

Chapter 3

Is it Difficult for Temporary Workers to get a Permanent Job? Empirical Evidence from Spain.¹

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Introduction

Nonstandard forms of employment² have been the subject of much research during the last few years as a direct consequence of its continuous expansion in most developed countries, especially in Europe and North America (Vosko, 1998). It is the increase of this kind of employment -now representing a significant share of the total labour force- that has specifically attracted the interest of labour market analysts, given that nonstandard work forms are definitively not new (Zeytinoglu & Muteshi, 2000; Summers, 1997). Certainly, they have been around for many years before they became a matter of research.

Empirical data show that there does not exist a unique model of nonstandard work across countries. In Spain, due to specific circumstances discussed in our paper, nonstandard work is mainly based on the hiring of workers under temporary contracts³. At present, more than one third of the total salaried workforce is employed under these arrangements. The marked dualistic nature of the Spanish labour force makes Spain an interesting case for the analysis of the transitions between segments in the labour market, which is one of the areas of interest in recent academic literature. In the context of the Dual Labour Market theory, we

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² Despite the interest generated by nonstandard work and the amount of research done until now, there does not exist a unique terminology to refer to this kind of employment nor have clear boundaries been established to delimit the types of employment that can be included in this concept. This concept include work practices in which the ties between workers and employers are not as strong as in the case of a ‘standard’, ‘regular’ or ‘traditional’ employment relationship, which could be characterized, by contrast, as one held by a permanent salaried or wage worker with a full-time job (Polivka and Nardone, 1989).

³ There is no standard international definition of temporary work, in part reflecting the range of work and contractual arrangements included under temporary employment across countries (Martin & Stancanelli, 2002). In this study, we define temporary employment as any wage or salary work arrangement in which the end-date of the contract is objectively determined by a specific condition such as the expiration of a time period, the completion of a specific task or the occurrence of a specific event.

address in this paper the question of whether temporary employment is a dead-end, offering no prospects of transitions towards a permanent job, or just a transitory stage that will sooner or later lead into permanency. Additionally, we analyze the specific factors that determine the time needed for such transitions.

Our study pursues these issues by drawing data from the *Encuesta de Población Activa* (the Spanish Labour Force Survey), which allows for the analysis of the transitions of salary workers from a temporary to a permanent job within a period of 18 months. Based on this data, we offer a more detailed analysis than that contained in previous work through the application of a Cox proportional hazards regression model to a more complete sample, which was obtained by pooling panel data integrated by seven cohorts of individuals who were followed up for a 18 month period between the years 2000 and 2002.

Background

Theoretical background to the segmentation of labour markets

The dualistic character of the Spanish labour market seems to be consistent with the provisions of the Labour Market Segmentation (LMS) theory. In its original form, this theory –also known as the Dual Labour Market theory– stated that two segments could be identified in the labour market (Doeringer & Piore, 1971). On the one hand, the primary sector, integrated by the ‘good’ jobs, *i.e.* those characterized by an above-equilibrium efficiency wage, good working conditions, the supply of specific training, employment stability and prospects for career advancement. On the other hand, the secondary sector, integrated by jobs –the ‘bad’ jobs– characterized by low wages, inferior working conditions, a high degree of employment insecurity, and virtually no promotion or training. Apart from these features, LMS theory considers that mobility between both segments is highly restricted and employment in the primary sector is rationed, being workers relegated to the secondary sector involuntarily. Spanish temporary employment holds many of the characteristics of the ‘bad’ jobs: Firstly, because it is an involuntary option for more than 80 percent of temporary workers according to data from the Spanish Labour Force Survey (EPA, 2001). Secondly, because there are empirical evidences that temporary jobs offer lower salaries, little training, and worse working conditions than permanent jobs (Bentolila et al., 1994; Purcell et al., 1999; Booth et al., 2002; Amuedo-Dorantes, 2002). However, in order to characterize temporary employment as part of the secondary sector, it is necessary to analyze whether it is a dead-end or just a transitory stage toward more stable forms of employment, what is one of the questions addressed in this study.

Contrary to the neo-classical and human capital theory view of the labour market, the separation between ‘good’ and ‘bad’ jobs is not based on supply side circumstances – basically individual differences in productivity–, but on demand side factors (Leontaridi, 1998). It is the firms that are responsible for the fragmentation of the labour market through decisions that affect the way they organize their workforces. Doeringer and Piore (1971) justified the existence of a primary sector as being composed of a series of well-developed Internal Labour Markets (ILMs). ILMs refer to human resource practices in which organizations shelter their workforces from competitive pressures in the labour market. Pricing and allocation of employees is done within firms, being governed by administrative rules and procedures instead of the market. From an organizational point of view, ILMs are characterized by limited ports of entry for recruitment, regulated job ladders for each group of workers, internal training and rules regarding job security (Grimshaw & Rubery, 1998).

During the last twenty years, the traditional model of ILMs has been questioned in the

academic literature. As it has been mentioned above, many studies have pointed towards the existence of dual employment structures within firms as a labour utilization strategy to combine both numerical and functional flexibility. Among these studies, it is core-periphery model (Atkinson, 1984, 1987) the best known. More recently, as a result of the debate generated around the assumptions of the core-periphery model, other researchers have tried to go beyond this model conceptualizing other labour utilization strategies firms use to combine both functional and numerical flexibility (Tsui et al., 1995; Way, 1992). Additionally, other authors have considered the creation of organizational networks as another possible strategy to obtain a higher degree of flexibility. This strategy is implemented through the formation of external relations with other firms instead of adopting internally different types of labour utilization strategies (Kalleberg, 2001). However, independently from the specific strategies used by firms to obtain more flexibility, they are considered to be at the basis of the labour market segmentation at the macro level.

The Spanish model of nonstandard work

There is mounting empirical evidence on the increase of nonstandard employment – and the subsequent decrease of steady long term employment– during the last two or three decades in most advanced economies. For example, Zeytinoglu and Muteshi (2000) reported that, for Canada, since 1976, 44 percent of total employment growth was due to growth in nonstandard jobs⁴. Similarly, Matusik and Hill (1998) cited a 250 percent increase in US contingent employment⁵ between 1982 and 1992, compared to a 20 percent increase in overall employment during the same period. For the European Union (EU), De Grip, Hoevenberg and Willems (1997) recounted a 15 percent increase in ‘flexible’ employment (self-employed, part-time workers and workers with a temporary contract) in the period 1985-95, what justified the emergence of atypical employment as a central issue for labour market policy in the EU. Several other studies have reported similar trends in recent years across countries with respect to specific forms of nonstandard work such as temporary agency work, part-time employment, temporary employment, etc.

Spain is not an exception to this general trend, although, as it has occurred in other countries, not all forms of atypical employment have experienced a similar evolution, which basically depends on specific national circumstances (institutional, legal or economic factors, among others). According to the EPA, since 1987 to 2001, workers under temporary contracts, both full and part-time, experienced a 148 percent increase in contrast to an approximate 34 percent increase in total employment. Similarly, salaried or wage part-time work, both under temporary and open-ended contracts, grew about 195 percent during the same period. However, self-employed and independent workers experienced an 11 percent decrease between those years.

Workers hired under temporary contracts represent the biggest share of nonstandard work in Spain, comprising about 25 percent of total employment and 32 percent of the salaried workforce in 2001. These are the highest figures in the EU, where the average, according to Eurostat (EU Bureau of Statistics) was about 13.3 percent of the salaried workforce in 2001. Other EU countries where the share of temporary work is particularly

⁴ In this article, Zeytinoglu and Muteshi (2000) classify nonstandard work according to three broad categories: part-time work, temporary work and home-based work.

⁵ The contingent work definition used by Matusik and Hill (1998) is the same as the US Bureau of Labor Statistics’ definition of alternative work arrangements. The contingent workforce consists of ‘independent contractors; individuals brought in through employment agencies; on-call or day labor; and workers on site whose services are provided by contract firms; such as outsourced information technology workers’.

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high –although far below the figures for Spain– are Portugal (20 percent), Finland (18 percent), France (15 percent), Sweden and the Netherlands (14 percent both). By contrast, the lowest percentages are found in Ireland (3.4 percent), Luxembourg (4 percent) and the UK (6.6 percent).

Part-time work, on the contrary, is not as widely used in Spain as temporary employment. This type of employment represents about 8 percent of the total workforce, the second lowest figure in the EU, just behind Greece (4.1 percent) and far below the EU average, 18 percent in 2001. This situation contrasts with that in other EU countries, especially the Netherlands, the UK and Sweden, where part-time work represents a high proportion of total employment (29.8, 24.8 and 22.3 percent respectively).

These data show that there does not exist a unique model of nonstandard work across Europe, being the Spanish model mainly based on the hiring of workers under temporary contracts⁶. The preponderance of temporary employment over other forms of flexible work, makes Spain a unique and interesting case for the analysis of the consequences of this type of employment in the labour market, as shown by the growing number of studies focused on this country in recent years (Sánchez & Toharia, 2000; Dolado, García and Jimeno, 2002; Ruiz & Claes, 1996; Amuedo, 2000, 2002; Ferreiro & Serrano, 2001; Alba, 1998).

The growth of temporary employment in Spain

Since 1987, first year in which official data on temporary employment was available in Spain, the proportion of temporary workers in the total salaried workforce increased from 15.3 percent to a peak of 35.16 percent in the third quarter of 1995. Since that date this proportion has slightly diminished, stabilizing itself around 32 percent. The rapid increase in temporary employment –which occurred mainly in the second half of the eighties– and its high incidence in the Spanish labour market have immediately raised the question of why this situation has occurred. To this respect, part of the explanation rests on the same economic reasons usually offered to justify the increase in nonstandard work in other countries. However, other local circumstances can also be mentioned as being at the basis of the high proportion of temporary employment and its predominance over other forms of nonstandard work.

The economic reasons behind the global increase in nonstandard work –and specifically behind the increase in temporary employment in Spain– are not simple. The most frequent reason cited is the need for a more flexible workforce by employers derived from the changes that occurred in the business environment since the beginning of the eighties. The magnitude and continuity of these changes have meant that, in order to survive, businesses have to become more flexible to adapt to their environment. Adaptability has then turned into one of the most important competitive advantages firms can have in order to operate in the markets.

Different circumstances are usually mentioned by analysts in order to explain the higher demand for flexibility by firms across countries. Among these, the globalization of the economy, the rapid technological change, and the expansion of the service sector, are the most commonly cited, all of which have particularly affected the Spanish economy as a whole. The key event in the globalization of the Spanish economy was the entry of Spain into the European Community in 1986. This fact, which occurred soon after the end of a long and deep economic crisis, brought about a strong increase in competition, as markets, which have been highly protected until then, were progressively deregulated while opening up to other

⁶ This idea is also supported by the fact that, according to the EPA, at least 55 percent of part-time workers are hired under temporary contracts.

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European and international competitors. At the same time, the rapid rate of technological change, which also started in the eighties with the computer revolution, followed in the nineties by the IT revolution, made possible the transformation of many work processes in all economic sectors, making the business environment more dynamic and highly competitive. These two developments, taken together, have offered firms many opportunities as well as challenges, as they translated into more intense competition, the fragmentation of markets into smaller niches, shorter product life cycles, rapid product obsolescence and higher fluctuations in output demand (Matusik & Hill, 1998 Kochan et al., 1994).

The shift to the service sector that has occurred in all advanced economies during the last twenty years has also had direct consequences in the higher demand for labour flexibility by firms at the macro level. Given that services cannot be stored as other goods, they have to be produced on request, making firms operating in this sector more sensitive to fluctuations in consumer demand. Spain poses a good example of this shift given that, according to the EPA, of the 5.3 million newly created jobs between 1985 and 2001, approximately 90 percent were in the service sector. In the EU⁷, according to data from Eurostat, between 1992 and 2001 all job creation could be exclusively explained by the growth of the service sector. During this period, this sector of activity created more than 15 million jobs, while total employment increased in only about 11 million, due to job destruction in other sectors.

Therefore, both the growth of the service sector and the dualistic employment structures found in an increasing number of firms are at the basis of the growth of nonstandard employment in most developed countries, as it has been the case in Spain. However, as mentioned above, these reasons do not directly explain the overwhelming use of temporary employment over other forms of nonstandard work in Spain. Local conditions must be taken into account to offer a tentative explanation.

At the beginning of the eighties, Spain had one of the most rigid labour legislations in Europe, basically characterized by: (a) the existence of stringent limits on the use of overtime, (b) excessively high lay-off payments on both fair and unfair dismissals, (c) the prohibition on the use of temporary help agencies, (d) restrictions on the hiring of part-time and temporary workers and (e) finally, limits to the functional and geographical mobility of workers. In addition, the high pressures exercised by unions, especially during the first half of the eighties, created wage rigidity through the reduction of the variable components of remuneration. Certainly, these conditions were not the most adequate for Spanish firms to face the deep changes in the business environment that occurred in those years, nor to reduce the high unemployment figures. To this respect, since the early seventies to the mid-eighties unemployment grew steadily in Spain from approximately 4 percent to more than 20 percent of the active population. These figures, together with the need to improve the international competitiveness of the productive sector, raised the concern of policy makers and employers alike about the need to reform the employment legislation in order to achieve a higher degree of flexibility in the labour market. This was finally done in 1984 with the reform of the Workers' Statute. However, in order to obtain the consent of unions, the reform did not touch the levels of employment protection enjoyed by employees with open-ended contracts, but it greatly liberalized the terms under which workers could be hired temporarily. Other forms of labour flexibility remained also untouched. Basically, this reform allowed employers to use a wider array of temporary contracts, some of which could be use to perform regular or permanent activities, entailing much lower dismissal costs (Dolado, Garcia-Serrano & Jimeno, 2002; Ferreira & Serrano, 2001). Therefore, Spain poses a good example of partial deregulation of the labour market in which a stringent employment protection legislation for permanent workers has coexisted for many years with a flexible legislation for temporary

⁷ Data are referred to all countries of the European Union except Austria, Sweden and Finland.

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contracts. This is what has been defined as a two-tier selective labour market policy: deregulation for some workers but not for others.

1985 marked the beginning of an economic upturn in Spain, which occurred immediately after the reform of the labour legislation. For the first time since 1974 new jobs were created. Given that employers could freely choose between temporary or open-ended contracts, they massively selected the first option for the newly-hired employees. Little incentive existed to hire a new employee as permanent and, as Alba (1998) pointed out, recruiting policies were adapted to the new provision for fixed-term contracts. In a few years, temporary hiring affected more than one third of the total salaried workforce, remaining near 32 percent at present. Thus, the immediate consequence of the 1984 labour reform, together with an increasing demand for flexibility by firms and the shift of employment to the service sector, was the generation of dualistic labour market, with a high proportion of the working population employed under temporary contracts.

Consequences of the high proportion of temporary employment in Spain

After temporary employment, as a percentage of the total salaried workforce, reached in Spain a maximum in 1995, there were continuous calls for the adoption of immediate measures to increase employment security. As a response to these demands, two legal reforms were passed in order to achieve this objective: One in 1997, which was agreed upon by the social partners and the Government, and the other in 2001, undertaken unilaterally by the Government. These reforms were basically characterized by the introduction of restrictions to the use of fixed-term contracts and by the creation of a new permanent labour contract with lower dismissal costs. However, despite these new legal provisions, the percentage of temporary employment decreased only marginally, still remaining at a high level, near 32 percent in 2002, although there are important differences among demographic groups, sectors or regions within Spain (Table 1).

Table 1. Percentage of temporary employment

Variable	Category	Percentage
Age	16-29	52.49
	30-44	26.56
	45 and on	15.10
Gender	Male	28.97
	Female	34.18
Activity	Agriculture	58.34
	Industry	23.66
	Construction	56.43
	Service	27.50
Public/private sector	Public	21.87
	Private	33.27
Region	South	44.97
	Canary Islands	39.08
	Madrid	19.59
	Center (except Madrid)	32.79
	East	28.83
	Northwest	32.10
	Northeast	27.21

Source: *Instituto Nacional de Estadísticas (2002)*

The high proportion of temporary workers in Spain has raised great concern among policy makers, the social agents and labour market researchers alike, about the social and economic consequences of this type of employment. The debate generated in Spain is similar to that occurred in other countries derived from the increase in nonstandard forms of employment. Consistently with SLM literature, temporary workers, who can be situated in the secondary segment of the labour market (De Grip, Hoevenberg & Willens, 1997), are thought to receive lower salaries, have worse career prospects and suffer worse working conditions than permanent employees. Different empirical analyses based on Spanish data support these ideas, as it is the case of the study by Sanchez and Toharia (2000), who found how the introduction of temporary contracts in Spain had an impact on wage formation reducing the real wage cost. Dolado et al. (2002) also report the unexpected negative consequences derived from the increase in temporary employment in Spain such as lower investment in human capital, higher wage pressure, among others. This negative view of temporary employment is the reason why it is often considered as a form of precarious employment. However, as it is stated in the academic literature, in certain cases, temporary jobs, as other forms of nonstandard work, might entail opportunities for those workers who do not want to be linked permanently to a single organization. In Spain, this cannot be considered a valid argument as the majority of temporary employment is involuntary, what suggests that there is a great mismatch between employer and employee preferences for temporary contracts.

One of the problems around the debate on labour flexibility is that, traditionally, discussion around this subject has tended to rely more on perceptions rather than systematic analysis (Booth et al., 2002). To solve this problem, empirical research has recently been conducted to test for the assumption that nonstandard employees are worse off than 'regular' or 'standard' workers. With respect to temporary employment, there is sufficient empirical evidence from different countries that support the idea that workers under fixed-term contracts, do receive *ceteris paribus* lower salaries than permanent employees (Booth et al., 2002; Bentolila et al., 1994), are less motivated and satisfied (Purcell et al., 1999) and receive less training (Booth et al., 2002). Some researchers have also tried to analyze the link between nonstandard employment and the risk of a work accident, although empirical findings are in this case more mixed (see Amuedo-Dorantes, 2002; Rousseau & Libuser, 1997).

The polarization of the Spanish labour market between permanent and temporary employees, together with the adverse consequences mentioned above, might produce income inequality as well as other social negative impacts derived from the lack of job security, all of which is a matter of much political concern. However, these negative effects are lessened if temporary employment is not a dead-end where workers are trapped indefinitely, but rather a transitory situation that would sooner or later lead to a permanent position. The transition from temporary to permanent employment is a subject that has recently attracted the interest of labour market researchers, as it is the case of the empirical analyses carried out by Alba (1998) and Amuedo-Dorantes (2000), both using data on Spain, as well as by Booth et al. (2002), with data from the UK. However, it is also possible to identify other studies that analyze different transitions between segments in the labour market, such as from a regular to a temporary job (Wiens-Tuers and Hill, 2002), or from unemployment to a permanent job (Chalmers and Kalb, 2001), among others.

Our study builds on previous knowledge on nonstandard forms of employment and the segmentation of the labour market, trying to offer an in-depth analysis of the transitions from temporary to permanent employment in Spain. Using a more extended sample of data

from the EPA, we address two research questions: Firstly, the identification of the factors that have the strongest influence on this process and, secondly, whether temporary employment is a dead-end or just a transitory stage towards a permanent job.

Methodology

Data

Data for empirical analysis are obtained from the EPA, the Spanish Labour Force Survey, which is conducted by the National Institute of Statistics (INE). This is the most complete source of information on the Spanish labour market. The survey is administered every quarter by interviewing the residents in a sample of about 64,000 households throughout Spain, which translates into 200,000 people approximately. Once a household has been selected for inclusion in the sample, their occupants are interviewed for a maximum of six consecutive quarters, obtaining from them a wide range of personal and professional data. Among these data, it is possible to know whether a particular individual is employed or not, her employment status (salaried, self-employed, unemployed, etc.), and, in case of a salaried worker, whether her labour contract is temporary or open-ended. This information allows for the analysis of the transition of salaried workers from a temporary to a permanent labour relationship within a period of 18 months. However, given that one-sixth of the households are dropped from the sample every quarter, the number of temporary workers that can be followed up during the 18-month period falls drastically. On average, only about 2,700 temporary workers in a given quarter remain in the sample during that period. From a statistical point of view, this reduction might be detrimental to the representativeness of the sample. To solve this problem, the sample used in our research results from the pooling of seven cohorts of temporary workers, corresponding to seven consecutive quarters, that can be followed during the above mentioned 18-month period. The first cohort is constituted by those temporary workers who entered the EPA sample the first quarter of 2000, remaining in it until the second quarter of 2001. Similarly, the seventh cohort is integrated with those individuals who were first interviewed the third quarter of 2001, and were dropped from the sample the fourth quarter of 2002. Therefore, it has been necessary to integrate a total of 12 quarters, covering the years 2000, 2001 and 2002. The resulting sample is composed of 16,060 individuals who held a temporary contract the first time they were interviewed, and were followed during six consecutive quarters.

The model

Given the nature of the sample and the objectives of our research, we have considered a survival model as the most appropriate approach to carry out the empirical analysis. Among the different techniques for this type of analysis, we have selected the Cox proportional hazards regression model for two reasons: Firstly, because it requires fewer assumptions than other survival models and, secondly, because a number of observations in the sample are right censored. Censored cases in our study refer to those temporary workers who do not change their labour status during the whole period they have been followed up, as well as those individuals who change to another labour status, other than holding a permanent salaried job, at any time during that period.

Cox regression is a method for modeling time-to-event data in the presence of censored cases. In our analysis, the event, often called a 'failure' in the terminology of survival models, is the obtaining of a permanent salaried job by those workers who have been

followed during the six-quarter period. Time-to-event is the number of months a specific worker has been employed in a given firm under a temporary contract before she gets a permanent job in the same or a different firm. Cox's model tries to determine the influence of a set of variables on the risk of occurrence of a certain event (risk of failure), adopting the following general expression:

$$\Phi(t,z) = \Phi_0(t) \cdot e^{(\beta z)} \quad (1)$$

Where $\Phi(t,z)$ is the hazard function, a ratio that represents the relative risk of occurrence of an event given that the case has 'survived' until a certain moment t , and given the values of a set of covariates represented by the vector z . Additionally, β represents the vector of regression coefficients, and $\Phi_0(t)$ is the so-called baseline hazard function, which is the value that the hazard function takes when all the covariates are set to zero. Equation (1) can also be expressed in terms of the log relative hazard, $\ln(\Phi(t,z)/\Phi_0(t)) = \beta z$, which resembles a linear regression model. The parameters in the vector β reflect the change in the log hazard for a unit change in each of the predictors, what in our model informs about how a specific variable influences the relative chances of getting a permanent employment. Coefficients in Cox regression are estimated by maximizing the partial likelihood function.

Results

A total of nineteen variables were initially selected as explicative of the transitions from a temporary to a permanent employment. These variables referred to personal and professional characteristics of the workers, as well as to other characteristics of the firms and jobs held by them. Cyclical factors were also considered through the introduction of a dummy variable referring to the specific cohort the worker belonged to.

In order to select the best-fitting model, a forward stepwise regression procedure was chosen. This method of constructing the regression model has the advantage that directly informs us about the most influential variables in explaining the transition from a temporary to a permanent job, as well as about the direction of their influence. Results of the regression are shown in table 2. From the nineteen covariates initially selected, seven were excluded from the model -given that they did not turn out to be statistically significant and did not affect the parameters associated to the other variables- as a way to comply with the principle of parsimony⁸.

Results of the Cox regression show how age is negatively related to the chances of getting a permanent employment for temporary workers, being that younger workers, with ages between 16 and 29 years, are more likely to transit to a permanent position. This finding contradicts the results obtained by Alba (1998) for Spain, and is more congruent with the results of Booth et al. (2002) for the UK, who found that, at least for men, being younger than 35 years of age has a positive impact on an exit to a permanent job. This is quite an interesting result as younger workers have a higher probability of being employed under temporary arrangements than older workers. However, this being a true fact, they have fewer difficulties than older workers to progress into permanency *ceteris paribus*. Using the same set of covariates, separate Cox regressions for men and women were run to know about how age affected transitions into a permanent employment for these two demographic groups. Results showed that our initial conclusions were also valid for each group separately.

⁸ The variables initially considered, being dropped from the model afterwards, refer to: marital status, lack of choice of temporary employment, seasonality of the economic activity, number of workers of the firm, participation in training activities, employment by a temporary help agency, and a control variable referring to the specific cohort to which the worker belongs.

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Table 2. Cox Proportional Hazards Regression Model

Independent variable	Coeff.	Std. error	Sig.	Exp(B)
Age			0.000	
16-29 years		(omitted)		
30-44 years	-0.211	0.048	0.000	0.810
45 and on	-0.457	0.073	0.000	0.633
Male	0.123	0.046	0.007	1.130
Head of the household (yes=1)	0.115	0.052	0.027	1.122
Education			0.008	
Illiterate	-0.357	0.311	0.251	0.700
Primary	-0.237	0.072	0.001	0.789
Secondary	-0.151	0.054	0.005	0.860
University		(omitted)		
Occupation			0.001	
Non-qualified		(omitted)		
Low/medium level of qualification	0.192	0.053	0.000	1.212
High level of qualification	0.184	0.076	0.016	1.202
Managers and Administrators	0.357	0.209	0.089	1.429
Armed forces	-0.487	0.330	0.140	0.614
Activity			0.000	
Agriculture		(omitted)		
Industry	0.430	0.134	0.001	1.537
Construction	-0.273	0.136	0.045	0.761
Service	0.527	0.132	0.000	1.693
Public sector	-0.973	0.075	0.000	0.378
Non-causal temporary contract	0.233	0.045	0.000	1.262
Hours worked per week	0.011	0.002	0.000	1.011
Home-based employment	-0.703	0.208	0.001	0.495
Region			0.000	
South		(omitted)		
Canary Islands	0.197	0.094	0.035	1.218
Madrid	0.412	0.102	0.000	1.510
Center (except Madrid)	0.569	0.060	0.000	1.766
East	0.004	0.081	0.962	1.004
Northwest	0.378	0.073	0.000	1.460
Northeast	0.567	0.065	0.000	1.763
Search for another job	-0.222	0.064	0.000	0.801
N	16,060			
-2 log likelihood	48,769.44			
Chi-Square (25)	877.08	$p=0.000$		

In line with previous findings, our research confirms that women, everything else equal, are disadvantaged to men with respect to the chances of stabilizing their employment relationship. This fact reflects that they suffer a certain degree of discrimination as in other areas of the labour market. Women do not only have a higher probability than men of being employed under fixed-term contracts, as shown by previous research, but they also have less opportunities to exit to a permanent job.

Education is another factor that influences the chances of consolidating the employment relationship, with highly-educated workers –those with a university degree– having more opportunities, *ceteris paribus*, to transit to a permanent job than those with lower levels of education. Similarly, both the occupation of the worker and the economic activity of the employer play a role in determining the transition from one kind of

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employment to another, as these variables turned out to be statistically significant in our model. Thus, jobs in construction and agriculture offer temporary workers less chances of transition, what might be explained by the more seasonal character of these activities in comparison to industry and services. Coefficients for occupations show how workers in non-qualified jobs have the lowest likelihood of becoming employed on a permanent basis.

Interestingly, temporary workers in the public sector show more problems to consolidate their jobs than their counterparts in the private sector. This is surprising as public workers are in general less likely to be employed under temporary arrangements than workers in the private sector. This circumstance could be explained in part by the existence of stringent administrative rules in Spain that regulate access to permanent employment in Public Administration. Another possible explanation could be found in the fact that a high proportion of temporary employment in the public sector is directly linked to specific projects financed by the Government and/or the European Union in a wide range of areas (health, training, R&D, *etc.*). Workers who are employed under fixed-term contracts in these projects usually have little prospects to obtain an open-ended contract.

Being the head of the household contributes to increase the likelihood of transition to a permanent employment. If for any reason a member of a household takes on a position of leadership within the family group, it is then possible to establish the hypothesis that this position will motivate the worker to expend the effort required to achieve job stability as soon as possible. In this case, the household's effort could be considered a supply side factor in explaining the transition into a permanent job.

Regional factors, such as customs, shared values, local institutions, economic structure and other circumstances -not directly controlled for in our model- seem to play a role in determining transitions from temporary to permanent employment. This is illustrated in our model by the fact that dummy variables representing different Spanish regions turned out to be statistically significant. In general, temporary workers in southern and eastern Spain have the lowest likelihood of obtaining a permanent job, contrary to what occurs in the northeastern and central regions.

The type of temporary contract held by the worker also has a significant effect on the transition to a permanent job. In general, holders of non-causal fixed term labour contracts⁹ have more chances of obtaining permanent employment than workers with causal contracts. This is a perfectly logical result as non-causal contracts are not justified by temporary needs of firms such as the substitution of workers on leave, an unexpected increase in sales, the completion of a specific project, etc. Non-causal temporary contracts are used instead of permanent contracts as a way to reduce labour costs, obtain a higher degree of labour flexibility and, in certain cases, as a screening device. In general, non-causal contracts have been traditionally regulated in Spain as an instrument of labour policy to reduce the high levels of unemployment.

Finally, the number of hours worked per week is positively correlated to the likelihood of transition to a permanent job, contrary to what occurs with the variable associated to home-based employment. Part-time and home-based workers, together with temporary workers, are usually considered to be part of the peripheral workforce. Therefore, when in a specific worker coincides two or more forms of atypical employment, the opportunities of transition from the secondary to the primary labour market, through an open-ended contract, are diminished. Various circumstances might explain the positive coefficient

⁹ In Spain, temporary contracts can be classified into two broad categories: causal and non-causal contracts. The first one comprises those temporary contracts that require by law the existence of a specific cause or condition in order to be agreed upon. Non-causal contracts, by contrary, do not require the existence of such a cause or condition, although the labor relationship has a specific deadline.

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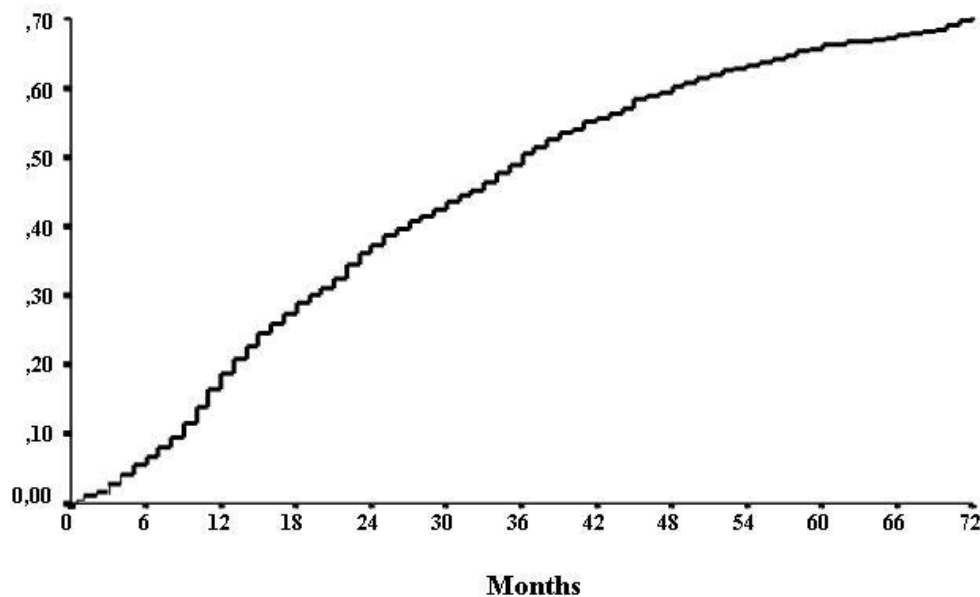
on the hours variable. On the one hand, it is possible to argue that when workers can decide the amount of hours they dedicate to work, working longer hours can be interpreted by employers as a signal of commitment. Thus, open-ended contracts will be awarded to those who display a stronger commitment through hours. On the hand, when the amount of hours is decided by the employer –a common situation in Spain–, it may be that part-time jobs are usually offered to workers who are in a weaker position in the labour market, precisely those who have more difficulties in getting a permanent job due to their personal or professional characteristics (low-educated workers, women, young persons, etc).

Survival analysis

Estimated coefficients in our regression allow us to know about the type of influence and the degree of significance each of the covariates has on the log relative hazard. If the coefficient takes on a positive value and is statistically significant, it means that the variable associated to that coefficient does contribute to the occurrence of the event ('failure'), *i.e.* the transition from a temporary to a permanent employment. However, if we want to know whether temporary employment is a dead-end for workers, with no prospects of obtaining an open-ended contract, or a stepping-stone into permanency, we must base our analysis on the survival function.

Figure 1

Survival analysis. Probability of obtaining a permanent employment by temporary workers



The survival function $\zeta(t)$ is an estimate of the probability of surviving (not obtaining a permanent contract) longer than a specified time, given a specific set of covariates. In our case, and for the sake of clarity, we use the complementary of the survival function, $\Psi(t)=1-\zeta(t)$, which represents the probability that a temporary worker gets permanent employment

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after a specified time, and given a set of personal and professional characteristics of the worker, as well as other job-related variables. Given that the probability of transitioning from one state to another depends on a specific set of covariates, in order to evaluate whether temporary employment is a dead-end or not, we take an individual of reference to base our analysis. This individual is defined by the mean or modal values of each of the covariates, depending on whether they are numerical or categorical¹⁰.

Figure 1 illustrates the evolution of the probability of transitioning from a temporary to a permanent job for this particular case. As shown in this figure, the probability of obtaining an open-ended contract by a temporary worker increases constantly with time. After three years, about 50 percent of the reference individuals will be employed permanently, reaching the 70 percent level at the sixth year. Survival analysis shows that, for an average worker, exiting temporary employment is a matter of time, although the number of months necessary for this transition could be considered long. This proves that, at least for Spain, temporary employment has turned into a common way to enter the labour market, and a transitory situation for a high proportion of the labour force. However, if we change the characteristics of the reference worker, considering instead less favorable conditions¹¹, results are drastically different. In these circumstances, the estimated probability of obtaining a permanent job after 72 months is reduced to less than 2 percent, which clearly illustrates the great difficulties certain workers have to access stable employment. In this case, temporary employment is definitively a trap and not a stepping-stone towards permanent employment.

Conclusions

As it has occurred in other countries, there has been a sharp increase in non standard forms of employment in Spain since the mid-eighties. However, as shown in our study, the Spanish model of atypical or contingent employment is mainly based on the hiring of workers under temporary contracts. At present, about 32 percent of the salaried workforce is employed under this kind of contracts. The existence of a two-tier labour legislation, together with other economic reasons, are often cited as the reasons of the sharp increase in temporary employment in Spain. The high rate of temporary employment existing in Spain has created a highly segmented labour market, which has raised great concern among the social agents, policy makers and labour market researchers alike, due to the poor working conditions usually associated to this kind of employment. To this respect, the polarization of the Spanish labour market is considered to be at the basis of income inequality as well as other negative social impacts, derived from the lack of employment stability. As a response to this situation, two legal reforms were undertaken in order to promote the use of permanent contracts by employers: One in 1997, the other in 2001. However, they have not produced the desired outcomes as temporary employment still affects more than one third of the total salaried workforce.

Building on previous knowledge, our study has dealt with the question of transitions from the temporary to permanent employment, trying to know whether temporary employment is a dead-end or a transitory stage towards a permanent job. Empirical results using a Cox proportional hazards regression model show that, at least for Spain, exiting

¹⁰ The reference individual is defined by the following characteristics: 16-29 years of age, not the head of the household, male, secondary level of education, has an occupation that requires a medium-low level of qualification, service sector, employed in the private sector, non causal labor contract, no home-based work, not searching for another job, and 37.27 weekly hours of work.

¹¹ In this case the independent variables take on the following values: 45+ years of age, not head of the household, female, illiterate, non-qualified occupation, agriculture, public sector, causal labor contract, no home-based work, searching for another job, and 37.27 weekly hours of work.

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temporary employment for an average worker is a matter of time, which contradicts previous research carried out by Amuedo (2000) for Spain. After six years, more than 70 percent of these workers would be employed permanently. However, Cox regression estimates indicate that certain individual characteristics, occupations and economic sectors, have a negative influence on the probability of transitioning from a temporary to a permanent job. For certain groups of workers (women, older and less-educated workers) exiting temporary employment turns out to be a difficult task, and almost impossible if their jobs have other additional features. In these cases, temporary employment is in fact a dead-end. Temporary employment is therefore not a homogenous group in Spain being that certain workers are trapped indefinitely in this kind of employment, while others are in transit towards a permanent job. The existence of a high proportion of temporary workers in this second group reflects the common employment practice in Spain of using temporary contracts almost exclusively for newly-hired workers, while at the same time delaying the transformation of their fixed-term contracts into permanent ones as long as possible.

Our results have important policy implications. Given that the levels of employment protection of permanent workers are difficult to change in Spain due to social and political pressures, there are two possible groups of measures that can be implemented in order to reduce the incidence of temporary employment. Firstly, the promotion of permanent contracts for those specific segments of the labour market that are trapped indefinitely in temporary employment relationships, either through direct subsidies or through the promotion of specific 'temp-to-perm' contracts. Secondly, the shortening of the transition time from a temporary to a permanent job for the rest of workers.

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