

Effects of Tourism Wages and employment for the Spanish regions: Seasonality versus Tourism Specialization

Yolanda Pena-Boquete¹

University of Vigo

Diana Pérez-Dacal²

University of Santiago de Compostela

Abstract

Although Spain is one of the countries with the highest arrivals of tourists, those are not equally distributed by regions. In addition to a spatial uneven distribution, Tourism in Spain follows the Mediterranean pattern of one peak season in the summer months (37% of the tourist arrivals are seasonal (IET 2011)). Both regional and temporal concentration of tourism has important consequences on regional labour markets. On the one hand, regional tourism specialization could have a positive effect on the labour conditions for that particular region (Fernández et al. 2009). On the other hand, Seasonality has economic effects in terms of private and social cost that usually exceed its few benefits. As a consequence, the seasonality has become an important topic not only for tourism researchers, but also for policy-makers and tourism managers. Given that, the main aim of this study is to analyze the

¹ Facultade de Ciencias Empresariais e Turismo. Campus universitario as Lagoas. 32004 Ourense, Spain. e-mail: y.penaboquete@uvigo.es

² Instituto de Estudos e Desenvolvimento de Galicia (IDEGA). Avda. das Ciencias, Chalet nº1. Campus Vida. 15782 Santiago de Compostela, Spain. Telf:+34 981563100, ext. 14441. e-mail: diana.perez@usc.es.

effects of seasonality and tourism development on wages and employment for the Spanish regions. As a result, the first step is to identify the different variables accurate for defining the tourism seasonality and specialization, such as the tourist arrivals, level of employment, number of open tourism establishments...and we will propose different indicators both for specialization and seasonality. Secondly, we include these different indicators in a wage equation correcting by sample selection in order to see their effects on wages and employment. We will analyse all economic activities and not just tourism activities in order to account for the possible spillover effects. The main findings show big differences in the degree of seasonality between Spanish regions which are independent of the degree of development of the tourism sector. Moreover, seasonality does not appear to show a negative impact on normal wages neither in tourism activities nor in other sectors.

Keywords: Tourism, labour market, tourism specialization, seasonality, wages.

JEL classifications: J21, J31 L 83.

1. Introduction

Tourism plays an important role in the Spanish Economy, contributing to the economy growth and job creation. Despite of the actual crisis, Spain maintains its position as the second biggest tourism earner worldwide and the first in Europe, and ranks fourth in international arrivals (UNWTO 2011). Tourism has been also seriously affected by the global crisis, but less than other sectors, and it has grown slightly in 2010 (1%). Consequently, it is worth to contribute to the previous literature on the tourism industry as a source of employment, especially in the Spanish situation of huge unemployment level.

Tourism involves a wide range of different activities, types of establishments, employment contracts and working arrangements. As a result, a lot of studies have been focused on estimating the number of direct or indirect jobs generated by Tourism development (OECD, 2000; Polo & Valle, 2008). Actually, in Spain, in 2010 the labour force in the Tourism sector reached a total of 2,120,405 workers, representing the 11.5% of the total labour force and 16.8% of the service sector (INE, National Statistics Institute).

However, these quantitative approaches only take into account the number of jobs and not their “quality”. In fact, Tourism activities could be identified as a source of low quality employment: workers low formal training, high seasonality, long working hours, higher percentage of fixed-term contracts, poor career prospects and low wages (ILO, 1997; Shaw & Williams, 2004; Sinclair, 1997; Sinclair & Stabler, 1997). Nevertheless, authors as Fernandez et al. (2009) argue that tourism specialization improves labour-market conditions³ on the Tourism characteristic industries. At the same time, specialization in tourism is linked with decent working conditions, which means staff more motivated, increased service quality and competitiveness. Consequently, employment should be a key factor for the development of the tourism industry (OECD, 2000; ILO, 2009). In this paper we will focus on the effects that tourism specialization could have on wages and employment, not just on tourism activities but also on the rest of the economy, i.e. attempting to account for the possible spillover effects.

³ They focus on low-wage incidence and gender wage discrimination.

Besides, many jobs in tourism have a seasonal character especially in Spain where the 37% of the tourist arrivals are seasonal (IET 2011). Nevertheless, The net effect of seasonality on labour market is not clear. On the one hand, authors as Commons & Page (2001) or Goulding, Baum & Morrison (2004)) suggest that tourism seasonality could reduce the employee earnings. They argue that the sporadic demand for labour affects increase the cost of recruitment: shortages of seasonal workers led to seeking workers beyond local areas. Consequently, the negative effect of seasonality on wages could compensate the positive of tourism specialization. On the other hand, seasonal work generates benefits to local areas and families because of providing casual and part-time work and additional incomes (Lee et al.2008). Consequently, the literature has approached the seasonal character of tourism employment, but there is not agreement about its effects on wages.

The aim of this paper is to analyse this possible trade-off of tourism specialization and seasonality on wages and employment. We will base on the wage equation (Mincer, 1974) including not just standard socio-demographic variables but also indicators accounting for the tourism specialization and seasonality of the region.

This paper is structured as follows: Section 2 provides a review of the concept of Tourism from a economic point of view, the main studies about tourism influence on earnings and the definition of the indicators that measure tourism specialization and seasonality by region. Later on, in section 3 we present the database used, we describe the methodology and variables included in the wage equations and we present the results. The final section sums up the main conclusions of the analysis.

2. Background: Tourism and wages

Tourism is a heterogeneous industry which represents a wide variety of business types and sizes, so it is not a sector in the traditional sense of the word and it does not fit the standard criteria for national accounts. Tourism is defined as the activities of travellers, taking trips outside their usual environment for less than a year for a main purpose not related to the exercise of an activity remunerated from within the place visited (OECD 2008). Tourism is a demand side phenomenon based in the viewpoint of consumption: it provides goods and services that are consumed by visitors. In that

sense, tourism could have effects not just on the Tourism Characteristic activities,⁴ but on all kind of economic activities (although in a different intensity). For this reason, it is important to analyse its effect on the overall economy, even if, we pay specially attention to the Hotel and Restaurant industry as the main tourism sector.⁵

Previous literature of tourism and labour market has focused in quantifying the number of direct and indirect jobs. Those papers that analyse wages in tourism activities, they focus mainly on the Hotels and Restaurants sector. Muñoz-Bullón (2009) and García-Pozo examined wage differentials between male and female in this particular industry. Muñoz-Bullón (2009) used Oaxaca's approach to estimating wage discrimination of full time workers from a representative sample of companies while García-Pozo et al. (2012) estimated an expanded version of the Mincer Equation and Blinder decomposition from a gender perspective. Both of them found unexplained gender wage differences, and in the second paper they also obtained lower education returns in the hospitality sector compared to other private services.

Closer to the aim of this paper is Fernández et al. (2009), who analyzed the low-quality conditions in the Hotels and Restaurants industry. Their main findings showed that the incidence of low wages in these tourism activities is lower in those regions where tourism is more developed. In line with this paper, recent research (Pena-Boquete et al., 2011) tested if the tourism specialization has effects on the labour market conditions, specifically on the employment stability in Tourism activities. The most remarkable result obtained was that tourism development has a positive effect on the job stability, decreasing the percentage of the temporary contracts. Also, other study (IET 2011a) measured the impact of tourism flows variations on employment. They found that regions more specialized in tourism, Balearic and Canary Islands, presented a strong association between the tourist flows of non-residents and the employment, but these results were slightly weakly for the total of the economy.

⁴ Tourism characteristic industries are those establishments dedicated to the production of tourism characteristic products: "products which in the absence of visitors, in most countries would probably cease to exist". 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 (residents on the local area). The Spanish Statistic Institute (IET) defined a list of characteristic tourism activities according to the recommended methodological framework approved by International Organizations (WTO, OECD...)

⁵ Note that this sector concentrates the 50% of the tourism employment and provide 94% of its output to tourism.

Consequently, the purpose of this article is to contribute to fill the gap in the literature about the influence of tourism specialization in the level of wages and employment, attempting to add the seasonality perspective.

Seasonality has been considered as the systematic, but not necessarily regular, movement of a tourism variable in a selected period of time, usually a year.⁶ Thus, the temporal imbalance in tourism could be expressed in terms of dimensions as numbers of visitors, expenditures of visitors and other forms such as transportations, employment or admissions to attractions (Butler, 2001). The existence of a peak season implies that hotels and other accommodations are closed or working at a lower level over the rest of the year (BarOn, 1975), with important consequences for the local labour markets.⁷ In the labour market, Wales (1988) found that there are two types of seasonal tourism workers. The first group is seasonal voluntary workers, who have alternative occupations at certain times of the year, as for example, students or inactive people. Also, there are seasonal voluntary workers searching work after the peak period in other regions with less seasonality, or in other industries. The second type is involuntary workers, those who are new in the labour market, for example recent school or college leavers, working in the tourism industry during the season while they search for a regular job. As well there are other involuntary seasonal workers, which are the ones displaced from jobs in the regular market. In the same time, As Atkinson(1984), we could distinguish between core and peripheral labour to tourism activities: Where managers and high skilled staff constitutes the core group (receiving high earnings and a job security) while the peripheral labour would be made-up of less educated and skilled workers with temporary contracts (Shaw and Williams, 1994). In this context, the core group constitutes the smallest proportion of tourism employees (Riley 1991). These characteristics of tourism employment are related with high fluctuations in demand for services, as the ways to address the high costs due to the fluctuations(Baum, 1995).

On the one hand, most of the research highlights the negative effects of seasonality for workers. The cost of Tourism seasonality suppose that the sporadic demand for labour affects the recruitment process: shortages of seasonal workers led to

⁶ The causes of seasonality have been widely studied and they can be group in different categories intrinsically related: natural, institutional - cultural, calendar effects and economic reasons (BarOn 1975, Butler 1994, Butler & Mao 1997, Frechtling 1997)

⁷ In addition to its impact on labour markets, seasonality could show other economic consequences (instability in returns on investments), ecological (congested destinations, increase in the pollution levels..) and Socio-Cultural (pressure on the public services for local community).

seeking workers beyond local areas, and the high recruitment costs reduce employee earnings (Commons & Page (2001); Goulding, Baum & Morrison (2004)). Other of the negative implications of seasonality affects the quality of jobs: loss of skill and experience, lack of training and career opportunities, service quality inconsistency and reduced customer satisfaction (Commons & Page (2001); Goulding, Baum & Morrison (2004); Jang (2004); Krakover (2000)).

On the other hand, seasonal work generates benefits to local areas and families because of providing casual, part-time work and additional incomes (Witt & Moutinho 1995). Besides, temporary jobs provide valuable experience for those who are voluntary involved. Even, seasonal tourism jobs provided other non-pecuniary benefits, for example, holiday facilities (Ball, 1988). Thus, Koenig & Bischoff (2003) revise a wide variety of articles stressing that seasonality is not bad for everyone. These studies agree on the idea of the existence of volunteer seasonal workers, like students or immigrants in Norway which alternates between seasonal jobs and work or study in the off-peak season (Flognfeldt 2001). Furthermore, Andriotis (2005) show that seasonal workers preferred better seasonal employment than unemployment. In this line, it was checked that tourism employees work on average over 60 hours per week, so many of these employees are willing to work at this timing only during the season (Mourdoukoutas 1988). On the contrary than (Commons & Page (2001); Goulding, Baum & Morrison (2004), Vaughan et al. (2000), they found that tourism employees receive a higher wage per hour than in the industrial sector on Crete. So, the effects of seasonality on wages are not that clear, and they could be related with the degree of tourism specialization.

Consequently, we will also pay special attention to tourist flows and its seasonal character, and if they could affect the level of wages in hotel and Restaurants industry (tourism sector) and the total Spanish economy (spillover effects).

2.1. How to measure tourism specialization and seasonality?

In the literature on tourism specialization or degree of tourism development, many measures have been defined but there is no consensus about the more suitable; in fact each index could account for different particularities. Thus, an accordingly with the available data for the Spanish regions, we have included different proxies to measure its specialization and its dependence on tourism. The included indexes are:⁸

⁸ Given the data available, we use data for regions. Spain is composed of 17 regions "comunidades autónomas".

- **Tourist arrivals:** It refers to the absolute value of the number of tourist for each region and period. The data is provided by the Institute of Tourism Studies⁹. The quantity of tourism is the main aim of most of the tourism policies. Studying tourism flows could be valuable to identify different degree of specialization in tourism.

- **Tourist Intensity Ratio (TIR):** Percentage of tourists to the resident population. This ratio has advantages in balancing the number of incoming tourists against the number of inhabitants. It is accurate to define the real capacity of the main regional market.

- **Tourist Density Ratio (TDR):** Percentage of tourists to land area (Tourist arrivals/ Km²). The interest of this ratio is in line with the anterior index, given that the specialization of each region is different according with the size of the region.

- **Location quotient.** The location quotient is defined as:

$$\frac{\frac{E_{ij}}{\sum_i E_{ij}}}{\frac{\sum_j E_{ij}}{\sum_j \sum_i E_{ij}}} * 100,$$

being E_{ij} the employment of sector i in province j . If the index is higher than 100 it means that the region j has a higher percentage of sector i compared with this proportion of total employment relative to other regions. In other words, it means that province j will be specialized in sector i .

This variable provides a clearer index of the employment specialization of each province in the tourism characteristic activities. It takes into account the distribution of the tourism employment in a region, relative to the employment in the rest of the economy

In addition to tourism specialization we attempt to account for tourism seasonality. For this reason we also include the following indexes:

- **Seasonality ratio (SR):** First, it is necessary to calculate a seasonal index; the number of tourist arrivals in each month is divided by the average number of tourist

⁹ A visitor is a traveler taking a trip to a main destination outside his/her usual environment, for less than a year, for any main purpose (business, leisure or other personal purpose) other than to be employed by a resident entity in the country or place visited. These trips taken by visitors qualify as tourism trips. Tourism refers to the activity of visitors. A visitor is classified as a tourist (or overnight visitor) if his/her trip includes an overnight stay,.

arrival in that year. The, the seasonality ratio is calculated as the index of the peak month (for example, the highest number of tourist arrivals in the year divided), divided by the average index of arrivals (100). The seasonality ratio can vary from 1 to 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 on a month, the seasonality ratio is 12. As a consequence, when seasonality is increasing, the ratio is approaching 12.

- **Gini index (GI):** It is the most used measure of inequality. The index varies between 0 and 1. The minimum value implies that the distribution is equal between all months of the year. Thus, the maximum value refers to a complete inequality.

As it was pointed before, there is no consensus about the most suitable indicator for measuring the seasonality. All indicators attempt to measure the distribution of visitors during the year. SAR and SRR indexes need less information than the other seasonal indexes but they are less accurate since they just use the information of 2 months (the extreme values). The seasonality ratio is a good measure of intensity of the tourist variable. But seasonality ratio does not take into account the skewness of the distribution and it is influenced by extreme values. Regarding, the Gini index evaluates the data of the whole year and allows comparisons among the years. As a negative point, it is considered that Gini index approached seasonal fluctuations but is insufficient for determining the monthly distribution.

It is also worth to highlight that many variables could be used as a unit for calculating these indexes. The most commonly used it is the number of tourist arrivals, nevertheless, in the case of Spain, it is essential to distinguish between residents and non-residents. This could be explained by its different behavior: non-resident tourists usually stay at hotel, but resident tourist often stays at family or friend's houses. Thus, it is necessary controlling by these particularities since its effects could be different.

Furthermore, we have used other variables to measure the seasonality as for example: the number of open tourism establishments, the number of rooms available and the employees hired (See Annex 1).

3. Methodology

3.1. Data

The used database is the Survey on Income and Living Conditions (EU-SILC), included in the European Statistical System. This survey offers information about monetary and non-monetary earnings for both households and individuals for 27 European Union countries, Croatia, Iceland, Norway, Switzerland and Turkey. The basis of the EU-SILC is generating a commonly framework for a list of variables, common guidelines and procedures, common classification and concepts aimed to maximize the comparability of the results produced. Even if it is a longitudinal database, some variables (among them wages and industry) are just available for cross-sectional data. For this reason, in this article we have used data the microdata of 2006 for Spain (annual survey elaborated by the INE).

At the personal level, the sample includes demographic data about: age, gender, marital status, citizenship, educational level... Moreover, the personal register includes the labour information on the current activity status (working, unemployment, student, retirement, inactive...), basic information on the main job: status (self-employment, family worker or employee); total of hours worked; type of contract; full-time or part-time; occupation; the economic activity of the local unit (NACE); number of persons working at the local unit) and other detailed information about activity history (labour experience). Finally, the sample also offers information about income at a personal level.

We have calculated the hourly wage using the Gross monthly earnings for employees divided by the number of hours worked per month in the main job. The Gross monthly earnings received for the main job for employees includes the usual paid, overtime, tips and commission, and excludes income from investments, assets, savings, stocks and shares.

3.2. Econometric Specification and Variables

In the classic framework, differences in wages show differences in productivity. These differences in productivity could be explained by heterogeneous workers (supply-side) or heterogeneous employers (demand-side). The human capital approach is the

most important in order to explain supply-side factors (heterogeneous workers). Human capital models single out individual investment behaviour as a basic factor in the heterogeneity of labour incomes. For example, Mincer (1958) starts 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 of labour incomes. Training raises productivity, but the time spent in training necessitates postponement of earnings to a later time.¹⁰ 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 labour force experience results improve. Becker (1964) incorporated post-school investments, such as “experience” into the earnings model.

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 labour demand, firms offering undesirable jobs need to improve the working conditions or offer wages above the market rate. An 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 productivity measurement improves with tenure, employees with bad matches

¹⁰ The model is formulated in terms of training periods which are completed before earnings begin. It, therefore, applies strictly to schooling rather than to all occupational training.

eventually leave, hoping to find a better match elsewhere. Thus, employers give an extra payment with tenure in order to avoid that productive worker leaves.¹¹

Wage differentials do not have a 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 those among large firms with market power 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 Wadhvani 1990).

Summarizing, both heterogeneous workers and heterogeneous employers explain differences in wages. Following this kind of interpretation one comes to the classification of factors that we can divide into two groups:

- Variables controlling for firm characteristics of the workers: firm sector, occupation, job 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 the human capital investments are at their 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 underlined 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, since starting the first regular job, that the person has spent at work, whether as an employee or self-employed. Only for those individual who do not answer the question referred to labor experience, it is calculated as the usual procedure: defining a proxy variable called “potential experience” calculated as $\text{age} - \text{years of education} - 6$.

Based on this literature we want to extend this framework to explain the effect of Tourism in two ways. First, taking into account the effects of tourism development

¹¹ Other models which explain demand-side wage differentials are insider-outsider, bargaining, or rent-sharing models.

measured from the demand side. Second, the study also introduces the seasonal influence to capture the effect of different arrivals intensity throughout different months during the year. Thus, we estimate the following equation:

$$\ln w_{ij} = \alpha_0 + \beta_1 HC_{ij} + \beta_2 SD_{ij} + \beta_3 TS_{ij} + \beta_4 SS_{ij} + \lambda_j + \varepsilon_{ij}$$

Being i the individuals, and j the different regions¹², $\ln w_{ij}$ the natural logarithm of the hourly wage for the individual i . Moreover, HC represents the human capital variables (worker characteristics), SD refers to firm characteristics of the individuals, TS indexes of tourism specialization and SS is a set of variables related with the seasonality of tourist arrivals. Finally, we have included λ_i dummies for the regions, and ε_{ij} would be the error term.

Nevertheless, wages are just observable when the worker is employed. This would not be a problem if the decision of participating is random; otherwise, the coefficients will be biased. To correct for sample selection we based on Heckman (1975)¹³. First, we will estimate a probit about the decision of being working or not. Analysing probit results, we will also identify the effects of tourism specialization and seasonality on employment. From the probit we will calculate the inverse of the mills ratio and we will include it in the wage equation to correct the sample bias.

3.3. Results

The results of the regression analyses are presented in the following tables.¹⁴ In table 1 we show the wage regressions accounting by the effect of tourism specialization including different indexes as we explain before.¹⁵ Moreover, we also include the interaction between the tourism specialization indexes with being employed in Hotels and Restaurants industry. Thus, we will take into account the direct effect of tourism in Tourism characteristic activities as Hotel and Restaurants industry (H&R), but also the spillover effect on the rest of the economy. As we can see in the Table 1, the location

¹² Spain is composed of 17 provinces. We have chosen this disaggregation according with the available data from the WSS. However, from a tourism point of view, the provinces disaggregation could be more relevant, since that the arrival of tourists is very different from provinces even inside same regions. We have included region dummies for controlling for these particularities.

¹³ In the selection equation we have included age, sex, marital status, the highest level of an educational programme successfully completed, number of children less than 3 years-old in household, and capital incomes.

quotient tourism has a significant and positive impact on the employee's hourly wage of tourism activities (H&R) but also on hourly wage of workers in other economic activities, i.e. the development of tourism would have a positive effect not just in tourism wages but also a spillover effect on other sectors.

However, tourist arrivals seem to have a significant and negative impact on the economy (but not significant effect on tourism sector).¹⁶ This fact could be due to the regions are too different in size; so the absolute magnitude of the tourist arrivals is not comparable among them. To correct this effect, we calculate the density ratio (tourists/km²) and the intensity ratio (tourists/population). In this case, Tourism Density shows a positive effect on wages but just taking into accounts foreign Tourists. As a result, it seems that it is the specialization of regions on foreign tourist the relevant variable, which have a positive effect on the labour market conditions. This could be explained because the Foreign Tourist has a higher average daily expenditure than the national tourist (97,6 euros versus 34,3 euros). We could argue that the national tourism has not reach the threshold not in average expenditure neither in Tourism Intensity (Table 1 in the Annex) to have a positive effect on labour market condition. Correcting by length of the territory, we appreciate also a significant positive effects of tourism specialization on both hourly wages of whole economy and for H&R sector although smaller than measuring it with location quotient. In this case, we do not appreciate differences between Nationals and Foreign tourist. Nevertheless, it could be due to the Intensity ratio for Spanish is capturing the effects of the foreign tourism, since as we can see in the maps (1,2,3,4) in the annex, Density ratios as much more different than Intensity ratios.

Employment equations agree with wages equation, and tourism specialization have a significant and positive effect on the probability of being working. Again, Spanish tourism has not the conditions to improve the labour market (Density ratio for Spanish does not show a positive effect)

¹⁴ Due to a space limitation, we do not report the coefficients of the variables related with human capital (HD) and firm characteristic since there are not main aim of this paper. Most of the variables appear to be significant and show the expected sign. In the selection, we have also include age, education, civil status, household earnings and children younger than 3 years as the selection variables.

¹⁵ Indexes are included in logarithms, so we could interpret their coefficients as elasticities.

¹⁶ In fact, including residents and non-residents tourist separately we get opposite effects. Thus, it is necessary to do future research controlling by these particularities.

**Table 1: Results for Hourly Wage Regressions
including Tourism Specialization**

Ln Wage	(1)	(2)	(3)	(4)	(5)	(6)	(7)
In(Location Quotient Tourism Employee)	0.2637***						
In(Location Quotient Tourism Employee) *H&R	0.0288						
In(Tourist Spanish)		-0.0448***					
In(Tourists Spanish) *H&R		-0.0201					
In(Tourist Foreign)			-0,0549***				
Ln(Tourist Foreign)*H&R			0.0004				
In(TDR National Tourists)				-0.4311***			
In(TDR National Tourists) *H&R				-0.0142			
In(TDR Foreign Tourists)					0.8812***		
In(TDR Foreign Tourists) *H&R					0.0120		
Ln(TIR National Tourists)						0.0362***	
In(TIR National Tourists) *H&R						0.0115	
Ln(TIR Foreign Tourists)							0.0333***
In(TIR Foreign Tourists) *H&R							0.0081
HC	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SD	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regional Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Worker							
In(Location Quotient Tourism)	-0.0203						
In(National Tourists)		0,0424***					
In(Foreign Tourists)			0,0582***				
In(TDR National Tourists)				-0.1579***			
In(TDR Foreign Tourists)					0.1181***		
In(TIR National Tourists)						0.0618***	
Ln(TIR Foreign Tourists)							0.0602***
Mills (lamda)	0,2166****	0,2167***	0,2137***	0,2211***	0,2127***	0,2243***	0,2223***
Observations	15769	15769	15769	15769	15769	15769	15769

* p<0.1, **p <0.05, ***p<0.01

In table 2, we have introduced the seasonal ratios. All of them (except the effect of tourist non-residents) seem to have a significance and positive effect in the wage level of the economy. So the higher seasonality is, the greater effect on the wage level of the economy. Note that, these results are applicable to workers out of the seasonal peak, and it that sense could have more stable job and better conditions than those who just work in the seasonal peak. In addition, the effects of tourism seasonality appear to

be positive and significant in the decision of being working. However, the effect of seasonality caused by arrival of tourist non-residents seems to have a negative effect on the hourly wage of the whole economy, and on the probability of being working. Again, the seasonality show negative effects on the labour market but after reaches a threshold. If it is not too high could have positive effects on the labour market.

Table 2: Results for Hourly Wage Regressions including Tourism Seasonality

Ln Wage	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
In(GI National tourists)	0.5509****							
In(Gini National tourists) *H&R	0,0052							
In(SR National tourists)		1.1680***						
In(SR National tourists) *H&R		0.0353						
In(GI Foreign Tourists)			-49.7970***					
In(Gini Foreign Tourists) *H&R			0.0050					
In(SR Foreign Tourists)				0.4219***				
In(SR Foreign tourists) *H&R				0.0536				
In(GI employees)					0.2450***			
In(Gini employees) *H&R					-0.0003			
In(GI establishment)						2.6233***		
In(Gini establishment) *H&R						0.0135		
In(SR establishment)							80.3540***	
In(SR establishment) *H&R							0.0939	
HC	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
SD	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Regional Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Worker								
In(GI National tourists)	0.0454							
In(SR National tourists)		0.0095						
In(GI Foreign tourists)			-0.0131					
In(SR Foreign tourists)				-0.0122				
In(GI employees)					0.0517***			
In(SR employees)						0.5267***		
In(GI establishment)							0.0285	
In(SR establishment)								.7191***
Mills (lamda)	.2153***	0.***	0,2187***	0.2182***	0.2160***	0.2075***	0.1953***	0.3540***
Observations	12769	12769	12769	12769	12769	12769	12769	2769

* p<0.1, **p <0.05, ***p<0.01

4. Conclusions

Tourism has become a key sector in our economy, especially during the crisis time. The quantitative effects of the tourism sector are generally assumed, some researchers question their positive impacts on the quality of job. In this paper we focus on the effects of the tourism development on wages and employment. Although tourism have been classify for some researchers as a low wage sector, Fernandez et al. (2009) show the incidence of low-wages is lower in Canary and Balearic Islands, i.e. in those regions where tourism is more developed. In line, with this paper we analyse the effect of tourism development on wages and employment, but not just in tourism activities but also the spillover effects to the rest of the economy. This study has showed that development tourism indicators are important determinants of the Spanish employees' wages, not only for the tourism workers, but also for the global economy. Nevertheless, this positive effect on the Spanish labour market is generated for the foreign tourist instead of nationals. This fact could indicate that for getting positive effects from the tourism in the labour market we need a minimum development or intensity.

Furthermore, Tourism jobs have a seasonal character in most of the 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 the normal hourly wages, i.e. on the wages out of the seasonal peak. Moreover, most of the indexes show that it has also a positive effect on employment. In this case, it is also the seasonality higher than a particular level the one that causes negative effect on the labour market.

Finally, it is important to highlight the different effects that the resident and non-resident tourist shows, so, we need to analyse this point deeply.

References

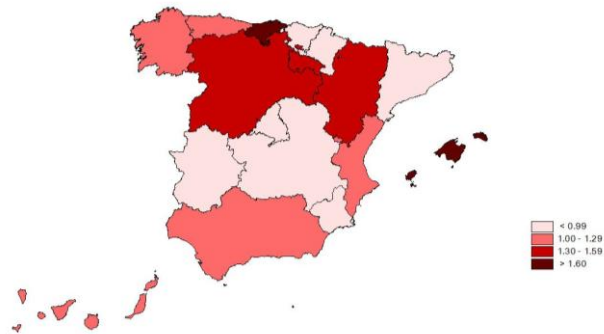
- Bar-On, R.V.(1975). Seasonality in tourism- a guide to the Analysis of seasonality and trends for policy making. Technical series n°2, The Economic Intelligence Unit. London.
- Baum T., Lundtorp S. (eds). (2001) Seasonality in Tourism, Pergamon, Oxford.
- Becker, G. S. (1964): Human Capital. National Bureau of economic research. New York.
- Belau, D., Budlender, D. (2006): An introduction to labour statistics in tourism. Ginebra. International Labour Office.
- Brown, Ch.; Medoff, J. L. (1989): "The employer size-wage effect". The Journal of Political Economy, 97(5): 1027-1059.
- Butler, RW. Mao, B.(1997). Seasonality in Tourism: problems and measurement. In Quality Management in Urban Tourism, Murphy P (ed). Wiley: Chichester; 9-23.
- Butler, R. W. (2001). Seasonality in tourism: Issues and implications. In T. Baum, & S. Lundtorp (Eds.), Seasonality in tourism (pp. 5-21). Oxford: Pergamon.
- 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
- 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.
- IET (2011a): "The impact of tourism flows on the creation of employment", in 5th UNWTO International conference tourism Statistics.
- IET (2011b): *The Spanish Labour market in Tourism Industry 2010*. 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.

- 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 *Sustainable 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.
- Mincer, J (1958): "Investment in Human Capital and Personal Income Distribution". *The Journal of Political Economy*. 66(4): 281-302
- Muñoz-Bullón, F. (2009): "The gap between male and female pay in the Spanish tourism industry", *Tourism Management* 30(2009): 638-649.
- Nickell and Wadhvani (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 Employment*. Paris. OCDE.
- 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 labour 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.

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

Annex 1

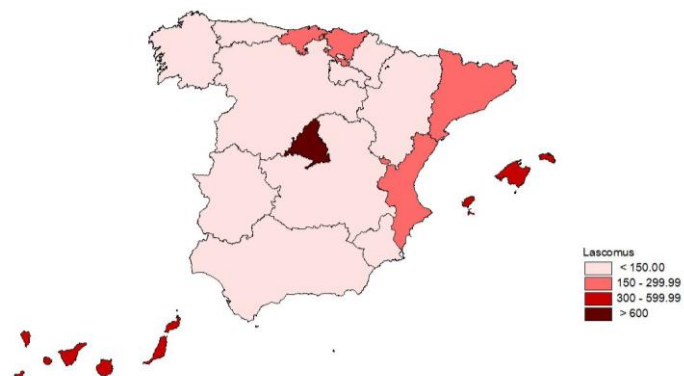
Graphic 1: Tourism Density Ratio for National Tourist (2006)



Graphic 2: Tourism Density Ratio for Foreign Tourist (2006)



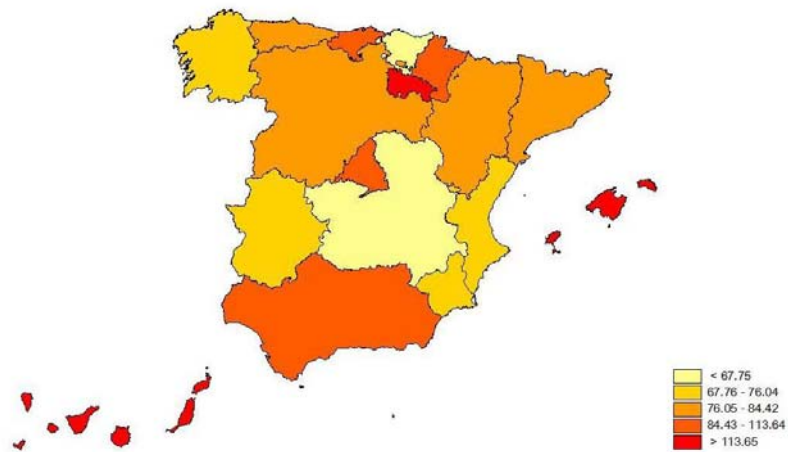
Graphic 3: Tourism Intensity Ratio for National Tourist (2006)



Graphic 4: Tourism Intensity Ratio for Foreign Tourist (2006)



Graphic 5: Location quotient (2006)



Graphic 6: Seasonal Gini index Employees of Hotel & Restaurant (2006)



Annex 2

Table 1: Descriptive data from the specialization indexes

Variable	Obs	Mean	Std. Dev.	Min	Max
Location Quotient Tourism	12769	99.88486	53.5051	48.34155	302.0246
National Tourist	12769	3623760	2834554	92257	9652603
Foreign Tourist	12769	2609166	2841311	26649	7940045
TDR National Tourists	12769	1.083323	0.2714866	0.6317112	1.761981
TDR Foreign Tourists	12769	0.730494	1.181119	0.1258865	6.469508
TIR National Tourist	12769	232.773	439.9548	22.40108	2883.031
TIR Foreign	12769	176.3623	290.3303	3.295744	1335.697

Table 2: Descriptive data from the seasonal indexes

Variable	Obs	Mean	Std. Dev.	Min	Max
Gini Foreign Tourist	15754	0.1957035	0.0868573	0.04176	0.44087
Gini National Tourists	15754	0.1314486	0.0551007	0.04677	0.29286
Gini Employees	15754	0.0348915	0.0411683	0.0091	0.23753
Gini Establishments	15754	0.053959	0.0639332	0.00993	0.35141
SR Foreign Tourists	15754	1.530938	0.256729	1.106679	2.113442
SR National Tourism	15754	1.460717	0.2471149	1.129151	2.187354
Sr Establishments	15754	1.134253	0.1482613	1.022565	1.769924
SR Employees	15754	1.09904	0.1009918	1.02045	1.554156