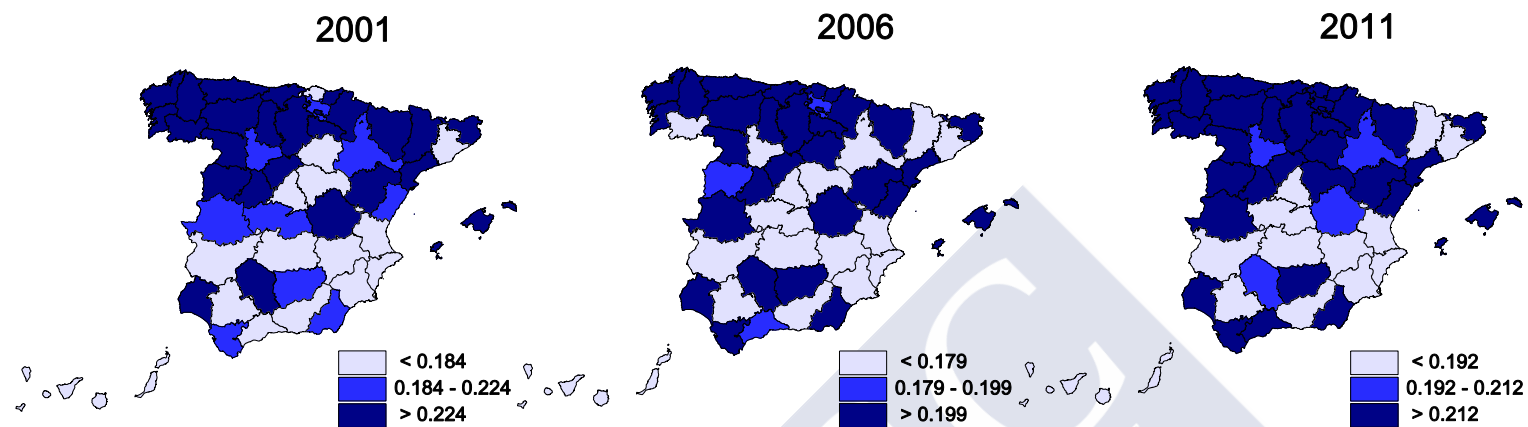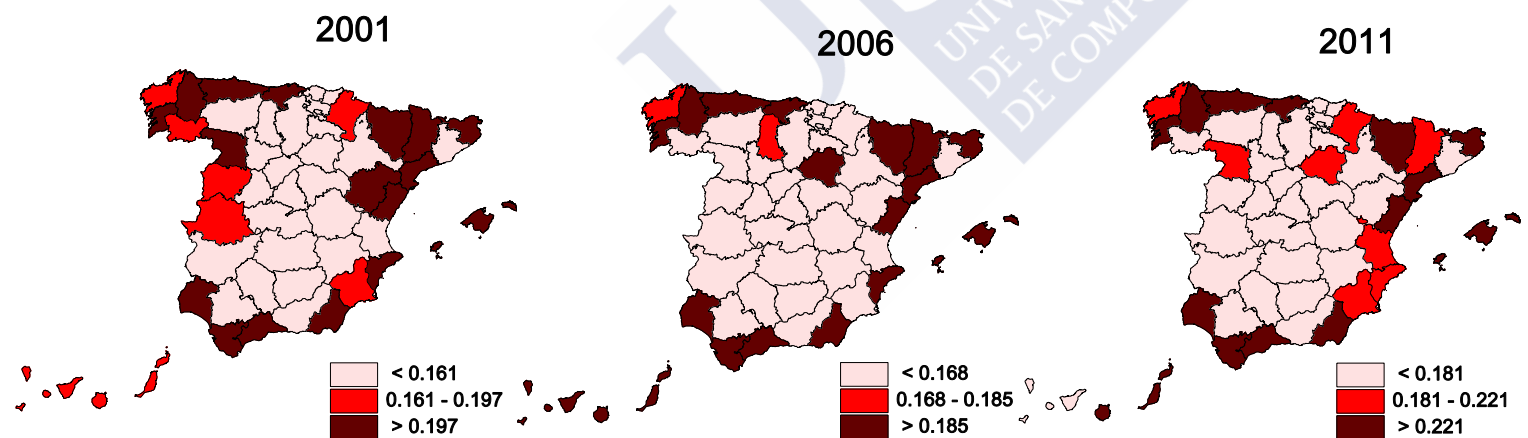
Map A 21: Shops by Habitant

2001

< 0.013
0.013 - 0.016
> 0.016

2006

< 0.014
0.014 - 0.015
> 0.015

2011

< 0.012
0.012 - 0.013
> 0.013

Map A 22: Gini for Domestic Tourists

2001

< 0.102
0.102 - 0.125
> 0.125

2006

< 0.109
0.109 - 0.120
> 0.120

2011

< 0.125
0.125 - 0.138
> 0.138

Source: Own elaboration based on HOS (INE)

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Map A 23:Gini for International Tourists

2001

2006

2011

Legend (2001):
< 0.184
0.184 - 0.224
> 0.224

Legend (2006):
< 0.179
0.179 - 0.199
> 0.199

Legend (2011):
< 0.192
0.192 - 0.212
> 0.212

Source: Own elaboration based on HOS (INE)

Map A 24: Gini for Domestic Overnights

2001

2006

2011

Legend (2001):
< 0.161
0.161 - 0.197
> 0.197

Legend (2006):
< 0.168
0.168 - 0.185
> 0.185

Legend (2011):
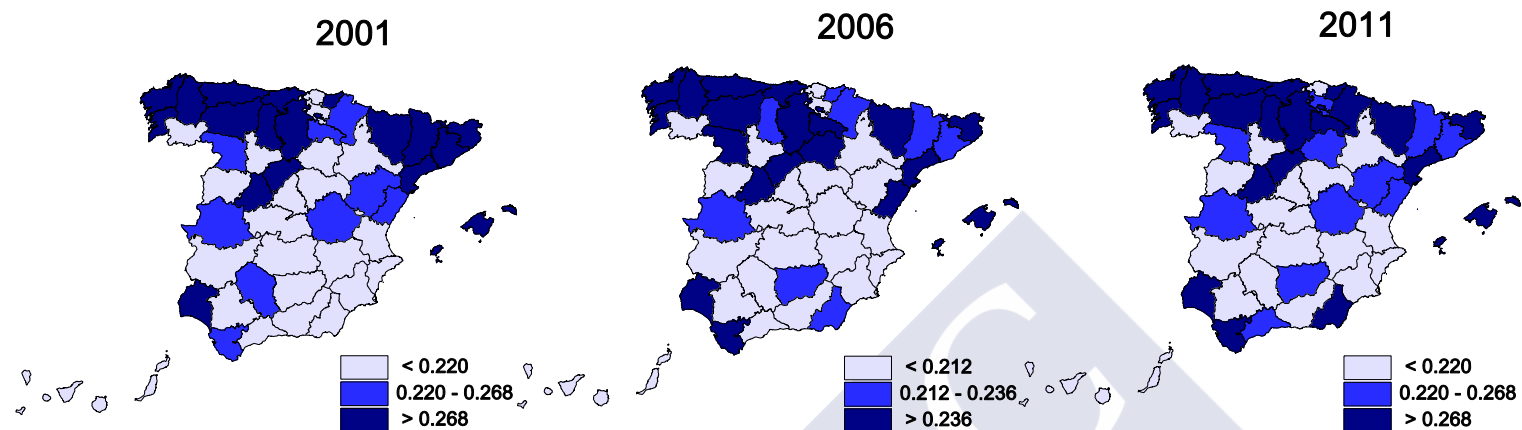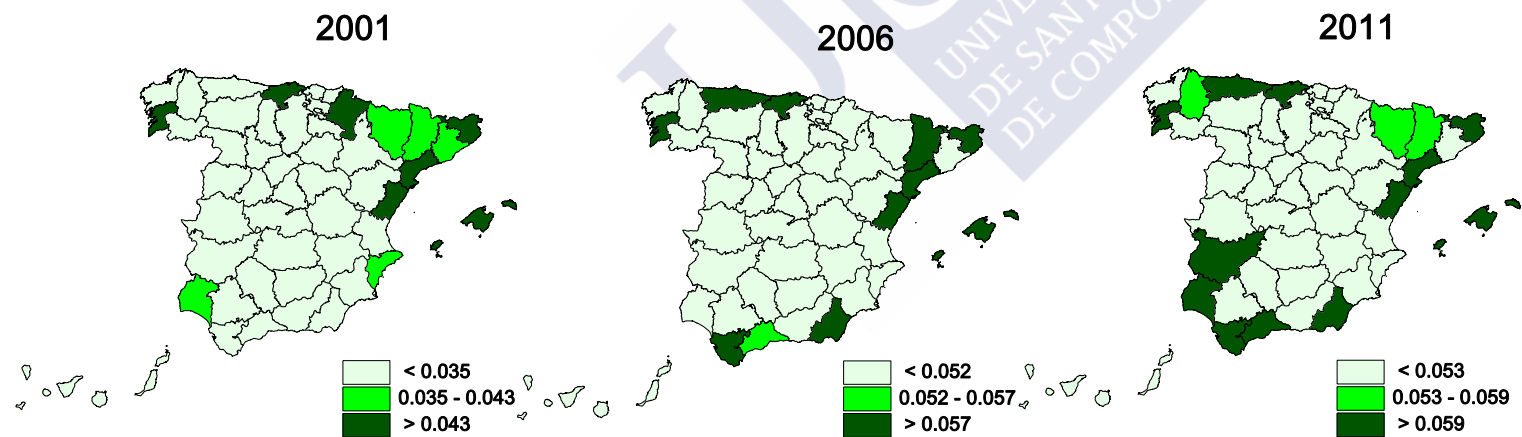< 0.181
0.181 - 0.221
> 0.221

Source: Own elaboration based on HOS (INE)

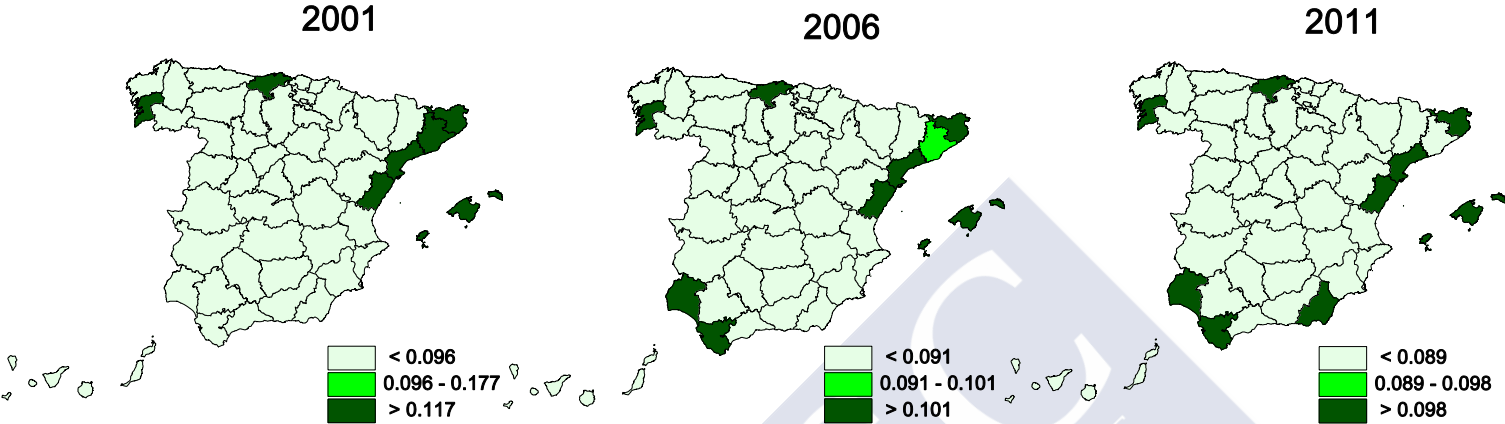**Map A 25: Gini for International Overnights**

Source: Own elaboration based on HOS (INE)
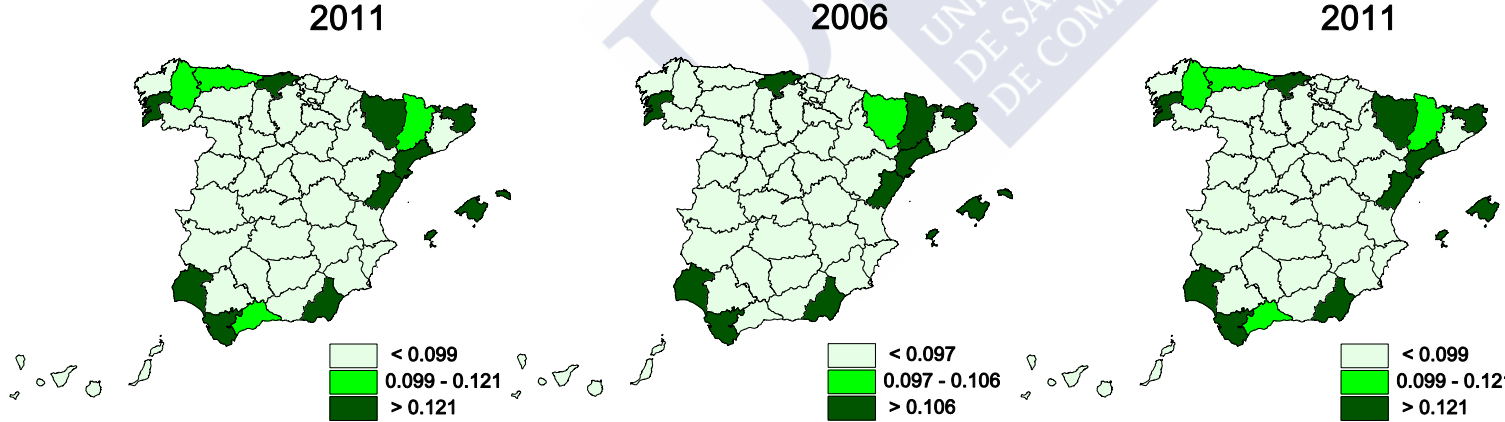
Map A 26: Gini for Hotel Opened Establishments

Source: Own elaboration based on HOS (INE)

Map A 27: Gini for Beds Hotel´s Establishments

2001

2006

2011

	< 0.096
	0.096 - 0.177
	> 0.117

	< 0.091
	0.091 - 0.101
	> 0.101

	< 0.089
	0.089 - 0.098
	> 0.098

Source: Own elaboration based on HOS (INE)

Map A 28:Gini for Hotel Employees

2011

2006

2011

	< 0.099
	0.099 - 0.121
	> 0.121

	< 0.097
	0.097 - 0.106
	> 0.106

	< 0.099
	0.099 - 0.121
	> 0.121

Source: Own elaboration based on HOS (INE)