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The Dynamics of Temporary Jobs in the Tourism Industry

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1. Introduction

Since the early 1960s, tourism has become the principal engine of growth in the services sector in Spain. According to the Spanish Statistical Office, tourism accounted for 12.1% of GDP in 2003 and employed around 12% of the total workforce (and 19% of the service sector; see Guardia, 2004). It provides direct employment for over 860,000 people, rising to roughly 1.5 million workers when those employed in related activities are included (Corkhill et al., 2004).

As many tourist activities are mainly seasonal, usually everybody assumes a direct link between the tourism industry and temporary and seasonal employment. In 2004, 32.8% of the sector's employees were on temporary contracts in Spain, a figure which was slightly above the 31.2% national average, and four points larger than the service sector average of 28.4%. In fact, trade unions have called for greater job stability and less seasonal work in the tourism industry so as to achieve a service of greater quality (Jaimez, 2005). Thus, critics argue that the sustained growth in the tourism industry has been achieved at the expense of its workers. In spite of this, there have been surprisingly few attempts to evaluate the career progress in this industry, and, from our perspective, this is the main contribution of this chapter.

Herein, we seek to contribute to the analysis of tourism employment by focusing on an important aspect of the use of temporary contracts in this industry: their pattern of promotion into open-ended contracts. In particular, we use a longitudinal administrative data source from the Spanish Social Security records (*Muestra Continua de Vidas Laborales*, hereinafter MCVL) which tracks the labor careers of workers affiliated to the Social Security in 2005 (i.e., the sample is representative of working people in 2005 in Spain). The analysis of temp-to-perm transitions is carried out separately for workers in three different sub-samples. The first one is constituted by individuals who have never been employed in the tourism industry along their labour market history; the second sub-sample is formed by individuals who have been employed for less than 50 percent of their labour history in the tourism industry; the last sub-sample is composed of individuals who have been employed in the tourism industry at least for half of their working history. The objective is, therefore, to measure mobility into permanent contracts, by tracking the work biographies of these three different subsets of individuals. We estimate an econometric model in which the worker faces the alternative of remaining in the same situation characterized by the absence of an open-ended contract versus moving to a permanent job. Our results show that when

individuals have been employed in the tourism industry for less than 50 percent of their working life, tourism experiences represent a springboard into open-ended contracts. On the contrary, when individuals are substantially engaged in the tourism industry along their working life (i.e., those hired in the industry for at least 50 percent of their working life), being hired on a temporary basis in this industry exerts a negative impact as regards their career aspirations: these individuals enjoy a lower likelihood of achieving subsequent open-ended contracts. Thus, recursively working in the tourism industry —which is characterized by seasonality, a large proportion of part-time workers and high labour turnover— implies limited career opportunities.

The chapter is organized as follows. Section 2 addresses the institutional context and briefly reviews previous literature. Section 3 describes the data used. Section 4 presents the empirical model and its main results. We conclude in Section 5.

2. Temp-to-perm transitions and the tourism industry: Spanish institutional background and previous literature

In general, the image of tourism employment appears to be split: on the one hand, tourism jobs possess a certain image of glamour —meeting people and travel are often seen as glamorous and attractive aspects of tourism employment. On the other hand, they are deemed as of low status and skill. In a sense, the positive aspects attributed to tourism employment compete in the image stakes with negative aspects such as low pay, service and menial status. Some of the major touristic businesses are dominated by unskilled and semi-skilled jobs (Mathieson & Wall, 1982; Jafari et. al., 1990). The tourism employee is often seen as "uneducated, unmotivated, untrained, unskilled and unproductive" (Pizam, 1982, pp. 5). As regards Spain, the profile of a "typical" employee in hotels, catering and travel agencies is that of a woman aged 30 to 44 years-old with secondary education, whereas the profile of a typical restaurant employee is that of a woman aged 16 to 29 years-old with elementary education (Jaimez, 2005), although some authors stress the relevance of the simultaneity of hard-to-fill vacancies and skill shortages in the Spanish tourism industry (Marchante et al., 2006).

Tourism employment is characterized by high levels of fluctuation in demand for its services and products, not only in terms of annual seasonality, but also within the timeframe of a week or day —indeed, there is an important literature on seasonality in tourism employment (see, e.g., Baum, 2007). This causes labour to be flexible and makes it, in labour market terms, unstable (Ball, 1989; Riley, 1991; Heerschap, 2004). As labour flexibility is at the very heart of tourism employment, it is worth debating whether or not this can be counted as an attractive aspect of the industry. Tourism has a high degree of seasonality, which can generate a dichotomy between core-periphery workers, with employees in the periphery holding temporary contracts. Given the seasonal and periodic variations in demand in tourism, seasonal (Ball, 1989) and part-time work is common in the industry (Jafari et. al., 1990; International Labour Office, 1989). In Spain, the phenomenon of temporary employment in tourism affects women (43.6%) more than men (30.9%), and people under the age of 30 (56.8%), and some Spanish regions (in particular, Andalusia has a temporary employment rate in tourism of 42%). Broken down by sub-sectors, we find that four out of every ten women employed in the hotel trade is hired on a temporary contract, this ratio dropping to three out of every ten for male workers. There is also a growing trend

of temporary contracts in the restaurants, cafes and bars sectors, accounting for 48.1% of the female workers and 39.9% of male ones (Spanish Labour Force Survey, INE).

This predominance of seasonality and flexible working hours might harm career progress of workers in terms of reaching an open-ended contract compared to other economic sectors. The Spanish economy provides an interest context to contrast this hypothesis because Spain is the OECD country with the largest proportion of wage and salary workers hired on a temporary basis (around 30 percent since the beginning of the nineties). Although temporary contracts are widely used in the Spanish tourism industry (as we explained above), this type of contracts is extended to all economic sectors[1].

The extended use of temporary contracts in many sectors of activity in Spain began with a legal change introduced in the Workers' Charter in 1984 aimed at decreasing the unemployment rate (at that time, the highest one in the OECD, above 20 percent). The main component of this labour market reform was to allow temporary and fixed-term contracts not only for temporary needs of the firm but also for permanent ones. Originally it was intended to increase hiring flexibility, but in fact it represented an increase in firing flexibility, because of the much lower firing costs of temporary contracts compared to open-ended contracts. In very few years, the temporality rate rose from around 10 percent at the beginning of the eighties (Fina et al., 1989) to around 33 percent in 1992 (Toharia, 2006). Such high proportions of workers hired on a temporary basis created different problems for workers and even for firms and the economy as a whole (Toharia & Malo, 2002), such as higher working injury rates, lower levels of skills, decreases in the fertility rate, increasing difficulties faced by young people to obtain mortgages, relevant postponement of new families formation, and a segmented labour market. Different labour market reforms have been implemented in 1994, 1997, and 2006 in order to decrease the use of temporary contracts and to promote the conversion of these contracts into open-ended contracts. Theses reforms have not had a big short-term effect on the use of temporary contracts (in 2007 the temporality rate remained at 31%), although the temporality rate has slightly decreased in the private sector[2].

Literature on transitions from temporary to permanent contracts mainly focuses on whether a 'temporality trap' exists or not. On the one hand, temporary employment may be a 'trap' of endless precariousness especially as duration in the temporary contract increases. First, a temporary contract may serve as a signal as to the lack of alternatives (especially in case that the employer believes that the temporary worker has already been screened by other employees). Second, due to the high turnover usually associated with fixed-term and temporary contracts, temporary work may be associated with limited acquisition of human capital (in the presence of a positive externality connecting specific to general human

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[1] Sometimes, the high temporality rate of Spain has been related to the relative importance of tourism industries and construction. However, Toharia (2006) and Malo & Mato (2006) show (applying shift-share analysis) that the widespread use of temporary contracts is not related to the employment distribution by sectors and that, moreover, the evolution of the temporality rate is not linked to dynamic changes in the distribution of employment by industries.

[2] As Toharia (2005) explains the temporality rate in Spain has been high in the Public Administration at the local level, particularly in municipalities, possibly because local employment measures are strictly linked to the annual public budget and contracts can not go beyond this limit. Thus, some people are hired year by year by municipalities using different types of temporary and fixed-term contracts.

capital). Finally, as search intensity for an open-ended job is expected to decrease with the duration in the non-permanent state, the exit rate from a temporary to a permanent contract is expected to be negatively associated with such a duration.

On the other hand, there are at least two reasons why temporary employment might represent a "springboard" to permanent employment (García-Pérez & Muñoz-Bullón, 2011). First, according to the matching approach, firms may use temporary contracts as a screening device in order to identify the best matches: in this case, more-able workers might signal their type by making themselves available for screening under temporary contracts. In this sense, workers who are able to find a temporary job provide a signal of their quality to potential employers, since being on a temporary contract means that the worker is willing to take a job (rather than, for instance, rely on unemployment benefits). Therefore, temporary job experience may be informative about the ability and motivation of the individual[3]. We would then expect that the rate of transition from a temporary contract to an open-ended contract would decrease as time goes by, since employers will use an individual's labor market history to sort good workers from bad workers and they might perceive (rightly or wrongly) that a previous history of multiple temporary contracts is likely to result in some loss of skills. Secondly, following the human capital approach, being employed under a temporary contract allows the worker the acquisition of human capital (either general or specific) which would positively influence the probability of acquiring a permanent status —in addition to social contacts and information on permanent vacancies, which may allow the individual to deepen his attachment to the labor market, and to search more effectively for more desirable jobs[4].

Therefore, the way in which the accumulation of temporary jobs affects the probability of reaching an open-ended contract is an empirical question. Previous international literature shows results supporting both views. Hagen (2003) for Germany, Zijl et al. (2011) for the Netherlands, Gagliarducci (2005) for Italy, and Engelland & Riphahn (2005) find evidence on temporary contracts as bridges towards permanent employment. However, Booth et al. (2002b) for the UK, D'Addio & Rosholm (2005) for the European Union[5] as a whole, and Blanchard & Landier (2002), find relevant negative effects of temporary employment on labour careers.

Focusing on the Spanish case, the first empirical analysis (up to our knowledge) is Toharia (1996), who finds that seniority is a key variable to determine the transition from a temporary contract to a permanent one, because employers would be interested in using, at least for some workers, temporary contracts to screen for candidates to permanent jobs. Later, Alba-Ramírez (1998) shows that the likelihood of a temp-to-perm transition notably decreased from 1987 to 1995, especially for women, young people, males without studies and for those non-employed prior to their temporary contract. Again, seniority is a key

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[3] Indeed, some studies have shown that employers use atypical contracts as a way of screening for permanent jobs (Storrie, 2002; Houseman et al., 2003).

[4] However, as explained in the literature on career interruption (Mincer & Offek, 1982), unemployment spells following terminations of temporary contracts would make the individual incur not only the permanent loss of firm-specific human capital, but also the deterioration of general skills (Gregory et al., 2001).

[5] They use the European Community Household Panel from 1994 to 1999.

variable to understand the transition toward an open-ended contract[6]. Recently, Toharia & Cebrián (2007) have provided wide empirical evidence explicitly focused on whether or not a temporality trap exists. They use different databases to analyze workers' labour market trajectories. A distinctive feature of this research is that they analyze the patterns of (un)stability not only focusing on the transition towards an open-ended contract but also on the stability of the open-ended contracts too. They find that after a period of 7 seven years (from 1998 to 2004) 39 percent of temporary workers remain in a situation of vulnerability as regards the temporality trap. In addition, using a multivariate analysis they find that the strongest negative effect on the likelihood of being trapped is found for individuals with up to 5 contracts. For additional contracts, the effect remains negative up to 20 contracts, becomes zero between 21 to 39 contracts and positive for 40 or more contracts. These three studies use *logit* specifications, which may be not very flexible when applied to the analysis of the dynamic path of transition rates. Up to our knowledge, duration studies on Spanish conversion rates are those of Amuedo-Dorantes (2000), Güell and Petrongolo (2005), Casquel & Cunyat (2005) and García-Pérez & Muñoz-Bullón (2011). Amuedo-Dorantes (2000) estimates transitions out of temporary employment using Labour Force Survey (LFS) data from 1995:2 through 1996:2, and finds that conversion rates are very low, regardless of job tenure. Güell & Petrongolo (2007) use Labour Force Survey data from 1987:2 through 2002:4 to study the time pattern of permanent employment, and they find that conversion rates of temporary into permanent contracts increase with seniority. Casquel & Cunyat (2005) analyze whether the existence of observable and unobservable characteristics influences the transition rate to a permanent employment and conclude that in Spain temporary contracts do not play this role. García-Pérez & Muñoz-Bullón (2011) analyze temporary workers' transitions into permanent employment for workers under 26 years-old. They find out that the conversion rate from temporary into permanent employment is very low, and that individuals with long unemployment duration flow into permanent work less frequently.

Nevertheless, none of this previous research focuses on the employment in tourism industry, and this is one of the novelties of the present contribution. However, the instability of workers' career in Spain is a worrying issue for policymakers. The main instrument provided by the institutional regulation is a special type of open-ended contract called 'discontinuous open-ended contract' (in Spanish, *contrato fijo discontinuo*). It is an open-ended contract which allows for interruptions of the labour relation because of seasonality. These interruptions (typically, in autumn and winter) are covered either by working elsewhere (for example, in construction) or by receiving public benefits for unemployment. In other words, when each tourist season ends, workers are laid off but they expect an implicit re-call by the same firm in the following tourist season. In the Balearic Islands, this contract is widely used in the tourism industry[7] (see Toharia, 2005, for a wide report on workers hired using these contracts). Considering that the employment variation in the Balearic Islands is around 100,000 people, 40 percent is covered by these special open-ended

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[6] Using cross-section data from 2001 for Spain, García-Serrano (2004) shows that workers with temporary contracts suffer worse labour conditions and face a greater employment exit rate, especially those with tenure lower than 18 months.

[7] In other Spanish regions, as Murcia, this contract is also widely used for seasonal agricultural activities.

contracts whereas the remainder is covered by different types of temporary and fixed-term contracts. As regards earnings, Toharia (2005) concludes that the discontinuous open-ended contract is not harmful for these workers. In our analysis, we will not consider this contract as a special case, because we will focus on the first transition into an open-ended contract. However, any analysis trying to cover the whole trajectory of workers in the tourism industry in Spain should consider as a special case the perm-temp or perm-unemployment transitions from discontinuous open-ended contracts and the successive temp-to-perm contracts.

3. Data and descriptive statistics

3.1 Data and definition of sub-samples

Our data set is a representative sample of all workers included in the Spanish Social Security records in 2005, and it is called Longitudinal Sample of Working Lives (in Spanish, *Muestra Continua de Vidas Laborales*, MCVL). For all these workers, the database includes information about their whole labour market trajectory, i.e., about every employment (and unemployment spell) along their work history (from the moment when they first enter the labor force up to the year 2005). Thus, it is a retrospective database not a panel. Because of this, every conclusion will apply to the Spanish working population in 2005. The variables included refer to the worker's labor market trajectory and their individual characteristics, such as the reasons for the end of each contract, province, economic activity sector, type of contract, whether the contract was signed with a temporary help agency for each spell of employment, as well as age, gender, occupation, duration in employment and in unemployment. The duration of the employment spells are built from the dates of the hiring and the end of the contract and it is measured in months. In addition, for our analysis, we also consider two aggregate variables at the regional and national level: the growth rate of the domestic product (i.e., a control for the business cycle) and the regional unemployment rate (i.e., a control for the local labor market situation).

From the initial database we filter out workers above 55 years-old, and select only individuals who had a temporary contract at least twice in the period analyzed, whose initial contract was of a temporary nature, and who have exclusively been working at the General System of the Social Security (i.e., we exclude self-employed workers).

The analysis of temp-to-perm transitions in the tourism industry is only meaningful when we can compare it with the rest of economic sectors. As along their careers, workers can be hired by firms from different industries, we have divided the total sample into three groups: the first one is constituted by individuals who have never been employed in the tourism industry along their labour market history; the second group is formed by individuals who have been employed in the tourism industry for less than 50 percent of their labour history; and the third one is composed by individuals who have been hired in the tourism industry at least for half of their working history. Since the size of these groups is very large, we extracted random samples out of the first two —a 10% random sample of the individuals belonging to the first group, and a 20% random sample of the individuals belonging to the second group. The final group size is 12,847, 10,481 and 10,949 individuals in the first, second and third sub-samples, respectively.

For our analysis (and for reasons of simplification), we only focus on the first temp-to-perm transition (if any) of the working trajectory of individuals. For individuals never hired under a permanent contract, our sample includes all their employment spells (all of them under temporary contracts). For those who enjoy any temp-to-perm transition, we will consider their first open-ended contract (and, therefore, every temporary contract prior to this first observed open-ended contract). Finally, spells ending in 2005 may be censored. Therefore, in the econometric analysis the sample consists of spells of temporary contracts that can end up either in another temporary contract, in an open-ended contract, or are censored observations. In addition, when tenure in temporary contracts lasts beyond 40 months the observation is considered as censored (given the small number of observations beyond this duration), as well as individuals observed in the last temporary contract of their labour history.

3.2 Variables

We will consider different variables in order to control for both worker and job heterogeneity. We include controls for age, gender, nationality, qualification group (see Table 1), whether the contract is with a temporary help agency, and the employees' activity sector. As indicated above, we also include some aggregate variables such as the growth rate of the gross domestic product and the regional unemployment rate. In addition, we control for the duration (in months) of the non-permanent state by including a second-order polynomial in $log(t)$ − see section 4 below: the type of duration dependence might help understand the role of temporary contracts in the Spanish labour market. Finally, in order to gain flexibility in the specification of the duration dependence and to control for the role of institutional factors we also include several dummy variables that describe some specifics points in time: 6, 12, 18, 24 and 36 months. The first spikes are meant to capture short-run effects, while the longer ones are introduced to capture longer renewal dynamics for temporary workers which can be related to institutional factors (among other things).

Skills Level	Description of corresponding Social Security Contribution Groups
High	1. ingenieros and licenciados - *engineers and graduates* 2. ingenieros técnicos, peritos and ayudantes titulados - *technical engineers and other skilled workers* 3. jefes administrativos and de taller - *chief and departmental heads*
Upper Intermediate	4. ayudantes no titulados - *other semi-skilled workers* 5. oficiales administrativos - *skilled clerks* 6. subalternos - auxiliary workers
Lower-Intermediate	7. auxiliares administrativos - *semi-skilled clerks* 8. oficiales de primera and segunda - *skilled laborers*
Low	9. oficiales de tercera and especialistas - *semi-skilled laborers* 10. peones - unskilled laborers

Note: These groups are proxies for workers' skills level, because these categories are a mix of occupation and educational level required for jobs.

Table 1. Aggregation of Social Security contribution groups into skills levels

Given that we want to test whether the type of the labour path influences the exit rate to a permanent contract, we also include a time dummy variable which collects the number of temporary contracts held by the individuals previous to the last observed employment spell. This last spell consists either of a permanent contract (for the case of uncensored observations) or a temporary contract (for censored observations). This variable allows quantifying the marginal effect of each new spell into the exit rate into permanent employment.

3.3 Descriptive statistics

Table 2 shows descriptive statistics at the time of the first temporary contract considered. In the no-tourism sub-sample, workers are predominantly males, while slightly more women are present in the remainder sub-samples. Workers in the "≥50%-tourism" sub-sample are slightly less likely to be under 45 years-old, although, on average, differences as regards age are not substantial on average among the three groups. In addition, while 10 percent of individuals belonging to the first sub-sample are hired via the intermediation of a temporary help agency, this only occurs for 6 percent of them in the third sub-sample. In addition, individuals in the first sub-sample are substantially more likely to have a high qualification level (as compared to the remainder groups) and to be working either in the financial institutions and business services or in the commerce sector. Note also how tenure in the first temporary contract considered is substantially larger in the first sub-sample (around 10 months) versus the other two (6 and 8 months, respectively). Table 4 shows the decomposition of the temporary contract types for each group considered. The following categories are taken into account: per task contract, casual contract, work-experience contract, training contract, interim contract, and a residual category (named as "Other"). See Table 3 for definitions for each type of temporary contract.[8]

As can be observed, most of temporary contract spells are per task and casual contracts, while interim, work-experience and training contracts only account for a very small size of temporary contract spells. In particular, the former two categories constitute a marginal one in each sub-sample. Work-experience and training contracts are the ones having longer tenure, while interim, casual and per task are the shortest ones. Moreover, by looking at the first spell, the most remarkable finding is that the weight of the "Other" category substantially increases. As regards the "≥50%-Tourism" sub-sample, the per task contract category has a larger weight in the first spell considered when compared to the total number of spells (something which does not occur for the remainder two sub-samples).

Finally, table 5 shows that at relatively short durations, temporary contracts are more likely to end up into another temporary contract. As duration proceeds, the probability of another temporary contract substantially reduces, while the chances of permanent employment increase (up to durations of 6 months)[9]. Therefore, the length of transitions from temporary contracts to open-ended contracts is longer than from temporary contracts into temporary

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[8] In order to know more details on each type of contract, see the *Guía Laboral*, elaborated by the *Ministerio de Trabajo y Asuntos Sociales*, which is freely available in the following web page: http://www.mtas.es

[9] This table shows evidence of some temporary contracts continuing beyond the legal limit of three years. This may be attributed either to the fact that there may be imperfect compliance by employers shortly after the three-year limit, or measurement error (see, in this respect, Güell & Petrongolo, 2007).

contracts. This may imply that employers generally use temporary contracts as a probation period and that "good" matches (in terms of renewal into open-ended contract or temporary contract) last longer.

	No tourism		< 50% in Tourism		≥ 50% in Tourism	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Sex (Male=1)	0.528	0.499	0.482	0.500	0.475	0.499
Age:						
Age 16-25	0.738	0.440	0.832	0.374	0.648	0.478
Age 25-35	0.200	0.400	0.124	0.330	0.234	0.423
Age 36-45	0.045	0.207	0.034	0.181	0.086	0.281
Age > 45	0.017	0.130	0.010	0.101	0.032	0.177
Temporary Hep Agency (1=Yes)	0.100	0.300	0.080	0.271	0.058	0.234
Qualification level:						
High	0.077	0.267	0.015	0.120	0.016	0.126
Upper-intermediate	0.098	0.297	0.087	0.282	0.093	0.291
Lower-intermediate	0.260	0.439	0.233	0.422	0.281	0.449
Low	0.565	0.496	0.666	0.472	0.610	0.488
Inmigrant (1=Yes)	0.092	0.288	0.105	0.306	0.279	0.449
Employer equal to previous one (1=Yes)	0.380	0.486	0.264	0.441	0.366	0.482
Type of temporary contract:						
Per task	0.263	0.440	0.171	0.377	0.153	0.360
Casual	0.315	0.465	0.364	0.481	0.467	0.499
Work-experience	0.041	0.198	0.009	0.097	0.012	0.110
Training	0.031	0.175	0.040	0.195	0.023	0.149
Interim	0.045	0.208	0.019	0.138	0.024	0.154
Other	0.305	0.460	0.396	0.489	0.321	0.467
Activity:						
Agriculture, Fishing and Extractive industries	0.011	0.104	0.006	0.079	0.004	0.061
Production	0.148	0.355	0.063	0.242	0.032	0.176
Energy and Transport	0.013	0.115	0.010	0.101	0.007	0.086
Construction	0.137	0.344	0.047	0.211	0.027	0.163
Commerce	0.229	0.421	0.144	0.351	0.088	0.283
Tourism	-	-	0.456	0.498	0.672	0.469
Financial institute. & business services	0.271	0.444	0.177	0.382	0.119	0.324
Public Administration	0.040	0.196	0.021	0.142	0.012	0.107
Teaching and Health	0.075	0.263	0.024	0.154	0.014	0.116
Other services	0.076	0.265	0.051	0.220	0.026	0.158
Duration of first temporary contract spell (in months)*	10.403	9.885	5.616	7.367	7.826	8.200
No. Individuals	12,847		10,481		10,949	

Notes: (*) without taking into account censored observations.

Table 2. Main descriptive statistics for the first temporary contract spell

Work Contract Name	Description
Work-Experience (Practice) Contract (*Contrato de prácticas*)	The purpose of this contract is to enable persons who have completed secondary, vocational training or university education to gain work experience according to their educational level.
Training Contract (*Contrato de formación*)	This contract is related to the provision of theoretical and practical knowledge required to perform a skilled job. This contract replaced the old apprenticeship contract in 1997.
Interim Contract (*Contrato de interinidad*)	This temporary contract is related to interim situations in the firm
Per-task Contract (*Contrato de obra o servicio*)	This contract was introduced for temporary needs of the firms related to specific works or services of unknown duration (but presumably not permanent).
Casual Contract (*Contrato eventual por circunstancias de la producción*)	This contract is related to unusual or seasonal circumstances of the goods markets and excess of work in the firm.

Table 3. Description of Work Contract Denominations Used in the Analysis

	n. of spells	%	Mean length	% in first spell
No tourism				
Type of contract				
Per task	29,481	35.88	4.140 (3.483)	26.27
Casual	27,984	34.06	2.923 (2.749)	31.51
Work-experience	1,693	2.06	10.709 (10.469)	4.09
Training	753	0.92	8.422 (8.420)	3.14
Interim	8,721	10.61	2.389 (1.915)	4.52
Other	13,538	16.48	5.653 (5.234)	30.46
<50% in Tourism				
Type of contract				
Per task	25,804	27.31	2.885 (2.575)	17.10
Casual	44,007	46.57	2.302 (2.177)	36.45
Work-experience	653	0.69	9.914 (9.106)	0.94
Training	883	0.93	6.192 (6.204)	3.97
Interim	6,519	6.90	1.881 (1.628)	1.95
Other	16,624	17.59	3.719 (3.608)	39.60
≥ 50% in Tourism				
Type of contract				
Per task	10,099	8.00	4.880 (4.1855)	15.33
Casual	29,670	52.89	3.655 (3.4437)	46.68
Work-experience	414	0.74	10.789 (10.580)	1.22
Training	443	0.79	8.0744 (8.0744)	2.27
Interim	2,826	5.04	2.6535 (2.1591)	2.43
Other	12,648	22.55	5.500 (5.1572)	32.07

Note: sample size is 12,847 individuals, 10,481 individuals and 10,949 individuals for the "No-tourism", the "<50%-Tourism" and the "≥50%-Tourism" sub-samples, respectively.Every individual's first spell is temporary. "Median length" measured in months, in parentheses for complete spells only.

Table 4. Temporary contract spells composition by sub-samples

Spell Length:	No tourism			
	TC-TC		TC-PC	
	n.	*%*	*n.*	*%*
≤1	43,707	63.05	1,604	25.46
>1 & ≤3	9,763	14.08	1,071	17.00
>3 & ≤6	7,501	10.82	1,306	20.73
>6 & ≤12	5,522	7.97	1,220	19.37
>12 & ≤18	1,314	1.90	440	6.99
>18 & ≤24	823	1.19	406	6.45
>24 & ≤30	262	0.38	95	1.51
>30 & ≤36	240	0.35	137	2.17
>36	191	0.28	20	0.32
Total:	69,323	100.00	6,299	100.00
Censored	6,548			
	<50% in Tourism			
Spell Length:	TC-TC		TC-PC	
	n.	*%*	*n.*	*%*
≤1	57,690	68.67	2,134	39.42
>1 & ≤3	11,972	14.25	1,041	19.23
>3 & ≤6	8,015	9.54	1,053	19.45
>6 & ≤12	4,680	5.57	799	14.76
>12 & ≤18	885	1.05	184	3.40
>18 & ≤24	423	0.50	122	2.25
>24 & ≤30	138	0.16	29	0.54
>30 & ≤36	119	0.14	45	0.83
>36	87	0.10	7	0.13
Total:	84,009	100.00	5,414	100.00
Censored:	5,067			
	≥ 50% in Tourism			
Spell Length:	TC-TC		TC-PC	
	n.	*%*	*n.*	*%*
≤1	23494	52.03	2,102	26.31
>1 & ≤3	7465	16.53	1,403	17.56
>3 & ≤6	7,463	16.53	2,013	25.20
>6 & ≤12	5,200	11.52	1,655	20.72
>12 & ≤18	710	1.57	335	4.19
>18 & ≤24	384	0.85	289	3.62
>24 & ≤30	143	0.32	63	0.79
>30 & ≤36	146	0.32	116	1.45
>36	146	0.32	13	0.16
Total:	45,151	100.00	7,989	
Censored	2,960			

Table 5. Length of spell (in months) by type of transition

A preliminary analysis using non-parametric estimation of the hazard rates provides the time profile of the empirical hazard of the exit from a temporary to an open-ended contract (Figure 1). It shows the monthly empirical hazard functions from a non-permanent position for each sub-sample (Kaplan-Meier estimates). These empirical hazard functions collect the proportion of individuals leaving the temporary contract state at each moment in time, given that they have been temporarily employed until that moment (Lancaster, 1990). The figure shows, in the first place, long durations in non-permanent positions. In the second place, the probability of getting an open-ended contract remains basically flat, i.e, reaching a permanent contract is not related with the duration of the previous temporary contract. Therefore, the descriptive empirical evidence does not support the existence of a temporality trap level (in any of the three considered groups). Moreover, although the time profile is the same for the three groups, the rate is higher for those who have been working in this industry for at least fifty-percent of their working life (especially during the first twelve months), while the difference with respect to the other two sub-groups decreases with the duration of the temporary contract.

Finally, it is noteworthy that there are several periods where the empirical hazard is noticeably higher than at surrounding periods: the hazard rates rise to peaks at tenure durations multiple of six (months 6, 12, 24 and 36). These peaks show that temporary contracts are very likely to finish at each of these particular months. Given that no special reason can be adduced to explain why individuals should be dismissed at those months multiple of six, these duration effects are likely due to temporary contract terminations. Similar results are obtained in previous studies (see, in particular, García-Pérez & Muñoz-Bullón, 2005, or Güell & Petrongolo, 2005).
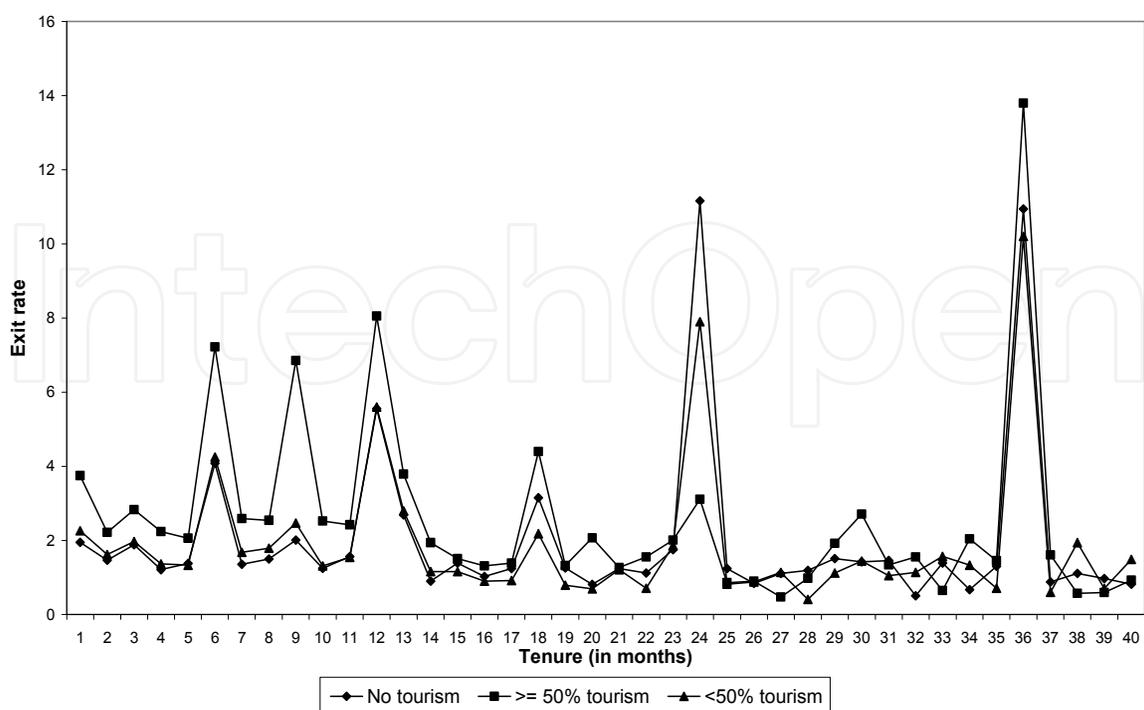

Fig. 1. Exit rate to an open-ended contract (Kaplan-Meier), by sub-samples.

4. Econometric approach: Discrete time duration analysis

The exit rates from employment are analysed using discrete hazard model techniques —see Allison (1982) or Jenkins (1997), for a survey. The hazard rate out of employment into a permanent contract may be defined as the limit of the conditional probability of a transition taking place in a small interval *dt* after time *t* if no transition occurs until t, when that interval approaches to zero. Formally, let T_i be the length of individual *i*'s temporary contract spell. Then the hazard for individual *i* at time *t*, $h_i(t)$, is defined by the following equation:

$$h_i(t_i, X_i(t), \theta_i) = \lim_{dt \to 0} \frac{\Pr(t + dt > T_i \geq t \mid T_i \geq t)}{dt} = \lambda_0(t) \exp\{X_i(t)'\beta\}\theta_i \tag{1}$$

where $\lambda_0(t)$ is the baseline hazard function which may take either a parametric or a non-parametric form; $X_i(t)$ is a vector of time-invariant and time-varying covariates for individual *i*, β is the vector of unknown parameters to be estimated, *i=1…N* are individual-month observations, and, finally, θ_i captures unobserved individual characteristics that affect the hazard in theory but are unobservable in the data, such as acquired skills, attitudes, motivation, inherent ability and so on.

Now, we define the probability of surviving through any interval *dt* after having survived the preceding *j* interval as *(1-h_{ij})*. Therefore, the likelihood contribution of individuals who exit into a permanent contract in the *j-th* interval is[10]:

$$\Pr[T_i = t] = h_{t_i} \prod_{j=1}^{t_i - 1} (1 - h_j) \tag{2}$$

and if we assume that censoring takes place at the beginning of intervals, the likelihood contribution of individuals who find another temporary contract (or are artificially censored) at the start of the *jth* interval is:

$$\Pr[T_i > t] = \prod_{j=1}^{t_i} (1 - h_j) \tag{3}$$

Then, defining *d_i=1* if individual *i*'s spell ends in a transition to a job (0 otherwise), the likelihood contribution of the *i*'s individual can be written as:

$$L_i = \left[[\Pr(T_i = t_i)]^{d_i} [\Pr(T_i > t_i)]^{1-d_i} \right] = \left\{ h_{ti} \prod_{j=1}^{t_i-1} (1 - h_j) \right\}^{d_i} \left\{ \prod_{j=1}^{t_i} (1 - h_j) \right\}^{1-d_i} \tag{4}$$

where the discrete time hazard in the *jth* interval for each individual is:

$$h_j = 1 - \exp\left[-\exp(\beta X_i(t) + \gamma_j(t) + \theta_i) \right] \tag{5}$$

A common but restrictive approach consists of specifying a parametric form for the baseline hazard ($\gamma_t(t)$). This approach is rather strong, given that the assumptions over the form are

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[10] We omit *t*, *X* and θ to simplify notation.

difficult to justify from an economic point of view, and provokes a misspecification problem. Instead of this, duration dependence is captured through the additive term $\gamma_j(t)$, which is estimated in the most general way as possible through the inclusion of a second-order polynomial in $log(t)$[11]. This method presents the advantage of being flexible and it is very common in the literature (see García-Pérez, 1997; García-Pérez & Muñoz-Bullón, 2005). A common distribution used for unobserved heterogeneity is the gamma distribution (Meyer, 1990). It can be shown that when θ is gamma distributed with unit mean and variance σ^2, the log-likelihood function is as follows (Meyer, 1990, pp. 770)[12]:

$$\log L = \sum_{i=1}^{n} \log \left\{ \left[1 + \sigma^2 \sum_{j=1}^{t_i-1} \exp\left(X_{ij}'\beta + \gamma_j(t) \right) \right]^{-\sigma^{-2}} - d_i \left[1 + \sigma^2 \sum_{j=1}^{t_i} \exp\left(X_{ij}'\beta + \gamma_j(t) \right) \right]^{-\sigma^{-2}} \right\} \quad (6)$$

where $\gamma(t)$ is a function that describes duration dependence in the hazard rate through the inclusion of a polynomial in $log(t)$; and d_i is a dummy variable that is equal to 1 if individual i´s spell ends in a transition to employment and 0 otherwise (censored observations). In the next section we estimate this likelihood function by maximum likelihood to ascertain which personal, job and labour market characteristics influence the duration of spells of temporary contracts that end either in an open-ended or in another temporary contract.

5. Results: The transition rate into permanent employment

Table 6 reports the results obtained from an estimation of the hazard rates for each sub-sample[13]. Censoring (as explained earlier) takes place when some individuals are not observed prior to failure. In the present case, the data are right-censored because we do not observe the transition out of temporary employment for some individuals in the sample (they either continue at their current temporary job or enter a new temporary job). Moreover, as commented in Section 3.1, we have created an artificial right-censoring beyond 40 months, due to the scarcity of observations beyond this duration. Therefore, the hazard model is used to examine the likelihood that workers exit temporary employment and enter permanent employment (versus entering a new temporary job or continuing at the current temporary job). Since Kaplan-Meier estimates for the employment hazard indicate that the likelihood of exiting from employment is significantly higher at the sixth, twelfth, twenty-fourth and thirty-sixth months[14] (see Section 3.3), the specification of the hazard rate includes dummy variables indicating whether or not the individual is on-the-job at such months[15].

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[11] This polynomial offers the best results in terms of significance and likelihood values.

[12] The choice of a gamma distribution is made for computational reasons, which, however, could be debatable (Narendranathan & Stewart, 1993). Alternatively, the distribution could be approximated non-parametrically (Heckman & Singer, 1984). In this case, we would follow a semi-parametric approach based on Heckman & Singer (1984), and we would assume that unobserved heterogeneity followed a discrete distribution function with different mass points.

[13] Though not shown, separate estimations by gender have also been obtained. They are available from the authors upon request.

[14] Other studies (see, for instance, García-Pérez & Muñoz-Bullón, 2005) also show evidence in this respect.

[15] The ratio of the hazard rate of an individual with a dummy variable equal to 1 to the hazard rate of the reference is exp(b). The percentage of increment (detriment) in the hazard rate is calculated as (exp(b)- 1)*100.

	No tourism			≥ 50% in Tourism			< 50% in Tourism		
	Coef.	Std.	Signif.	Coef.	Std.	Signif.	Coef.	Std.	Signif.
Log(t)	-0.567	0.109	***	-0.971	0.120	***	-0.139	0.204	
Log(t)2	1.089	0.090	***	1.859	0.102	***	2.626	0.248	***
Month 6	1.163	0.063	***	0.924	0.059	***	1.011	0.114	***
Month 12	1.310	0.078	***	1.303	0.101	***	1.119	0.147	***
Month 18	0.819	0.121	***	0.949	0.155	***	1.003	0.283	***
Month 24	2.598	0.113	***	2.924	0.165	***	3.030	0.298	***
Month 36	3.051	0.208	***	3.115	0.271	***	3.246	0.506	***
Sex (1=male)	-0.211	0.123	*	0.093	0.138		-0.066	0.258	
Age:									
Age 16-25	-	-	-	-	-		-	-	-
Age 25-35	0.305	0.120	***	0.075	0.145		-0.335	0.264	
Age 36-45	-0.079	0.266		0.287	0.235		0.311	0.630	
Age > 45	0.322	0.412		0.364	0.350		1.747	1.263	
Qualification level:									
High	-0.069	0.197		0.367	0.377		0.028	0.495	
Upper-intermediate	0.416	0.138	***	-0.347	0.162		0.016	0.226	
Lower-intermediate	0.382	0.103	***	-0.135	0.103		0.053	0.155	
Low	-	-	-	-	-		-	-	
Inmigrant	-0.208	0.226		0.386	0.175		0.059	0.457	
Regional unemployment rate (tvc)	-0.036	0.012	***	-0.159	0.015	***	-0.089	0.022	***
Quarterly growth GDP (tvc)	-0.025	0.021		-0.046	0.025	*	-0.023	0.039	
Employer equal to previous one	-0.331	0.085	***	-0.018	0.087		-0.834	0.132	***
Activity:									
Agriculture. Fishing and Extractive industries	-0.048	0.366		-0.519	1.033		-1.334	0.998	
Production	-	-	-	-	-	-	-	-	
Construction	-0.791	0.181		0.461	0.360		0.069	0.414	
Commerce	0.335	0.139	***	0.152	0.283		0.431	0.299	
Tourism	-	-	-	-0.603	0.252	**	0.618	0.277	**
Energy and Transport	0.066	0.346		-0.737	0.647		0.484	0.613	
Financial institutions and business services	0.240	0.154		0.268	0.294		0.286	0.333	
Public Administration	-1.016	0.285	***	1.055	0.553	*	-0.376	0.747	
Teaching and Health	-0.552	0.225	**	0.214	0.472		-0.290	0.497	
Other services	0.068	0.194		0.258	0.348		0.688	0.383	*

Table 6. Estimation results for discrete-time model of transitions from a temporary contract to an open-ended contract, by sub-samples (controlling for unobserved heterogeneity)

	No tourism			≥ 50% in Tourism			< 50% in Tourism		
	Coef.	Std.	Signif.	Coef.	Std.	Signif.	Coef.	Std.	Signif.
Number of previous Contracts:									
One contract	-	-	-	-	-	-	-	-	
2-5 contracts	-0.506	0.086	***	-0.103	0.092		0.621	0.178	***
6-10 contracts	-1.051	0.158	***	-0.494	0.182	***	0.647	0.309	**
>10 contracts	-1.267	0.222	***	-0.308	0.282		-0.121	0.394	
Type of contract:									
Per task	-0.246	0.192		-0.933	0.237	***	-0.183	0.358	
Casual	0.284	0.184		-0.465	0.220	**	-0.095	0.347	
Work-experience	-0.615	0.261	**	-2.960	0.494	***	-1.249	0.669	*
Training	-1.474	0.394	***	-1.595	0.447	***	-0.975	0.549	*
Interim	-	-	-	-	-	-	-	-	-
Other	-0.573	0.200	***	-1.214	0.236	***	-0.679	0.364	*
Temporary Help Agency	0.119	0.154		-0.249	0.227		0.117	0.279	
Region:									
Andalucia	-0.936	0.235	***	0.258	0.283		-0.526	0.472	
Aragon	-1.145	0.370	***	-0.981	0.439	**	-1.416	0.677	**
Asturias	-1.307	0.406	***	-0.447	0.421		-0.679	0.710	
Balearic Islands	-0.054	0.423		-2.093	0.303	***	-2.146	0.577	***
Canary Islands	-0.523	0.287	*	-0.702	0.262	***	-0.602	0.513	
Cantabria	-1.256	0.550	**	0.231	0.543		0.153	0.906	
Castilla la Mancha	-0.508	0.293		-0.013	0.446		-0.427	0.631	
Castilla León	-0.711	0.276	***	0.330	0.337		0.002	0.595	
Catalonia	-0.229	0.177		-0.743	0.224	***	-0.417	0.343	
Valencia	-0.556	0.212	***	-0.802	0.263	***	-1.137	0.411	***
Extremadura	-0.546	0.447		0.620	0.702		-0.873	1.079	
Galicia	-1.751	0.282	***	-0.443	0.332		-0.556	0.573	
Madrid	-	-	-	-	-	-	-	-	-
Murcia	-0.044	0.353		-0.874	0.514	*	-1.895	0.797	**
Navarra	-0.625	0.464		-0.949	0.678		-1.756	1.190	
Basque Country	-0.892	0.279	***	-0.030	0.347		-1.359	0.675	*
La Rioja	0.145	0.576		-0.648	0.659		2.128	1.782	
Constant	-2.549	0.327	***	0.714	0.445	*	-0.500	0.666	
Gamma variance	17.926	1.591	***	20.048	1.165	***	62.170	6.006	***
χ² (Prob> χ²)	24958.4 (0.000)			29712.5 (0.000)			28527.9 (0.000)		
Observations (indiv.-spell)	325,735			242,858			261,819		
Log Likelihood function	**16,770.34**			**18,608.968**			**-11,267.143**		

Notes: Regressions also include dummies for each month of beginning each temporary employment spells (dummy variables for January-February, March-April, May-June, July-August and September-October). "tvc" means time varying covariate. Source: Social Security records, except for the regional unemployment rate and the quarterly GDP growth rate (which have been obtained from the Spanish Labour Force Survey, EPA). χ² statistics refers to testing model with unobserved heterogeneity against that without. *** indicates significance at 1%; ** indicates significance at 5%; * indicates significance at 10%.

Table 6. Cont.

Given that our main interest is on the impact arising from the tourism industry on the likelihood of achieving permanent contracts, we have included a set of dummies which collect the activity sector where the individual is employed under the temporary contracts considered[16]. For workers in the ≥50%-tourism sub-sample, the most notable result is the fact that the tourism industry experience implies a substantial detrimental effect on the transition into a permanent contract, a decrease in the hazard rate of 45.3 %, respect to the remainder sectors (with the exception of Public Administration). Individuals with less than 50% of their labour history in the tourism industry enjoy a higher likelihood of achieving a permanent job when the temporary contract is in the tourism industry (an increase of 85.5% in the hazard ratio) compared with the remainder sectors (with the exception of the residual group of 'Other services'). Therefore, a tourism temporary contract might be either beneficial or detrimental, depending on the degree of attachment of the workers' career to such an industry: for those with a weaker attachment, such an experience will serve as a 'springboard' into permanent employment, whereas for those heavily engaged in tourism will be a substantial difficulty for moving into a permanent position.

It is important to notice that individual background previous to the current temporary contract spell is relevant for explaining the transitions across labor careers and it is a good approach to determine whether a 'temporality trap' exists or not. In particular, for the non-tourism group, the chance of transiting into a permanent job reduces as the number of previous contracts is larger (-39.7% for 2-5 previous temporary contracts, -65% for 6-10 contracts, -71.8% for more than 10 contracts). This negative effect also appears in the ≥50%-tourism sub-group, although it is only significant for having 6 to 10 previous temporary contracts (a decrease in the hazard rate of 39%). Therefore, the results show the existence of a temporality trap for non-tourism workers and a 'partial' trap for those with a working career mainly developed in the tourism industry. On the contrary, experiences of several previous temporary contracts exert a positive significant influence on the likelihood of transiting into a permanent job in the <50%-tourism sub-sample, up to a total of ten previous contracts (an increase in the hazard rate of 86.1% for 2-5 contracts and of 91% for 6-10 contracts). Again, we find a positive effect of temporary contracts on their prospects of reaching a permanent job for those occasionally engaged in tourism.

The variables for tenure in temporary contracts (6, 12, 18, 24, and 36 months) have a positive and very significant effect on the hazard rates, independently of the sub-sample considered. Therefore, as expected, temporary contracts are more likely to end at integer monthly durations. An eventual interpretation is that firms may be converting temporary contracts into permanent ones, once the legal limit for the temporary contract has been reached. Moreover, the hazard at durations multiple of six is higher for individuals who have been employed for more than half of their working history in the tourism industry than for the sub-group where individuals have been employed in this industry for at least 5 percent of their working lives. The fact that the time pattern of transitions into permanent contracts is

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[16] Of course, for the group of workers never hired in the tourism industry the set of industry dummies of the temporary contract does not include tourism. For those individuals without experience in the tourism industry along their work history, holding a temporary contract in the commerce, in agriculture, in the fishing or extractive industries or in the financial institutions and business services sectors, makes them enjoy a higher likelihood of entering regular employment than in the production sector. On the contrary, worse expectations as regards the exiting from temporary positions arise in construction, public administration and in teaching and health activities.

lower for those with a higher attachment to the tourism industry may imply either that the latter tend to occupy less productive job matches (which are thus less likely to be converted into permanent ones before the legal limit) or that they are in a weaker bargaining position than individuals in other industries, as they may be more easily replaced.

However, when the employer in the current temporary contract is the same as in the previous one, the probability of reaching an open-ended contract decreases, -28.2% for non-tourism workers, and -56.6%for the <50% -tourism sub-sample. These results show that employers do not use temporary contracts as screening devices when they subsequently hire the same workers through temporary contracts. Nevertheless, results do not show this effect for the >50%-tourism sub-sample.

One might expect that workers who accept a temporary job are initially strongly attached to that job, for instance, for contractual reasons. In some sense, this is true, since the negative estimated effect for duration dependence is reversed as tenure in the temporary job increases. In particular, the predicted transition into regular employment slightly increases after a period of ten months (a similar finding is obtained by Zijl et al., 2011). This effect applies to the three sub-samples of workers: the probability of finding a permanent contract decreases during the initial months of temporary employment, but increases thereafter. Thus, temporary employment duration initially presents a temporary penalty effect, since this negative impact disappears for long enough employment durations. A likely interpretation for this result is that sufficiently long experiences of employment increase worker's human capital, and this fact may help her find a permanent job (compared to workers whose tenure in temporary employment is shorter). Apparently, employers may prefer individuals who have occupied a temporary job for time enough, given that this may constitute a positive signal. An increasing size of the social network among temporarily employed workers may also explain this. In addition, as the temporary contract goes on, given its fixed-term nature, the worker may increase search intensity. This may also explain the observed positive effect on the job finding rate.

For a female temporary worker the probability of achieving a permanent contract does not significantly differ from that of men either in the ≥50%-tourism group or in the <50%-tourism sub-sample, while they are in a disadvantaged position (relative to men) in the non-tourism group. Age has a positive effect on the likelihood of transiting from temporary contracts into an open-ended contract, though only for the 25 to 35 age category in the no-tourism sub-sample. Thus, individuals in the 25-35 age groups are more likely to enter into permanent employment. Probably, these workers have more firm-specific human capital than the youngest ones, which is highly valued by employers. In addition, it is a fact that younger workers are more willing to move from jobs (and employers) for improving their job match, even though this may imply an experience of unemployment, and eventually settling in a more stable career path (Jensen et al., 2003). In addition, the type of temporary contract held in the temporary contract spell is another relevant determinant of the transitions. Having an interim contract increases the probability of achieving a permanent contract. On the other extreme, we find training and work experience contracts, which present a detrimental effect on the movement into regular employment.

As regards macroeconomic conditions, out of a temporary contract spell, the unemployment rate has a negative impact on the transitions into an open-ended contract. Thus, when the unemployment rate is high, firms can keep on searching for better employees and so the

probabilities that a worker is renewed or converted into a permanent job are lower. Lower unemployment implies better outside opportunities for temporary workers in search for better jobs, and this enables them to more credibly threat their employer in case of low conversion rates. On the contrary, the effect of the GDP growth rate is mostly non-significant. There are some differences as regards the region of residence. In the no-tourism sub-sample, compared to Madrid, it is workers in Galicia, Cantabria, Asturias and Aragon who are substantially less likely to achieve a permanent contract. On the contrary, in the remainder groups, Balearic Islands is the region where exiting from employment into regular work is more difficult (which is one of the most important regions as regards tourism employment), closely followed by Murcia and Valencia (where tourism is very relevant too). Anyway, being in the Balearic Islands heavily decreases the probability of transiting towards a permanent employment either for those with a large or weak attachment to the tourism sector (in both cases, the hazard rate decreases by around 88%).

Finally, one should note that the size of the gamma mixture distribution relative to its standard error suggests that unobserved heterogeneity is significant in this dataset. Thus, unobserved individual heterogeneity would be a serious concern without the methodological approach of this econometric estimation.

6. Conclusion

While academics and tourism planners have recognized that community involvement in tourism is essential — and, as a result, tourism is promoted in policy agendas on the grounds that it will enhance the lives of local people— limited attention has been paid to the stability of the jobs created in this sector. This article has addressed the relative neglect (as compared, for example, with infrastructure, transportation or marketing) of career progress in the tourism industry. In particular, we have investigated how temporary contracts affect the transition rate into permanent employment in Spain. Our focus has been especially placed on a comparison between a sub-group of individuals with a large attachment to the tourism industry (more than the 50% of the working career in tourism) versus two other sub-groups where this attachment is either non-existent or low (strictly zero and below 50%, respectively). For this purpose, we have applied single-spell duration techniques to a longitudinal data set of temporary workers obtained from Social Security records, which is representative of Spanish working population in 2005 (and, therefore, the information about working lives is retrospective). We have focused our analysis on the transition (if any) to the first open-ended contract of all individuals for the three described sub-samples.

Two main conclusions from the data analysis are drawn. First, for those individuals with a weaker attachment to the tourism industry (below the 50 percent of their working career) a temporary contract in the tourism industry increases around 85% the likelihood of obtaining an open-ended contract, while for those with at least 50 percent of their working career in tourism a temporary contract in the tourism industry decreases the same probability by 45 percent. Therefore, temporary contracts in tourism are not harmful for career stabilization prospects when working in tourism industry is occasional but it is clearly detrimental when the worker is very linked to this economic sector.

Second, the analysis supports the existence of a 'temporality trap' for Spain (in this line see Güell & Petrongolo, 2007, García-Pérez & Muñoz-Bullón, 2011, or Toharia & Cebrián, 2007): even though transitions into permanent employment increase with tenure, temporary jobs

do not constitute stepping stones towards permanent employment since the probability of obtaining a permanent job decreases with repeated temporary jobs. However, this result depends on the relative attachment to specific sectors (here, the tourism industry) of the working careers of individuals. For those workers with an occasional engagement in the tourism industry, temporary contracts (and even accumulating temporary contracts) are, on the contrary, 'springboards' towards open-ended contracts.

7. Acknowledgment

8. References

Alba-Ramírez, A. (1998). How temporary is temporary employment in Spain, *Journal of Labor Research*, Vol. 19, pp. 695-710.

Allison, P.A. (1982). Discrete-time Methods for the Analysis of Event Histories. In: *Sociological Methodology*, Leinhardt, S. (ed.), San Francisco: Jossey-Bass Publishers, ISBN: 978-0875895161, pp. 61-98.

Amuedo-Dorantes, C. (2000). Work Transitions into and out of Involuntary Temporary Employment in a Segmented Market: Evidence from Spain, *Industrial and Labor Relations Review*, Vol. 53 (2), pp. 309-25.

Ball, R. (1989). Some Aspects of Tourism, Seasonality and Local Labour Market, *Area, Vol.* 21 (1), pp. 35-45.

Blanchard, O. & Landier, A. (2002). The Perverse Effects of Partial Labour Market Reform: Fixed-Term Contracts in France, *Economic Journal*, Vol. 112, pp. 214-244.

Booth, A.; Dolado, J.J. & Frank, J. (2002a). Symposium on Temporary Work. Introduction, *The Economic Journal*, Vol 112, pp. F181-F188.

Booth, A.L.; Francesconi, M. & Frank, J. (2002b). Temporary Jobs: Stepping Stones or Dead Ends?, *The Economic Journal*, Vol. 112, pp. 189-213.

Casquel, C. & Cunyat, A. (2005). The Dynamics of Temporary Jobs: Theory and Some Evidence for Spain. Working Paper 2005-19, Fundacion de Estudios de Economia Aplicada.

Corkhill, D. & Harrison, J. (2004). *Spain: A Modern European Economy*. Ashgate Publishing, Ltd. ISBN: 978-0754601456.

D´Addio, A.C. & Rosholm, M. (2005). Exits from Temporary Jobs in Europe: A Competing Risks Analysis. *Labour Economics*, Vol. 12, pp. 449-468.

Engellandt, A. &. Riphahn, R.T. (2005). Temporary Contracts and Employee Effort, *Labour Economics*, Vol. 12, pp. 281-299.

Fina, Ll.; Meixide, A. & Toharia, L. (1989). Re-regulating the Labour Market Amid an Economic and Political Crisis: Spain, 1975-1986. In: *The State and the Labor Market: Employment Policy, Collective Bargaining and Economic Crisis*, S. Rosemberg (ed.), Plenum Publishing Pres, NY, ISBN: 9780306431708, pp. 107-125.

Gagliarducci, S. (2005). The Dynamics of Repeated Temporary Jobs, *Labour Economics*, Vol. 12, pp. 429-448.

García-Pérez, J.I. (1997). Las Tasas de Salida del Empleo y el Desempleo en España (1978-1993). *Investigaciones Económicas*, Vol. 21, pp. 29-53.

García-Pérez, J.I. & Muñoz-Bullón, F. (2005). Are Temporary Help Agencies Changing Mobility Patterns in the Spanish Labor Market?, *Spanish Economic Review*, Vol. 7 (1), pp. 43-65.

García-Pérez, J.I. & Muñoz-Bullón, F. (2011). Transitions into Permanent employment in Spain: An Empirical Analysis for Young Workers, *British Journal of Industrial Relations*, Vol. 49 (1), pp. 103-143.

García-Serrano, C. (2004). Temporary Employment, Working Conditions and Expected Exists from Firms. *Labour*, Vol. 18(2), pp. 293-316.

Gregory, M. & Jukes, R. (2001). Unemployment and Subsequent Earnings: Estimating Scarring Among British Men 1984-94, *The Economic Journal*, Vol. 111, pp. F607-F625.

Guardia, T. (2004). The Labor Market in the Tourism Industry, *Estudios Turísticos*, Vol. 161-162, pp. 157-190.

Güell, M. & Petrongolo, B. (2007). How Binding Are Legal Limits? Transitions from Temporary to Permanent Work in Spain, *Labour Economics*, Vol. 14 (2), pp. 153-183.

Hagen, T. (2003). Do Fixed-Term Contracts Increase the Long Term Employment Opportunities of the Unemployed?, ZEW Discussion Paper, 03-49, Mannheim.

Heckman, J.J. & Singer, B. (1984). A Method for Minimising the Impact of Distributional Assumptions in Econometric Models for Duration Data, *Econometrica*, Vol. 52, pp. 272-320.

Heerschap, N. (2004). Monitoring Key Figures on Employment in the Tourism Industry in OECD Countries, *Estudios Turísticos*, Vol. 161-162, pp. 131-145.

Houseman, S.N.; Kalleberg, A.L. & Erickcek, G.A. (2003). The Role of Temporary Help Employment in Tight Labor Markets, Upjohn Institute Staff Working Paper 01-73.

International Labour Office (1989). *Hotel, Catering and Tourism Committee. General Report*, ISBN: 922107000X, Geneva, International Labour Office.

Jafari, J.; Pizam, A. & Przechawski, K. (1990). A Sociocultural Study of Tourism as a Factor of Change, *Annals of Tourism Research*, Vol. 17 (3), pp. 469-472.

Jaimez Gago, M.I. (2005). *Políticas Públicas y Turismo*, Consejería de Turismo, Comercio y Deporte de la Junta de Andalucía. Doctoral thesis.

Jenkins, S. (1995). Easy Estimation Methods for Discrete Time Duration Models, *Oxford Bulletin of Economics and Statistics*, Vol. 57(1), pp. 120-138.

Jenkins, S.P. (1997). Discrete Time Proportional Hazards Regression, *Stata Technical Bulletin*, Vol. 39, pp. 22-32.

Jensen, P. & Svarer, M.S. (2003). Short- and Long-Term Unemployment: How Do Temporary Layoffs Affect this Distinction?, *Empirical Economics*, Vol. 28(1), pp. 23-44.

Lancaster, T. (1990). *The Econometric Analysis of Transition Data*, Cambridge, Cambridge University Press, ISBN: 9780521437899, New York, USA.

Malo, M.A. & Mato, F.J. (dirs.) (2006). *La Temporalidad en Asturias. Una Aproximación Desde el Análisis de las Historias Laborales*, Oviedo: Servicio Público de Empleo del Principado de Asturias.

Mathieson, A. & Wall, G. (1982). *Tourism: Economic, physical and social impacts*, Harlows: Longman, ISBN: 9780582300613.

Marchante, A.; Ortega, B. & Pagán, R. (2006). Determinants of Skills Shortages and Hard-to-Fill Vacancies in the Hospitality Sector. *Tourism Management*, Vol. 27, pp. 791-802.

Narendranathan, W. & Stewart, M.B. (1993). Modelling the Probability of Leaving Unemployment: Competing Risk Model with Flexible Hazards, *Journal of the Royal Statistical Society*, Series C: Applied Statistics, Vol. 42, pp. 63-83.

Pizam, A. (1982). Tourism Manpower: The State of the Art, *Journal of Travel Research*, Vol. 21, pp. 5-9.

Riley, M. (1991). An Analysis of Hotel Labor Markets, In: *Progress in Tourism, Recreation and Hospitality Management*, Cooper, C. (Ed.), London: Belhaven Press, ISBN: 9780471948599, pp. 232-246.

Storrie, D. (2002). *Temporary Agency Work in the European Union,* European Foundation for the Improvement of Living and Working Conditions.

Toharia, L. (1996). Empleo y Paro en España: Situación y Perspectivas, *Ekonomiaz*, Vol. 35, pp. 36-67.

Toharia, L. (2005). *Estudio Sobre el Trabajo Fijo Discontinuo en la Comunidad Autónoma de las Illes Balears*, Report for the Spanish Public Employment Service.

Toharia, L. (dir.) (2005). *El Problema de la Temporalidad en España: Un Diagnóstico*, Colección Economía y Sociología del Trabajo, Vol. 80, Ministerio de Trabajo y Asuntos Sociales, Madrid.

Toharia, L. & Cebrián, I. (2007). *La Temporalidad en el Empleo: Atrapamiento y Trayectorias*, Madrid: Ministerio de Trabajo.

Zijl, M.; Van Den Berg, G. & Heyma, A. (2004). Stepping-Stones for the Unemployed: The Effect of Temporary Jobs on the Duration Until Regular Work, *Journal of Population Economics*, Vol. 24, pp. 107-139.
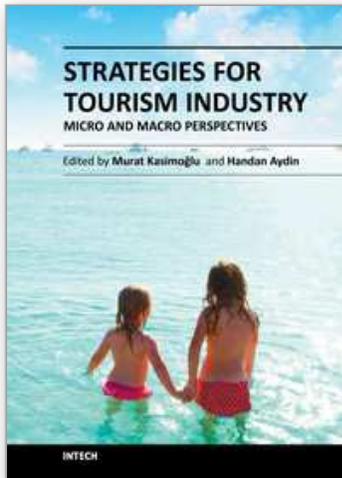
Strategies for Tourism Industry - Micro and Macro Perspectives

Edited by Dr. Murat Kasimoglu

Today, it is considered good business practice for tourism industries to support their micro and macro environment by means of strategic perspectives. This is necessary because we cannot contemplate companies existing without their environment. If companies do not involve themselves in such undertakings, they are in danger of isolating themselves from the shareholder. That, in turn, creates a problem for mobilizing new ideas and receiving feedback from their environment. In this respect, the contributions of academics from international level together with the private sector and business managers are eagerly awaited on topics and sub-topics within Strategies for Tourism Industry - Micro and Macro Perspectives.

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