TIE ME UP, TIE ME DOWN! THE INTERPLAY OF THE UNEMPLOYMENT COMPENSATION SYSTEM, FIXED-TERM CONTRACTS AND REHIRINGS

JOSÉ M. ARRANZ
CARLOS GARCÍA-SERRANO

FUNDACIÓN DE LAS CAJAS DE AHORROS
DOCUMENTO DE TRABAJO
Nº 586/2011
De conformidad con la base quinta de la convocatoria del Programa de Estímulo a la Investigación, este trabajo ha sido sometido a evaluación externa anónima de especialistas cualificados a fin de contrastar su nivel técnico.

ISSN: 1988-8767

La serie DOCUMENTOS DE TRABAJO incluye avances y resultados de investigaciones dentro de los programas de la Fundación de las Cajas de Ahorros. Las opiniones son responsabilidad de los autores.
TIE ME UP, TIE ME DOWN! THE INTERPLAY OF
THE UNEMPLOYMENT COMPENSATION SYSTEM,
FIXED-TERM CONTRACTS AND REHIRINGS

José M. Arranz *
Carlos García-Serrano**

Abstract

Using an administrative dataset, we document the importance of recalls in labour market transitions and in compensated unemployment in Spain and examine the interplay between the unemployment compensation system, the widespread use of fixed-term contracts and the layoff-rehire process. We estimate a discrete-time duration model with competing risks of exits in order to investigate the individual, job and firm attributes that influence the probabilities of leaving unemployment to return to the same employer or to find a new job with a different employer. Our findings indicate that recalls are very common, with nearly half of job losers returning to their former employers, and that, although these are widespread along the Spanish labour market, there are certain types of contracts, firms and sectors which are more prone to them.

Keywords: re-employment probability, rehirings, fixed-term contracts, duration model, administrative data

JEL Classification: J23, J63, J64

* Corresponding author: José M. Arranz . Departamento de Estadística, Estructura Económica y OEI, Facultad de Ciencias Económicas y Empresariales, Plaza de la Victoria 3, Universidad de Alcalá. E-mail: josem.arranz@uah.es

** Departamento de Fundamentos de Economía e Historia Económica, Facultad de Ciencias Económicas y Empresariales, Plaza de la Victoria 3, Universidad de Alcalá. E-mail: carlos.garcia@uah.es

Acknowledgements: The authors wish to thank the Spanish Social Security for providing the data for this research. Carlos García-Serrano acknowledges financial support by the Ministry of Science and Innovation (National Plan, ECO2010-19963) while José M. Arranz by the Ramón Areces Foundation.
1. Introduction

An explicit analysis of rehirings (workers returning to their former employer after a period of non-employment) is necessary for a proper understanding of the determinants of unemployment durations and the impacts of unemployment policies. First, empirical studies over the last 15 years show that rehirings are more common in Europe than it was previously assumed: while temporary layoff unemployment affect at least one out of three unemployed workers in North America, recent studies have found that this figure is similar for some European countries (Winter-Ebmer, 1998; Røed and Nordberg, 2003; Jensen and Svarer, 2003; Mavromaras and Orme, 2004; Alba-Ramírez et al., 2007). Second, employer recall policies and/or implicit contracts between workers and employers are a key determinant of both the probability that individuals enter unemployment (the frequency of spells, via layoff decisions) and that they leave unemployment (the duration of spells, via search and rehire decisions). In particular, incomplete experience rating implies that the value of benefits received by unemployed workers exceeds their incremental cost to firms, so that the magnitude of this wedge can provide a powerful incentive towards increased layoffs. Moreover, this implies that simple measures of unemployment benefits incentives through the individuals’ replacement ratio may be inappropriate in order to gauge the impact of the unemployment protection system on job search and exit behaviour of unemployed workers, since a (large) proportion of them have non-negligible recall expectations. Third, the use of temporary layoffs on the part of firms and the existence of positive recall prospects on the part of (a portion of) workers may affect the impact of labour market interventions (such as recruitment incentives and subsidies for the training of the unemployed). Therefore, recall expectations can alter the conclusions reached by the evaluations of such interventions.

The contribution of this paper is to document the importance of rehirings in labour market transitions and in compensated unemployment in Spain and to examine the interplay between the unemployment compensation system (hereafter, UCS), the widespread use of fixed-term contracts and the layoff-rehire process. This constitutes a relevant research and policy issue since it has to do with the design of the UCS. In the case of Spain, lack of experience rating...
in the UCS and (seasonal) demand fluctuations may both provide strong incentives for implicit contracts. At the same time, the flexible availability of fixed-term contracts may be a reflection of these incentives since, when fixed-term contracts end, no particular costs arise for the employer. In this context, unemployment benefit entitlements may create incentives for employers to offer fixed-term instead of permanent contracts, as the end of the contract gives the firm employment flexibility and leaves open the possibility of future rehiring.

The structure of the paper runs as follows. Section 2 reviews the theoretical foundations of rehirings. Section 3 describes the Spanish UCS and some features of the labour market in order to focus attention on the potential incentives implied for the joint employment decisions of workers and firms. Section 4 presents the data (coming from a database that draws on administrative records for the period 2004-2007) and provides some basic facts on recalls, unemployment benefits and non-employment durations. Section 5 specifies the discrete-time hazard model with competing risks for modelling the transitions from non-employment and from insured unemployment to employment through recall or a different employer. Section 6 provides the estimation results. Finally, some concluding remarks are presented in section 7.

2. Theoretical background

The theoretical foundations of rehirings are both the implicit contract theory and the job search theory. While the former attempts at modelling temporary layoffs concentrated on the worker-firm relationship as an implicit contract and focused on the potentially collusive behaviour of workers and firms when faced with uncertain fluctuating product demand, the later examines temporary layoffs from the point of view of job-searching unemployed workers comparing the relative chances of a recall by their previous employer and a job with a new employer. Therefore, implicit contract theory stresses the demand for labour, while job search theory stresses the supply of labour: firms’ economic incentives are of crucial importance for the use of temporary layoffs and for the timing of recalls, whereas at the same time individual economic incentives play an important role in workers’ search behaviour and in their search for new jobs.
According to the implicit contract literature, firms are assumed to offer workers a combination of paid work and unemployment insurance (UI) supported leisure, providing a level of utility equal to the market offer. Therefore, UI is part of an overall compensation package, so that workers and firms enter implicit contracts to shift part of the expected production costs from themselves to the UCS. Feldstein (1976) sets out a model where firms operate with a fixed number of attached workers, continually adjusting employment to match product demand fluctuations. Attached workers always prefer to work for their specific firm because of their high firm-specific human capital and low outside options. During a boom, the firm employs all its attached workers; during a trough, some are put on temporary layoff in receipt of UI payments and wait for a recall without searching for alternative jobs. In this context, with an imperfect experience-rating scheme, layoffs are subsidised (the firm does not pay the entire cost of laying off workers), which increases overall unemployment by increasing temporary layoff unemployment: it makes layoffs less costly, so that firms will be less reluctant to dismiss workers at any point in time.

Burdett and Wright (1989) suggest that this result can be reversed with lower net unemployment resulting from a more generous UI system. They set out a more general model in which the optimal firm size is endogenised. If a reduction of the costs of temporary layoff unemployment takes place, firms will respond in two ways. First, they will increase the number of workers that they put on temporary layoff when product demand falls. Second, they will increase the optimal number of attached workers, which leads to lower unemployment. In other words, job creation will increase because firms anticipate that it will be less costly to dismiss workers in the future. The two effects work against each other in determining the overall employment effect of UI changes. The intuition is that when temporary layoffs are made less costly (through more generous UI or less experience rating), the move towards greater temporary layoffs will be compensated through greater hires and the overall employment effect of UI may be negative.

However, recent theoretical and empirical studies (Albrecht and Vroman, 1999; Anderson and Meyer, 2000; Fath and Fuest, 2005) find that the first effect dominates, so that overall employment increases as a result of raising the costs.
of temporary layoffs (through increased experience rating). In other words, since with imperfect experience rating firms pay only a fraction of the benefits received by laid-off workers, the system provides a subsidy for this component of compensation relative to wages. Thus, temporary layoffs should be higher the larger this subsidy, i.e. the lower the degree of experience rating (Topel, 1983). Moreover, diverse theoretical and empirical findings suggest that an increase in the degree of experience rating reduces labour turnover and smoothes employment over the seasons and the business cycle (Card and Levine, 1994; Anderson and Meyer, 2000). The reason for this result would be that experience rating acts as an adjustment cost, making layoffs more costly and inducing firms to use other methods for capacity adjustment than layoffs and hiring. Furthermore, a system without experience rating subsidises firms or sectors with high labour turnover and tax firms or sectors with low turnover (for instance, UI systems subsidise the construction sector and penalise service industries; see Genosko et al, 1999, OECD, 2004, and Böheim, 2006).

In sum, only fully experience-rated UCS could operate efficiently, since the cost a layoff imposes on the UCS is perfectly internalised. Imperfect experience rating (like UI systems in most European countries which use uniform payroll taxes to finance unemployment benefits) may distort the employment and layoff decisions of firms since employers do not take into account the cost imposed on the UI system if workers are dismissed and become unemployed. This would give rise to too many layoffs. In addition, high layoff firms are subsidised by more stable firms, which would distort the allocation of resources across sectors.

Implicit contract models usually assume that individual’s job search is irrelevant because it is the employers who determine the durations of the spells of unemployment of those who are laid off and know they will return to their employer. However, not all workers are (permanently) attached to a firm, which makes it necessary to model search for alternative jobs in a satisfactory fashion. Search models of temporary layoffs examine these from the point of view of job-searching unemployed. Mortensen (1990) postulated a model where a worker’s productivity on a specific job is stochastic, allowing for the coexistence of permanent and temporary layoffs. When productivity falls the worker is put on
temporary layoff and when productivity recovers the worker is recalled. Search effort is smaller for workers on temporary layoffs than for completely unattached workers, and the reservation wage of an attached worker is larger than that of an equally qualified but unattached worker. And, as the productivity of the worker's previous job declines with unemployment duration, worker-firm attachments become weaker and search strategies are revised towards less recall and more search for a new job.

The predictions of search models of temporary layoffs are as follows (Jensen and Westergard-Nielsen, 1990; Katz and Meyer, 1990; Pichelmann and Riedel, 1992; Corac, 1995; Jansson, 2002): for any given stock of unemployed, higher UI payments will increase the number of recalls; the generosity of UI payments will have a positive influence on the duration of spells leading to a recall; the incorporation of temporary layoffs leaves the conventional positive relationship between the level of UI payments and unemployment duration (to a new job) unaltered; and, where UI payments are of limited duration, recalls are concentrated around the last few weeks before benefit exhaustion.

In general, empirical findings tend to give support to these predictions: (a) the UI system has a clear impact in increasing the incidence of temporary layoff unemployment and higher UI benefits are associated with higher recall rates (Topel, 1983; Katz and Meyer, 1990); (b) the risk that a firm loses laid-off workers, who expect recall, to alternative employers is lower if the laid-off workers receive unemployment compensation but, at the same time, UI recipients who expect to be recalled and are not tend to have quite long unemployment spells (Katz, 1986; Katz and Meyer, 1990); (c) unemployment-duration hazards, which usually show a rise in the first months of unemployment and a decline afterwards when treating exit to a job as a single risk, often decline more intensely for recalls when using competing job-exit risks while duration dependence for new jobs is close to horizontal or even positive (Katz, 1986; Jensen and Westergard-Nielsen, 1990; Katz and Meyer, 1990; Røed and Nordberg, 2003); and (d) a spike in the hazard close to the expiry date of benefits is often more visible for new jobs than for recalls (Katz and Meyer, 1990; Jansson, 2002; Mavromaras and Orme, 2004).
3. **UCS system, temporary contracts and recalls in Spain: generation of hypotheses**

In this section, we argue that some features of the structure and legal institutions of the Spanish labour market act to favour the use of rehirings. First of all, the UCS comprises two schemes: unemployment insurance (UI) and unemployment assistance (UA). UI is paid to employees (excluding civil servants, domestic workers and those without past work experience) who did not quit their job voluntarily, who can and want to work and who have paid a minimum number of contributions. Length of entitlement depends on the number of months contributions are made. Contributions for at least 12 months over the last 72 months are required for eligibility since 1992. The duration of entitlement is equal to twice the modulus of the number of contribution months divided by 6, up to maximum of 24, that is, the potential entitlement periods are 4, 6, 8, 10, ..., 24. The amount of UI paid is equal to a fraction of the average of the ‘regulatory base’ in the last six months prior to unemployment, where the ‘regulatory base’ is the gross earnings used to calculate UI contributions. UI payments decline with the unemployment spell: that fraction equals 70 percent during months 1-6 of UI receipt and 60 percent thereafter. Payments are subject to minimum and maximum amounts that vary with the number of children the unemployed person has. UA is means tested and is available (depending on their characteristics) for those who exhaust the UI and those who are not eligible because they have not accumulated the minimum contribution period (although there are some minor exceptions). The UA benefit is a flat rate.

Furthermore, the Spanish UCS (more exactly, the UI scheme), like most systems in OECD countries, uses uniform payroll taxes to finance unemployment benefits (UA is financed from taxes). However, it contains certain elements of experience rating since contribution rates slightly reflect differences in labour turnover across sectors. In particular, although employers and employees both pay UI contributions, they differ across types of contracts. In the case of an open-ended contract, the contribution rate is 7.05 percent (employees: 1.55 percent; employers: 5.5 percent). For fixed-term contracts (even if the employer is a temporary help agency), employees pay 1.6 percent and employers pay 6.7 percent for full-time work (7.7 percent for part-time
work). This system does not try to internalise the costs of layoffs at the firm level although it somehow addresses the problem of cross-subsidization between sectors by levying higher contribution rates in sectors with high labour turnover and vice versa.

The existence of different contribution rates across types of contracts also has to do with two relevant characteristics of the Spanish labour market (i.e. its large share of temporary employment and its worrying unemployment problem), since it has been used as a labour market policy in order to reduce temporary employment and to foster permanent work. The Spanish unemployment rate has remained high on average in the last two decades. It was 16.3 percent in 1991, increasing during the sharp crisis of the early 1990s up to 24.2 percent in 1994. Since then, it has shown a prolonged decreasing trend, until it reached levels of 8 percent in 2007, still high compared with the rates in the US, Japan and the average of the OECD countries, although close to the average in the Euro zone. However, it jumped again to levels above 20 percent at the beginning of 2010. At the same time, the share of temporary employment has remained fairly stable since the early 1990s (around one third of total wage and salary workers hold fixed-term contracts) after a large increase occurred during the 1980s and in spite of diverse labour market reforms aimed at reducing non-standard types of employment. The latter reform (passed on 2006) was partially successful in doing that but the larger drop in the share occurred during the current recession (when it declined from 31 percent at the end of 2007 to 25 percent two years later).

Furthermore, employers do not have the obligation to offer an employee a permanent contract after a period of temporary work\(^1\). This makes the conversion rates from temporary to permanent contracts to be very low (Güell and Petrongolo, 2007). One may think that short-term employment periods may result as firms try to avoid the risk of higher firing costs which would follow the eventual firing of a permanent employee, so it may be tempting for employers to

---

\(^1\) This was the case at least until 2006. The reform passed in that year established that all temporary workers who had had two or more contracts with the same employer and a length of service of at least 24 months within a period of 30 months in the same position would become permanent workers.
use temporary layoffs to maintain a fraction of the workforce without a permanent job. But one may also argue that the use of fixed-term contracts (and recalls) could be a reflection of the structure of production, characterised by a large proportion of small firms (workplaces with less than 50 employees account for 98 of all firms and nearly half of all wage and salary workers) and rather large tourist and construction sectors.

Given these features of the Spanish labour market and the UCS and given the theoretical and empirical findings reviewed previously, we formulate three hypotheses to be tested. The first one has to do with the degree of worker turnover. Then:

**HYPOTHESIS 1:** Experience rating, by increasing the costs of layoffs, reduces labour turnover and smoothes employment over the seasons and the business cycle. In the case of Spain, the interplay of a large proportion of temporary employment and the fact that the UCS is not experience rated imply that firms face lower costs of layoffs (at least from the perspective of the financing of the UCS system), which increases job separations and worker turnover.

The second one has to do with the effects of the combination of the lack of experience rating and the presence of unemployment benefits. Then:

**HYPOTHESIS 2:** The fact that the Spanish UCS is not experience rated, the relatively generous benefit levels (in particular, for those with lower wages) and the extended use of fixed-term contracts facilitate the succession of (short) spells of employment and unemployment and make rehirings more likely.

And the third hypothesis has to do with the interplay of the way of financing the UCS system and the flexible availability of fixed-term contracts. Then:

**HYPOTHESIS 3:** The degree of cross subsidization is large in the Spanish labour market and concentrates in firms and industries with higher labour turnover and temporary employment and with more seasonal product fluctuations.
4. Data

4.1. The dataset

This paper uses data from Social Security records that contain information on all employment, non-employment and insured unemployment spells of a 4 percent random sample of Spanish individuals who ever had any sort of relationship with the Social Security in any of the years of the period 2004-2007. The “Longitudinal Working Lives Sample” (Muestra Continua de Vidas Laborales, MCVL) dataset includes information on individual characteristics (gender, age, province of residence and nationality) and firm and job attributes (employer size, industry affiliation, qualification level, type of contract, tenure -dates of start and end of employment spells- and reason for termination of the spells). Moreover, it also provides information on the unemployment benefits received by each worker in the event they were laid-off and eligible for them: whether each individual was receiving unemployment benefits when out of work, the type of benefits received (UI or UA) and the number of days of benefit receipt. Unfortunately, we do not have information on the entitlement period (but we have it on previous employment duration, a proxy variable of entitlement duration).

In the present study, we use a subsample of the complete dataset. The selection is comprised of individuals whose employment spells ended at any time of the years 2004 or 2005. The longitudinal nature of the administrative dataset makes it possible to know the labour market status of the worker after the job separation: employment, insured unemployment, uninsured unemployment and other situation\(^2\). Moreover, since each establishment owns its identification code in each province it operates, the database contains an ———

\(^2\) The distinction between job-to-job and employment-to-uncompensated unemployment movements has been done making a decision on the number of days between two consecutive spells of employment, since the database does not identify ‘uncompensated unemployment’ as a possible labour category (in fact, we use both ‘uncompensated unemployment’ and ‘non-employment’ interchangeably since it is impossible to know whether an individual not receiving unemployment benefits is either unemployed or out of the labour force). Workers must remain out of work for at least 15 days to be considered uninsured unemployed, so individuals with non-employment spells lasting less than 15 days are considered to experience straight movements from job to job without intervening non-employment. This decision is based on the fact that there is a large number of subsequent spells of employment with spells of non-employment lasting one week or less in between (many of them only last one day).
anonymous identification number for the employer associated with every single spell of employment. Thus, rehirings are identified by whether or not each firm’s identification numbers of two subsequent employment spells coincide. This allows one to know whether job losers who went directly to a job were immediately rehired by the same or a different employer, and whether workers who had an intervening period of non-employment returned to the same employer or found a new job afterwards.

Therefore, the advantage of using this database for the analysis of flows in and out of employment and unemployment is twofold: the information is available, accurate and detailed on the jobs held by the individuals and on the spells of non-employment and insured unemployment; and it is possible to distinguish spells ending through recall from those ending through the finding of a new job.

Our estimating subsample comprises individuals aged 16-59 (to avoid complications associated with early retirement) whose employment spells finish (whatever the reason: the end of temporary contracts, layoffs, other involuntary reasons or the worker’s own decision). We also limit our sample to wage and salary individuals who work in the non-agriculture private economy (the individuals were registered with the General System of Social Security in the previous job) and delete observations with missing information on the reason for job termination and with incorrect information on the date of start or end of employment spells.

The data contains an initial sample of around 800,000 spells of employment ending each year (corresponding to about 330,000 individuals). After applying the indicated sample selections, we obtain a final sample of 1,029,033 spells (around 515,000 spells -228,000 individuals - per year). Descriptive statistics for this sample are given in Table A.1 of the Appendix.

__________________________

3 Specific regimes like Farming and Self-employment have different rules for accessing benefits and peculiarities of their employment relationships.

4.2. *A first look at the data*

Table 1 provides the basic information after applying the corresponding sampling weight (each observation of the sample amounts to 25 observations of the population). The first figure to highlight is the large number of spells of employment ending at any time in 2004 or 2005: 25.7 million in total, which represents nearly 13 million employment spells ending each year. If we calculate the number of distinct persons making the transitions, we obtain that about 5.3 million ended their spells of employment at least once in any of these years. To put this figure in perspective, it corresponds to nearly half of total private employees (excluding those employed in the primary sector) in 2004. The ending of a fixed-term contract accounts for most of the spells (86 percent). This figure corresponds roughly to the share of temporary contracts over the inflow of total signed contracts.

More than half of the transitions out of employment involve a direct job-to-job move, while about one third are transitions to uncompensated unemployment and 13.4 percent to compensated unemployment (mainly, UI). Moreover, the proportion of workers who return to their previous employer is by no means large. Overall, rehirings account for as much as 46 percent of all spells of employment ending in one year. It is remarkable that nearly 60 percent of all job-to-job moves imply such return, while this proportion is 36 percent and 29 percent for the transitions out of uninsured and insured unemployment, respectively. The share of recalls also differs across types of contracts. For instance, focusing on those who have an intervening spell of non-employment, that share ranges from 74 percent for permanent per-task contracts and 44 percent for other fixed-term contracts to around one third for casual and temporary per-task contracts and even less for open-ended contracts. These proportions are larger in the case of direct job-to-job moves.

---

5 Workers under permanent per-task contracts enjoy strong links with their previous employer when they are out of work. This relationship is much stronger than with other types of contracts, since individuals retain seniority and other employment-related benefits.
Table 1. Transitions of job losers to employment, non-employment and insured unemployment (in period t+1) and from these states to a new job, a recall job, other benefits or other situation (in period t+2), by types of contract. Employment periods ending in 2004 or 2005. Spain: MCVL 2004-2007.

<table>
<thead>
<tr>
<th>Contract in previous job</th>
<th>TO</th>
<th>Employment</th>
<th>Non-employment</th>
<th>Insured unemployment</th>
<th>Missing</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>New job</td>
<td>Recall</td>
<td>Total</td>
<td>New job</td>
<td>Recall</td>
</tr>
<tr>
<td>Open-ended contract Cases</td>
<td></td>
<td>1,090,525</td>
<td>240,475</td>
<td>1,331,000</td>
<td>506,450</td>
<td>120,775</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>81.9</td>
<td>18.1</td>
<td>100.0</td>
<td>80.7</td>
<td>19.3</td>
</tr>
<tr>
<td>Permanent per-task Cases</td>
<td></td>
<td>80,650</td>
<td>368,275</td>
<td>448,925</td>
<td>49,850</td>
<td>144,175</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>18.0</td>
<td>82.0</td>
<td>100.0</td>
<td>25.7</td>
<td>74.3</td>
</tr>
<tr>
<td>Temporary per-task Cases</td>
<td></td>
<td>2,237,000</td>
<td>2,456,425</td>
<td>4,693,425</td>
<td>2,145,200</td>
<td>1,242,000</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>47.7</td>
<td>52.3</td>
<td>100.0</td>
<td>63.3</td>
<td>36.7</td>
</tr>
<tr>
<td>Casual contract Cases</td>
<td></td>
<td>1,808,950</td>
<td>3,607,650</td>
<td>5,416,600</td>
<td>2,358,175</td>
<td>1,220,800</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>33.4</td>
<td>66.6</td>
<td>100.0</td>
<td>65.9</td>
<td>34.1</td>
</tr>
<tr>
<td>Other fixed-term Cases</td>
<td></td>
<td>261,050</td>
<td>1,113,700</td>
<td>1,374,750</td>
<td>370,175</td>
<td>282,600</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>19.0</td>
<td>81.0</td>
<td>100.0</td>
<td>56.7</td>
<td>43.3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>5,478,175</td>
<td>7,786,525</td>
<td>13,264,700</td>
<td>5,429,850</td>
<td>3,010,350</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>41.3</td>
<td>58.7</td>
<td>100.0</td>
<td>64.3</td>
<td>35.7</td>
</tr>
</tbody>
</table>

Note: The category “Missing values” refers to job losers who do not appear in the dataset anymore.

<table>
<thead>
<tr>
<th>Spell outcome</th>
<th>Non-employment</th>
<th>Insured unemployment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New job</td>
<td>Recall</td>
</tr>
<tr>
<td><strong>Open-ended</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%Spells</td>
<td>80.7</td>
<td>19.3</td>
</tr>
<tr>
<td>%Total days of non-empl.</td>
<td>79.4</td>
<td>20.6</td>
</tr>
<tr>
<td>Mean duration (days)</td>
<td>152.9</td>
<td>166.0</td>
</tr>
<tr>
<td><strong>Permanen per-task</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%Spells</td>
<td>25.7</td>
<td>74.3</td>
</tr>
<tr>
<td>%Total days of non-empl.</td>
<td>38.5</td>
<td>61.5</td>
</tr>
<tr>
<td>Mean duration (days)</td>
<td>144.7</td>
<td>80.1</td>
</tr>
<tr>
<td><strong>Fixed-term</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%Spells</td>
<td>64.0</td>
<td>36.0</td>
</tr>
<tr>
<td>%Total days of non-empl.</td>
<td>78.5</td>
<td>21.6</td>
</tr>
<tr>
<td>Mean duration (days)</td>
<td>157.4</td>
<td>76.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%Spells</td>
<td>64.3</td>
<td>35.7</td>
</tr>
<tr>
<td>%Total days of non-empl.</td>
<td>77.8</td>
<td>22.2</td>
</tr>
<tr>
<td>Mean duration (days)</td>
<td>156.8</td>
<td>80.6</td>
</tr>
</tbody>
</table>

Note: Fixed-term contracts include temporary per-task contracts, casual contracts and other fixed-term contracts.

However, it does not imply that these are the portions of non-employment which are accounted for by temporary layoffs. To calculate these shares, it is necessary to estimate the duration of spells of non-employment and the fraction of total days of non-employment due to rehirings, finding a new job or other reasons. Table 2 provides this information. Because spells of non-employment ending in a recall are generally shorter than spells of non-employment ending in the finding of a new job (a bit less than 3 months vs. more than 5 months), temporary layoff non-employment amounts to 22.2 percent of total uninsured unemployment and 15.2 percent of total insured unemployment, while it accounts for 36 percent and 29 percent, respectively, of the entire sample. These outcomes are obviously driven by the spells of workers holding temporary contracts since they make up the majority of job losers. In the case of permanent per-task workers, recalls account for about three quarters of their
spells while they account for about two thirds of their total non-employment. Finally, for open-ended contracts these proportions are lower, in particular when considering their transitions through the UCS.

To further investigate the duration issue, Figures 1 and 2 display the fraction of all spells that are due to rehirings distributed by non-employment duration for different groups of workers, distinguishing by types of transition (those who move from job to job with an intervening insured or uninsured spell of unemployment) and by types of contract (those with temporary or permanent contract in the previous employer). Rehirings are, as expected, concentrated among spells of short duration. In fact, spells ending in a recall make up more than half of all spells with a duration equal to one month: 51 percent for those moving through non-employment, 49 percent for UI recipients and 61 for UA recipients. These proportions fall with non-employment durations, which is most visible for the group of workers who receive UI benefits.

**Figure 1.** Rehirings as a fraction of all spells of non-employment by duration and types of transition.
By type of contract, the proportion of recalls during the first month is above 80 percent for those with permanent per-task contracts and around 55 percent for those with fixed-term contracts (either recipients or non-recipients). This proportion remains high during the subsequent months for the former and declines steadily for the latter. On the other hand, the lowest fraction of recalls during the first month (less than 5 percent) corresponds to workers with open-ended contracts who pass through the UCS, remaining fairly stable across time.

Finally, the pattern of non-employment spells durations is displayed in Figures 3 and 4, which depicts the Kaplan-Meier monthly estimates of the hazard rates of exiting through recall or through the finding of a new job for the above-mentioned groups of workers. On the one hand, the recall hazard drops sharply over time for benefit recipients. This hazard masks the quite distinct patterns in the recall hazards of those receiving UI (whose hazard basically trends downward) and those receiving UA (whose hazard drops during the first 4 months, rises from months 4 to 10 and then declines). The recall hazard for the group of uncompensated non-employed workers is similar to that of compensated unemployed workers except for a hump at 10-13 months.
On the other hand, the new job hazard for the ones who do not receive benefits starts out quite high, although the pattern is similar to their recall hazard save for the fact that the former shows an upward trend starting after 18 months of duration. The new job hazard for those receiving benefits steadily trends downwards but shows a large spike at 25 months and a higher level of exits afterwards. This pattern is due to the behaviour of UI recipients, whose spike can be explained by the exhaustion of benefits of the ones entitled to the maximum period (24 months).

**Figure 3.** Rehirings and new job empirical hazards from uninsured non-employment and insured unemployment.
5. Econometric approach: discrete-time hazard model with competing risks

The model chosen for the analysis of the transitions of job losers from unemployment is the competing risks hazard model\(^6\). This model allows to distinguish between two possible transitions: to a recall job and to a new job\(^7\). In the competing risk model, the duration of unemployment is divided into a discrete and finite number of time intervals, examining whether or not the individual has exited the state of unemployment in each time interval. We assume for simplicity that the hazard rates are constant within each observation month. The hazard rate for the \(i\)-th individual into state \(j\) in period \(t\), \(h_{ij}(t)\), is the...

\(^6\) We follow the terminology proposed by Allison (1982) and Jenkins (1995) and extended by Steiner (2001), Røed and Nordberg (2003), D’Addio and Rosholm (2005), Alba et al. (2007) and Arranz et al. (2010), among others.

\(^7\) In the case of workers receiving unemployment benefits, we also have information (after the exhaustion of benefits) on transitions from insured unemployment to other type of benefits and to other situation (either non-employment or attrition -because they do not appear in the dataset anymore-). We have considered these transitions as censored observations (remaining in unemployment at the end of the observation window). We will try to use them as other type of transitions in future analysis.
conditional probability of a transition to state $j$ in this period, given that individual $i$ has been unemployed until $t$:

$$h_{ij}(t) = \Pr[T_i = t, J=j | T_i \geq t]$$

where $t_i$ is the duration of the spells of unemployment of the individuals ($i=1…N$). A spell of unemployment can end ($T=t$) in any of the following states: $j=1$ (new job), $j=2$ (recall job), $j=3$ (remaining in unemployment). Each observation continues until time $t_i$. At this point, an event occurs or otherwise the observation is censored. Spells of unemployment that are still in progress at the end of our sampling frame (that is, no transition out of unemployment is observed) are treated as right-censored observations. Assuming that the competing risks are independent, the hazard rate from unemployment is given by:

$$h_i(t) = \sum_{j=1}^{3} h_{ij}(t)$$

Assuming that censoring is random, the sample likelihood function for the original state $j$ may be written as follows:

$$L = \prod_{i=1}^{n} \left[ \prod_{j=1}^{3} \left( \frac{h_{ij}(t)}{(1-h_j(t))} \right)^{d_{ij}} \left( \prod_{k=1}^{t} (1-h_{ik}) \right) \right]$$

where the indicator function $d_{ij}$ equals 1 if the duration is completed (the individual $i$ makes a transition to state $j$) and 0 otherwise. In order to empirically estimate the likelihood function, for the hazard rate we choose the logistic specification that, with multiple events, generates the multinomial logit model. It allows for the three possible states considered (remaining in unemployment is the reference category). For individual $i$, the transition rate to state $j$ specified as a competing risks model can be written as follows (D’Addio and Rosholm, 2005):

$$h_j(t | X(t), v_j) = \frac{\exp(D^j(t)\alpha_j + X^j(t)\beta_j^j + v_j)}{1 + \sum_{m=1}^{2} \exp(D^m(t)\alpha_m + X^m(t)\beta_m^j + v_m)}$$

where $X(t)$ are covariates that may vary with time, $\beta$ is a vector of parameters to be estimated and the term $\alpha$ is the so-called baseline hazard,
which represents the pattern of duration dependence. For the specification of the baseline hazard, we specify a two-order polynomial whose coefficients can differ among transitions from unemployment into the different states. Finally, \(\nu\) accounts for unobserved heterogeneity characteristics in the model\(^8\).

Then, the contribution to the likelihood function for a single individual is equal to:

\[
L = \prod_{k=1}^{t} \frac{\exp \left( \sum_{m=1}^{2} (D_k c_m + X_k^\prime \beta_m + \nu_m) c_{mk} \right)}{1 + \sum_{m=1}^{2} \exp(D_k a_m + X_k^\prime \beta_m + \nu_m)}
\]

where \(c_{mk}\) are indicators for the transitions to each possible destination state at time \(k\) (re-employment either through a new job (\(m=1\)) or with the same employer (\(m=2\))). In [5] we assume that unobserved heterogeneity is discretely distributed with unknown support points, so the likelihood function for an individual may be obtained by integrating the following conditional likelihood distribution:

\[
L(\beta, \alpha, \nu, \pi) = \prod_{s=1}^{S} L(\beta, \alpha | \nu = s)\pi(s)
\]

where \(\nu\) stands for the location points, \(\pi\) for the probability associated with them and \(S\) for the number of support points\(^9\).

6. Results

Table 3 provides the results of the analysis on the impact of individual, job and firm characteristics on recall hazard rates from non-employment and insured unemployment. The exit rates are analysed using the discrete-time

\(^{8}\) We assume that the unobserved heterogeneity effect is a specific destination state, constant over time and independent of the observed characteristics. This is a standard assumption in duration models (Jenkins, 1995; Steiner, 2001; D’Addio and Rosholm, 2005).

\(^{9}\) In order to check whether the number of mass points found to be optimal is robust for the specification with unobservables in the competing risk duration model, we have used three alternative information criteria: Akaike information criterion (AIC), Hannan-Quinn information criterion (HIQ) and Schwarz information criterion (SIC). All information criteria lead to the same conclusion: accounting for individual unobserved heterogeneity by distinguishing two mass points improves the fit of the models, which means that the best model should include unobserved heterogeneity.
hazard model with competing risks and unobserved heterogeneity\textsuperscript{10} presented in the previous section but, for the sake of brevity, we only comment on the parameters corresponding to the rehiring transition.

Many of the control variables used in the estimations turn out to be important predictors of the duration of the spells of non-employment until the individuals are recalled or find a new job. This is especially true for the job- and firm-related characteristics. Regarding the types of contract, workers who held a permanent per-task contract exhibit a noticeably higher recall hazard as compared to workers with a fixed-term contract and, above all, with workers with an open-ended contract. Given that workers with such contracts are treated as if they had maintained their employment relationship, they usually do not engage in job-seeking activities because they regard themselves as employed and they are virtually certain to return to their jobs at the end of the layoff period. Therefore, the observation that temporary layoff unemployment serves to accommodate seasonal fluctuations in production is confirmed by the estimated coefficients for the permanent per-task contract (see Alba-Ramírez et al., 2007).

In spite of that, the coefficients associated with the different types of temporary contracts (in particular “other fixed-term contracts”, which include interim contracts as the main ones) are also large, reflecting the relationship between temporary employment, unemployment and rehirings as a mechanism to adjust the demand for labour to fluctuations in product demand. This result is consistent with that of Jansson (2002), who finds that the proportion of recalls is much higher for seasonal employment than for the average population in the case of Sweden, but is at odds with the theoretical work of Fallick and Ryu (2007), who assume that workers who lost their jobs due to the ending of seasonal or temporary jobs face a recall hazard rate of 0 throughout their unemployment spell.

\textsuperscript{10} The likelihood function with unobserved heterogeneity (eq. [6]) was estimated using GLLAMM (Generalized Linear Latent And Mixed Models), a Stata program written for the estimation of multilevel and longitudinal latent variable models (see Rabe-Hesketh et al., 2004, and Rabe-Hesketh and Skrondal, 2005).
Table 3. Results of the competing risks duration data model: recall and new job hazard rates with unobserved heterogeneity.

<table>
<thead>
<tr>
<th>Transitions from non-employment</th>
<th>Transitions from UI</th>
<th>Transitions from UA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New job</td>
<td>Recall</td>
</tr>
<tr>
<td>Duration</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>T</strong></td>
<td>-0.187</td>
<td>0.002</td>
</tr>
<tr>
<td><strong>t</strong></td>
<td>0.015</td>
<td>0.000</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>0.178</td>
<td>0.006</td>
</tr>
<tr>
<td>Women (&amp;)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Age groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;24 years (&amp;)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>24-29 years</td>
<td>0.329</td>
<td>0.007</td>
</tr>
<tr>
<td>30-44 years</td>
<td>0.218</td>
<td>0.007</td>
</tr>
<tr>
<td>&gt;44 years</td>
<td>0.015</td>
<td>0.011</td>
</tr>
<tr>
<td>Nationality (Non-Spanish)</td>
<td>0.179</td>
<td>0.008</td>
</tr>
<tr>
<td>Type of job</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groups 1 and 2 (&amp;)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Group 3</td>
<td>0.154</td>
<td>0.013</td>
</tr>
<tr>
<td>Group 4</td>
<td>0.355</td>
<td>0.014</td>
</tr>
<tr>
<td>Group 5</td>
<td>0.203</td>
<td>0.014</td>
</tr>
<tr>
<td>Group 6</td>
<td>0.128</td>
<td>0.013</td>
</tr>
<tr>
<td>Industry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufact. and energy</td>
<td>-0.289</td>
<td>0.012</td>
</tr>
<tr>
<td>Construction</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Category</td>
<td>Coefficient</td>
<td>Standard Error</td>
</tr>
<tr>
<td>------------------------------------------------------------</td>
<td>-------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Wholesale &amp; retail trade</td>
<td>-0.265</td>
<td>0.011</td>
</tr>
<tr>
<td>Hotels and restaurants</td>
<td>-0.295</td>
<td>0.011</td>
</tr>
<tr>
<td>Transport</td>
<td>-0.277</td>
<td>0.016</td>
</tr>
<tr>
<td>Business activities, financial intermediation, real state and renting</td>
<td>-0.180</td>
<td>0.010</td>
</tr>
<tr>
<td>Education and health</td>
<td>-0.524</td>
<td>0.016</td>
</tr>
<tr>
<td>Other services, personal services and housing</td>
<td>-0.424</td>
<td>0.013</td>
</tr>
<tr>
<td><strong>Firm size</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0.135</td>
<td>0.008</td>
</tr>
<tr>
<td>1-9 workers (&amp;)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10-19 workers</td>
<td>0.097</td>
<td>0.011</td>
</tr>
<tr>
<td>20-49 workers</td>
<td>0.109</td>
<td>0.010</td>
</tr>
<tr>
<td>50-249 workers</td>
<td>0.082</td>
<td>0.009</td>
</tr>
<tr>
<td>250+ workers</td>
<td>0.067</td>
<td>0.010</td>
</tr>
<tr>
<td><strong>Contract in previous job</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open-ended (&amp;)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Permanent per-task</td>
<td>-0.582</td>
<td>0.027</td>
</tr>
<tr>
<td>Temporary per-task</td>
<td>0.081</td>
<td>0.012</td>
</tr>
<tr>
<td>Casual</td>
<td>0.069</td>
<td>0.012</td>
</tr>
<tr>
<td>Other fixed-term</td>
<td>0.001</td>
<td>0.015</td>
</tr>
<tr>
<td><strong>Tenure in previous job</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 6 months (&amp;)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>≥6 months and &lt;1 year</td>
<td>-0.012</td>
<td>0.009</td>
</tr>
</tbody>
</table>
### Table: Exit Duration and Quarter of Exit

<table>
<thead>
<tr>
<th>Duration</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>p-value</th>
<th>Mass Points and Probability:</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥1 year and &lt;3 years</td>
<td>0.160</td>
<td>0.014</td>
<td>***</td>
<td>-</td>
</tr>
<tr>
<td>≥3 years</td>
<td>-0.002</td>
<td>0.023</td>
<td>***</td>
<td>-</td>
</tr>
<tr>
<td>Quarter of exit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st quarter</td>
<td>0.244</td>
<td>0.008</td>
<td>***</td>
<td>0.090 0.099 0.159 0.012 0.244 0.017 0.348 0.09</td>
</tr>
<tr>
<td>2nd quarter</td>
<td>0.064</td>
<td>0.007</td>
<td>***</td>
<td>-</td>
</tr>
<tr>
<td>3rd quarter (β)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4th quarter (α)</td>
<td>0.265</td>
<td>0.008</td>
<td>***</td>
<td>0.090 0.099 0.159 0.012 0.244 0.017 0.348 0.09</td>
</tr>
</tbody>
</table>

**Notes:**
- Type of job is classified as: Group 1: High-skilled non-manual; Group 2: Medium-skilled non-manual; Group 3: Low-skilled non-manual; Group 4: High-skilled manual; Group 5: Medium-skilled manual; Group 6: Low-skilled manual.
- "&" indicates the characteristics of the reference individual; "S.E." means standard error; and ***,** and * indicate significance at 1 percent, 5 percent and 10 percent, respectively.
Tenure in the previous job is another important factor that could potentially influence the recall strategy of the employers, if they consider that workers’ firm-specific human capital is valuable for them. However, this seems to be true only for the group of uninsured job losers, while for the insured unemployed our results suggest the opposite result since the chance of being recalled diminishes with the duration of the previous job. This latter result agrees with Alba-Ramírez et al. (2007) and again appears to reflect the incentives of the availability of fixed-term contracts in combination with unemployment benefit entitlements which encourage employers to offer temporary instead of permanent contracts. Furthermore, the link between previous job tenure and entitlement duration could also explain that the recall hazard rates would be lower among workers who have longer previous job (entitlement) durations: they have accumulated enough contributions in order to receive benefits and to remain longer in unemployment until being recalled, if required by the former firm.

At the same time, we find that the recall (new job) hazard rate increases (decreases) with age, so in general the younger workers are more likely to find a new job while elder workers return faster to their previous employers (Jensen and Svarer, 2003). This result for age on the recall hazard rate is most probably related to the fact that older workers have more firm specific human capital, which is an attribute highly valued by the employer.

Our data set does not contain variables related to the individual’s educational attainment or occupation. However, it provides information regarding the required level of qualification for the job. Results are rather similar according to the types of transitions. A sort of gradation exists in the recall probabilities by type of job, although it is more clearly observed for individuals who move from employment to uninsured unemployment: workers in high- and medium-skilled non-manual jobs show the highest chances of being recalled, followed by workers in high-skilled manual jobs, then workers in low-skilled non-manual and medium-skilled manual jobs and, finally, workers in low-skilled manual jobs. Therefore, in general we find that white-collar workers holding jobs that require higher qualification levels are more likely to be recalled faster by their previous employers, while workers in lower qualified (white- and blue-
collar) jobs suffer the greatest difficulties in being recalled by their previous employers.

Regarding industries, and focusing on the group of workers passing through the UI, we find that “Wholesale and retail trade”, “Hotels and Restaurants” and “Business activities and financial intermediation” are the sectors where the duration of unemployment spells are longer until rehirings take place, being the recall hazard rates largest in the case of “Transport” and “Education and health”. For UA recipients, rehirings are also faster in “Transport”. In the case of workers who have an intervening spell of uninsured unemployment, the largest recall hazards correspond to all sectors except “Business activities and financial intermediation” and “Other services”. These results are difficult to compare with previous studies, since they usually use different disaggregations of sectors (see, for instance, Böheim, 2006)\textsuperscript{11}.

Moreover, our results show that the hazard rate of exiting from unemployment through recall increases with firm size. This effect is strongest for UA recipients followed by UI recipients and uninsured workers. For instance, compared to firms with less than 10 employees, the recall hazard rate for UI (UA) recipients is 4.4 percent (35 percent) higher in firms with 10-19 employees, 17.5 percent (38 percent) higher in firms with 20-49 workers and 74 percent (115 percent) higher in the ones with 250 employees or more. Workers employed in smaller firms can be expected to experience longer recall durations because they will be less able to influence the timing of such recall and because it is more likely that the production and financial structure of large firms facilitates the use of rehirings. As firm size increases, there will be more and

\textsuperscript{11} In a previous version of the paper which used information of private and public employees, we found that recall hazard rates were larger in sectors such as “Health”, “Education” and “Public Administration”. This evidence fitted nicely with previous studies. For instance, Arranz et al. (2010) find that workers (in particular, women) previously employed in the public sector are more likely to exit to temporary jobs but are less likely to access permanent jobs, which suggests the existence of a pattern of temporary job-unemployment-temporary job in the public sector, reflecting this sector’s increasing use of temporary contracts. Dolado et al. (2002) highlighted that the public sector has exhibited a steady increase in the share of temporary employment since the mid-1990s. The reasons may be a change in hiring behaviour after the Growth and Stability Pact and that a high proportion of the EC Structural Funds received by local administrations for promoting active labour market policies have been used to hire workers in targeted groups under temporary contracts. D’Addio and Rosholm (2005) also address this result for all EU Member States using data from the ECHP for the period 1994-1999.
stronger works councils with both the power and the incentive to intervene and assist workers’ optimising behaviour; at the same time, the complexity of the organization of production can favour the strategic use of recalls on the part of the firms.

Finally, seasonal conditions are controlled for in the regressions by including dummies for the quarter of exit. In general, recalls tend to be faster in the third quarter for those passing through the UI and in the first and fourth quarters for those passing through UA.

7. Conclusions

This piece of research has tried to document the importance of rehirings in labour market transitions and in compensated unemployment in Spain and to shed some light on the interplay between the UCS, the widespread use of fixed-term contracts and the layoff-rehire process. We have made a reasoning built on the implicit contract theory and the search theory. Given the features of the Spanish labour market and the unemployment protection system, we have formulated three hypotheses to be tested.

The first one had to do with the degree of worker turnover. Experience rating, by increasing the costs of layoffs, reduces labour turnover and smoothes employment over the seasons and the business cycle. In the case of Spain, the interplay of a large proportion of temporary employment and the fact that the UCS is not experience rated imply that firms face lower costs of layoffs (at least from the perspective of the financing of the UCS system), which increases job separations and worker turnover. Our results suggest that worker turnover is relatively large in the Spanish labour market, with nearly half of total private employees (excluding those employed in the primary sector having had at least one job loss in a period of one year).

The second hypothesis had to do with the effects of the combination of no experience rating and the presence of unemployment benefits. The fact that the Spanish UCS is not experience rated, the relatively generous benefit levels (in particular, for those with lower wages) and the extensive use of fixed-term contracts facilitate the succession of (short) spells of employment and unemployment and make rehirings more likely. Our results indicate that recalls
are very common, with nearly half of job losers returning to their former employers: 60 percent of all direct job-to-job moves imply such return, while this proportion is 36 percent and 29 percent for the transitions out of uninsured and insured unemployment, respectively. Likewise, the mean duration of the spells of non-employment ending in a recall tends to be shorter than the one corresponding to spells of non-employment ending in a new job.

The third hypothesis had to do with the interplay of the way of financing the UCS system and the flexible availability of fixed-term contracts. The degree of cross subsidization is large in the Spanish labour market and concentrates in firms and industries with higher labour turnover and temporary employment and with more seasonal product fluctuations. Our results suggest that, although recalls are widespread along the Spanish labour market, there are certain types of contracts, firms and sectors which are more prone to them. In fact, the proportion of workers who return to their previous employer with intermediate spells of uninsured or insured unemployment is highly concentrated on the permanent per-task contracts (74 percent) and other fixed-term contracts (44 percent). Moreover, large firms and certain services are more prone to the use of rehirings in combination with permanent per-task and temporary contracts. In all these types of contracts, firms and sectors, recall hazard rates are the highest.

Overall, these results suggest that there is room for the reform of the way the UCS is financed, in combination with changes in other labour market institutions. One proposal (Blanchard and Tirole, 2003) would be to transform the uniform payroll taxes to finance unemployment benefits into a layoff (or separation) tax so that firms using the UCS more intensely are the ones paying higher contribution rates. This would make employers to internalise the social costs associated with layoffs, reduce excessive job separations and eliminate (or at least reduce) cross-subsidization across firms and industries.
References


**APPENDIX**


<table>
<thead>
<tr>
<th></th>
<th>Employment</th>
<th>Non-employment</th>
<th>Insured unemployment</th>
<th>Other situation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.E.</td>
<td>Mean</td>
<td>S.E.</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>0.558</td>
<td>0.497</td>
<td>0.543</td>
<td>0.498</td>
</tr>
<tr>
<td>Women</td>
<td>0.442</td>
<td>0.497</td>
<td>0.457</td>
<td>0.498</td>
</tr>
<tr>
<td><strong>Age groups</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;24 years</td>
<td>0.210</td>
<td>0.408</td>
<td>0.334</td>
<td>0.472</td>
</tr>
<tr>
<td>24-29 years</td>
<td>0.279</td>
<td>0.449</td>
<td>0.270</td>
<td>0.444</td>
</tr>
<tr>
<td>30-44 years</td>
<td>0.376</td>
<td>0.485</td>
<td>0.297</td>
<td>0.457</td>
</tr>
<tr>
<td>&gt;44 years</td>
<td>0.134</td>
<td>0.341</td>
<td>0.099</td>
<td>0.299</td>
</tr>
<tr>
<td><strong>Nationality (Non-Spanish)</strong></td>
<td>0.112</td>
<td>0.316</td>
<td>0.134</td>
<td>0.341</td>
</tr>
<tr>
<td><strong>Type of job</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 1</td>
<td>0.034</td>
<td>0.182</td>
<td>0.025</td>
<td>0.157</td>
</tr>
<tr>
<td>Group 2</td>
<td>0.055</td>
<td>0.227</td>
<td>0.037</td>
<td>0.188</td>
</tr>
<tr>
<td>Group 3</td>
<td>0.235</td>
<td>0.424</td>
<td>0.249</td>
<td>0.432</td>
</tr>
<tr>
<td>Group 4</td>
<td>0.227</td>
<td>0.419</td>
<td>0.195</td>
<td>0.396</td>
</tr>
<tr>
<td>Group 5</td>
<td>0.156</td>
<td>0.363</td>
<td>0.170</td>
<td>0.376</td>
</tr>
<tr>
<td>Group 6</td>
<td>0.292</td>
<td>0.455</td>
<td>0.325</td>
<td>0.468</td>
</tr>
<tr>
<td><strong>Industry</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufact. and energy</td>
<td>0.075</td>
<td>0.263</td>
<td>0.083</td>
<td>0.276</td>
</tr>
<tr>
<td>Construction</td>
<td>0.153</td>
<td>0.360</td>
<td>0.170</td>
<td>0.376</td>
</tr>
<tr>
<td>Trade</td>
<td>0.090</td>
<td>0.287</td>
<td>0.134</td>
<td>0.341</td>
</tr>
<tr>
<td>Hotels and restaurants</td>
<td>0.123</td>
<td>0.328</td>
<td>0.145</td>
<td>0.352</td>
</tr>
<tr>
<td>Transport</td>
<td>0.064</td>
<td>0.245</td>
<td>0.044</td>
<td>0.205</td>
</tr>
<tr>
<td>Business activities, financial intermediation, real state and renting</td>
<td>0.355</td>
<td>0.478</td>
<td>0.288</td>
<td>0.453</td>
</tr>
<tr>
<td>Education</td>
<td>0.011</td>
<td>0.106</td>
<td>0.026</td>
<td>0.160</td>
</tr>
<tr>
<td>Health</td>
<td>0.040</td>
<td>0.196</td>
<td>0.026</td>
<td>0.159</td>
</tr>
<tr>
<td>Other services, personal services and housing</td>
<td>0.089</td>
<td>0.285</td>
<td>0.083</td>
<td>0.276</td>
</tr>
<tr>
<td><strong>Firm size</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0.231</td>
<td>0.422</td>
<td>0.241</td>
<td>0.427</td>
</tr>
<tr>
<td>1-9 workers</td>
<td>0.142</td>
<td>0.349</td>
<td>0.200</td>
<td>0.400</td>
</tr>
<tr>
<td>10-19 workers</td>
<td>0.075</td>
<td>0.263</td>
<td>0.090</td>
<td>0.287</td>
</tr>
<tr>
<td>20-49 workers</td>
<td>0.117</td>
<td>0.321</td>
<td>0.118</td>
<td>0.322</td>
</tr>
<tr>
<td>50-249 workers</td>
<td>0.206</td>
<td>0.405</td>
<td>0.176</td>
<td>0.381</td>
</tr>
<tr>
<td>250+ workers</td>
<td>0.229</td>
<td>0.420</td>
<td>0.176</td>
<td>0.381</td>
</tr>
<tr>
<td><strong>Contract in previous job</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open-ended</td>
<td>0.100</td>
<td>0.300</td>
<td>0.074</td>
<td>0.262</td>
</tr>
<tr>
<td>Permanent per-task</td>
<td>0.034</td>
<td>0.181</td>
<td>0.023</td>
<td>0.150</td>
</tr>
<tr>
<td>Temporary per-task</td>
<td>0.354</td>
<td>0.478</td>
<td>0.401</td>
<td>0.490</td>
</tr>
<tr>
<td>Employment Status</td>
<td>0.408</td>
<td>0.492</td>
<td>0.424</td>
<td>0.494</td>
</tr>
<tr>
<td>---------------------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Other fixed-term</td>
<td>0.104</td>
<td>0.305</td>
<td>0.077</td>
<td>0.267</td>
</tr>
<tr>
<td><strong>Tenure in previous job</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 6 months</td>
<td>0.779</td>
<td>0.415</td>
<td>0.825</td>
<td>0.380</td>
</tr>
<tr>
<td>≥6 months and &lt;1 year</td>
<td>0.096</td>
<td>0.294</td>
<td>0.109</td>
<td>0.311</td>
</tr>
<tr>
<td>≥1 year and &lt;3 years</td>
<td>0.086</td>
<td>0.280</td>
<td>0.050</td>
<td>0.219</td>
</tr>
<tr>
<td>≥3 years</td>
<td>0.040</td>
<td>0.196</td>
<td>0.016</td>
<td>0.124</td>
</tr>
<tr>
<td><strong>Sample</strong></td>
<td>530588</td>
<td>337608</td>
<td>137572</td>
<td>23265</td>
</tr>
<tr>
<td><strong>Sample (weighted)</strong></td>
<td>13264700</td>
<td>8440200</td>
<td>3439300</td>
<td>581625</td>
</tr>
</tbody>
</table>

Note: Type of job is classified as: Group 1: High-skilled non-manual; Group 2: Medium-skilled non-manual; Group 3: Low-skilled non-manual; Group 4: High-skilled manual; Group 5: Medium-skilled manual; Group 6: Low-skilled manual.
Table A.2. Descriptive statistics of the transitions of job losers to employment, non-employment and insured unemployment (in period t+1) and from these states to a new job, a recall job or other situation (in period t+2). Employment periods ending in 2004 or 2005. Spain: MCVL 2004-2007.

<table>
<thead>
<tr>
<th>Transitions from non-employment</th>
<th>Transitions from UI</th>
<th>Transitions from UA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New job</td>
<td>Recall</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>S.E.</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>0.567</td>
<td>0.495</td>
</tr>
<tr>
<td>Women</td>
<td>0.433</td>
<td>0.495</td>
</tr>
<tr>
<td>Age groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 23 years</td>
<td>0.353</td>
<td>0.478</td>
</tr>
<tr>
<td>24-29 years</td>
<td>0.279</td>
<td>0.448</td>
</tr>
<tr>
<td>30-44 years</td>
<td>0.287</td>
<td>0.452</td>
</tr>
<tr>
<td>+45 years</td>
<td>0.081</td>
<td>0.273</td>
</tr>
<tr>
<td>Nationality (Non-Spanish)</td>
<td>0.150</td>
<td>0.357</td>
</tr>
<tr>
<td>Type of job</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 1</td>
<td>0.021</td>
<td>0.143</td>
</tr>
<tr>
<td>Group 2</td>
<td>0.032</td>
<td>0.175</td>
</tr>
<tr>
<td>Group 3</td>
<td>0.247</td>
<td>0.431</td>
</tr>
<tr>
<td>Group 4</td>
<td>0.198</td>
<td>0.399</td>
</tr>
<tr>
<td>Group 5</td>
<td>0.172</td>
<td>0.378</td>
</tr>
<tr>
<td>Group 6</td>
<td>0.330</td>
<td>0.470</td>
</tr>
<tr>
<td>Industry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufact. and energy</td>
<td>0.081</td>
<td>0.273</td>
</tr>
<tr>
<td>Construction</td>
<td>0.192</td>
<td>0.394</td>
</tr>
<tr>
<td>Trade</td>
<td>0.159</td>
<td>0.365</td>
</tr>
<tr>
<td>Hotels and restaurants</td>
<td>0.148</td>
<td>0.356</td>
</tr>
<tr>
<td>Transport</td>
<td>0.041</td>
<td>0.199</td>
</tr>
<tr>
<td>Business activities</td>
<td>0.266</td>
<td>0.442</td>
</tr>
<tr>
<td>Número</td>
<td>Título del Documento</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>----------------------</td>
<td></td>
</tr>
</tbody>
</table>
| 159/2000 | Participación privada en la construcción y explotación de carreteras de peaje  
Ginés de Rus, Manuel Romero y Lourdes Trujillo |
| 160/2000 | Errores y posibles soluciones en la aplicación del *Value at Risk*  
Mariano González Sánchez |
| 161/2000 | Tax neutrality on saving assets. The Spanish case before and after the tax reform  
Cristina Ruza y de Paz-Curbera |
| 162/2000 | Private rates of return to human capital in Spain: new evidence  
F. Barceinas, J. Oliver-Alonso, J.L. Raymond y J.L. Roig-Sabaté |
| 163/2000 | El control interno del riesgo. Una propuesta de sistema de límites  
risk neutral  
Mariano González Sánchez |
| 164/2001 | La evolución de las políticas de gasto de las Administraciones Públicas en los años 90  
Alfonso Utrilla de la Hoz y Carmen Pérez Esparrells |
| 165/2001 | Bank cost efficiency and output specification  
Emili Tortosa-Ausina |
| 166/2001 | Recent trends in Spanish income distribution: A robust picture of falling income inequality  
Josep Oliver-Alonso, Xavier Ramos y José Luis Raymond-Bara |
| 167/2001 | Efectos redistributivos y sobre el bienestar social del tratamiento de las cargas familiares en el nuevo IRPF  
Nuria Badenes Plá, Julio López Laborda, Jorge Onrubia Fernández |
| 168/2001 | The Effects of Bank Debt on Financial Structure of Small and Medium Firms in some European Countries  
Mónica Melle-Hernández |
| 169/2001 | La política de cohesión de la UE ampliada: la perspectiva de España  
Ismael Sanz Labrador |
| 170/2002 | Riesgo de liquidez de Mercado  
Mariano González Sánchez |
| 171/2002 | Los costes de administración para el afiliado en los sistemas de pensiones basados en cuentas de capitalización individual: medida y comparación internacional.  
José Enrique Devesa Carpio, Rosa Rodríguez Barrera, Carlos Vidal Meliá |
| 172/2002 | La encuesta continua de presupuestos familiares (1985-1996): descripción, representatividad y propuestas de metodología para la explotación de la información de los ingresos y el gasto.  
Llorenc Pou, Joaquín Alegre |
| 173/2002 | Modelos paramétricos y no paramétricos en problemas de concesión de tarjetas de crédito.  
Rosa Puertas, María Bonilla, Ignacio Olmeda |
174/2002 Mercado único, comercio intra-industrial y costes de ajuste en las manufacturas españolas. José Vicente Blanes Cristóbal

175/2003 La Administración tributaria en España. Un análisis de la gestión a través de los ingresos y de los gastos. Juan de Dios Jiménez Aguilera, Pedro Enrique Barrilao González


177/2003 Effects of ATMs and Electronic Payments on Banking Costs: The Spanish Case. Santiago Carbó Valverde, Rafael López del Paso, David B. Humphrey

178/2003 Factors explaining the interest margin in the banking sectors of the European Union. Joaquín Maudos y Juan Fernández Guevara

179/2003 Los planes de stock options para directivos y consejeros y su valoración por el mercado de valores en España. Mónica Melle Hernández


181/2003 The Euro effect on the integration of the European stock markets. Mónica Melle Hernández

182/2004 In search of complementarity in the innovation strategy: international R&D and external knowledge acquisition. Bruno Cassiman, Reinhilde Veugelers

183/2004 Fijación de precios en el sector público: una aplicación para el servicio municipal de suministro de agua. Mª Ángeles García Valiñas

184/2004 Estimación de la economía sumergida en España: un modelo estructural de variables latentes. Ángel Alañón Pardo, Miguel Gómez de Antonio

185/2004 Causas políticas y consecuencias sociales de la corrupción. Joan Oriol Prats Cabrera

186/2004 Loan bankers’ decisions and sensitivity to the audit report using the belief revision model. Andrés Guiral Contreras and José A. Gonzalo Angulo

187/2004 El modelo de Black, Derman y Toy en la práctica. Aplicación al mercado español. Marta Tolentino García-Abadillo y Antonio Díaz Pérez

188/2004 Does market competition make banks perform well?. Mónica Melle

189/2004 Efficiency differences among banks: external, technical, internal, and managerial. Santiago Carbó Valverde, David B. Humphrey y Rafael López del Paso
190/2004 Una aproximación al análisis de los costes de la esquizofrenia en España: los modelos jerárquicos bayesianos
F. J. Vázquez-Polo, M. A. Negrín, J. M. Cavasés, E. Sánchez y grupo RIRAG

191/2004 Environmental proactivity and business performance: an empirical analysis
Javier González-Benito y Óscar González-Benito

192/2004 Economic risk to beneficiaries in notional defined contribution accounts (NDCs)
Carlos Vidal-Meliá, Inmaculada Domínguez-Fabian y José Enrique Devesa-Carpio

193/2004 Sources of efficiency gains in port reform: non parametric malmquist decomposition tfp index for Mexico
Antonio Estache, Beatriz Tovar de la Fé y Lourdes Trujillo

194/2004 Persistencia de resultados en los fondos de inversión españoles
Alfredo Ciricio Fernández y Rafael Santamaría Aquilué

195/2005 El modelo de revisión de creencias como aproximación psicológica a la formación del juicio del auditor sobre la gestión continuada
Andrés Guiral Contreras y Francisco Esteso Sánchez

196/2005 La nueva financiación sanitaria en España: descentralización y prospectiva
David Cantarero Prieto

197/2005 A cointegration analysis of the Long-Run supply response of Spanish agriculture to the common agricultural policy
José A. Mendez, Ricardo Mora y Carlos San Juan

198/2005 ¿Refleja la estructura temporal de los tipos de interés del mercado español preferencia por la liquidez?
Magdalena Massot Perelló y Juan M. Nave

199/2005 Análisis de impacto de los Fondos Estructurales Europeos recibidos por una economía regional:
Un enfoque a través de Matrices de Contabilidad Social
M. Carmen Lima y M. Alejandro Cardenete

200/2005 Does the development of non-cash payments affect monetary policy transmission?
Santiago Carbó Valverde y Rafael López del Paso

201/2005 Firm and time varying technical and allocative efficiency: an application for port cargo handling firms
Ana Rodríguez-Álvarez, Beatriz Tovar de la Fé y Lourdes Trujillo

202/2005 Contractual complexity in strategic alliances
Jeffrey J. Reuer y Africa Ariño

203/2005 Factores determinantes de la evolución del empleo en las empresas adquiridas por opa
Nuria Alcalde Fradejas y Íñes Pérez-Soba Aguilar

Elena Olmedo, Juan M. Valderas, Ricardo Gimeno and Lorenzo Escot
<table>
<thead>
<tr>
<th>Página</th>
<th>Título</th>
<th>Autor/a/aes</th>
</tr>
</thead>
<tbody>
<tr>
<td>205/2005</td>
<td>Precio de la tierra con presión urbana: un modelo para España</td>
<td>Esther Decimavilla, Carlos San Juan y Stefan Sperlich</td>
</tr>
<tr>
<td>206/2005</td>
<td>Interregional migration in Spain: a semiparametric analysis</td>
<td>Adolfo Maza y José Villaverde</td>
</tr>
<tr>
<td>207/2005</td>
<td>Productivity growth in European banking</td>
<td>Carmen Murillo-Melchor, José Manuel Pastor y Emili Tortosa-Ausina</td>
</tr>
<tr>
<td>209/2005</td>
<td>La elasticidad de sustitución intertemporal con preferencias no separables intratemporalmente: los casos de Alemania, España y Francia.</td>
<td>Elena Márquez de la Cruz, Ana R. Martínez Cañete y Inés Pérez-Soba Aguilar</td>
</tr>
<tr>
<td>211/2005</td>
<td>Permanent income, convergence and inequality among countries</td>
<td>José M. Pastor and Lorenzo Serrano</td>
</tr>
<tr>
<td>213/2005</td>
<td>The effect of geographic expansion on the productivity of Spanish savings banks</td>
<td>Manuel Illueca, José M. Pastor and Emili Tortosa-Ausina</td>
</tr>
<tr>
<td>214/2005</td>
<td>Dynamic network interconnection under consumer switching costs</td>
<td>Ángel Luis López Rodríguez</td>
</tr>
<tr>
<td>215/2005</td>
<td>La influencia del entorno socioeconómico en la realización de estudios universitarios: una aproximación al caso español en la década de los noventa</td>
<td>Marta Rahona López</td>
</tr>
<tr>
<td>216/2005</td>
<td>The valuation of spanish ipos: efficiency analysis</td>
<td>Susana Álvarez Otero</td>
</tr>
<tr>
<td>217/2005</td>
<td>On the generation of a regular multi-input multi-output technology using parametric output distance functions</td>
<td>Sergio Perelman and Daniel Santin</td>
</tr>
<tr>
<td>218/2005</td>
<td>La gobernanza de los procesos parlamentarios: la organización industrial del congreso de los diputados en España</td>
<td>Gonzalo Caballero Miguez</td>
</tr>
<tr>
<td>219/2005</td>
<td>Determinants of bank market structure: Efficiency and political economy variables</td>
<td>Francisco González</td>
</tr>
<tr>
<td>220/2005</td>
<td>Agresividad de las órdenes introducidas en el mercado español: estrategias, determinantes y medidas de performance</td>
<td>David Abad Díaz</td>
</tr>
</tbody>
</table>
221/2005  Tendencia post-anuncio de resultados contables: evidencia para el mercado español
Carlos Forner Rodríguez, Joaquín Marhuenda Fructuoso y Sonia Sanabria García

222/2005  Human capital accumulation and geography: empirical evidence in the European Union
Jesús López-Rodríguez, J. Andrés Faíña y Jose Lopez Rodríguez

223/2005  Auditors' Forecasting in Going Concern Decisions: Framing, Confidence and Information Processing
Waymond Rodgers and Andrés Guiral

José Ramón Cancelo de la Torre, J. Andrés Faíña and Jesús López-Rodríguez

225/2005  The effects of ownership structure and board composition on the audit committee activity: Spanish evidence
Carlos Fernández Méndez and Rubén Arrondo García

226/2005  Cross-country determinants of bank income smoothing by managing loan loss provisions
Ana Rosa Fonseca and Francisco González

Alejandro Estellér Moré

228/2005  Region versus Industry effects: volatility transmission
Pilar Soriano Felipe and Francisco J. Climent Diranrno

Daniel Vázquez-Bustelo and Sandra Valle

Alfonso Palacio-Vera

231/2005  Reconciling Sustainability and Discounting in Cost Benefit Analysis: a methodological proposal
M. Carmen Almansa Sáez and Javier Calatrava Requena

232/2005  Can The Excess Of Liquidity Affect The Effectiveness Of The European Monetary Policy?
Santiago Carbó Valverde and Rafael López del Paso

Miguel Angel Barberán Lahuerta

Víctor M. González

Waymond Rodgers, Paul Pavlou and Andres Guiral.

Francisco J. André, M. Alejandro Cardenete y Carlos Romero.
<table>
<thead>
<tr>
<th>Year</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>254/06</td>
<td>Desigualdad regional en España: renta permanente versus renta corriente.</td>
<td>José M. Pastor, Empar Pons y Lorenzo Serrano</td>
</tr>
<tr>
<td>255/06</td>
<td>Environmental implications of organic food preferences: an application of the impure public goods model.</td>
<td>Ana Maria Aldanondo-Ochoa y Carmen Almansa-Sáez</td>
</tr>
<tr>
<td>256/06</td>
<td>Family tax credits versus family allowances when labour supply matters: Evidence for Spain.</td>
<td>José Félix Sanz-Sanz, Desiderio Romero-Jordán y Santiago Álvarez-García</td>
</tr>
<tr>
<td>257/06</td>
<td>La internacionalización de la empresa manufacturera española: efectos del capital humano genérico y específico.</td>
<td>José López Rodríguez</td>
</tr>
<tr>
<td>258/06</td>
<td>Evaluación de las migraciones interregionales en España, 1996-2004.</td>
<td>María Martínez Torres</td>
</tr>
<tr>
<td>259/06</td>
<td>Efficiency and market power in Spanish banking.</td>
<td>Rolf Färe, Shawna Grosskopf y Emili Tortosa-Ausina</td>
</tr>
<tr>
<td>260/06</td>
<td>Asimetrías en volatilidad, beta y contagios entre las empresas grandes y pequeñas cotizadas en la bolsa española.</td>
<td>Helena Chuliá y Hipòlit Torró.</td>
</tr>
<tr>
<td>261/06</td>
<td>Birth Replacement Ratios: New Measures of Period Population Replacement.</td>
<td>José Antonio Ortega</td>
</tr>
<tr>
<td>262/06</td>
<td>Accidentes de tráfico, víctimas mortales y consumo de alcohol.</td>
<td>José Mª Arranz y Ana I. Gil</td>
</tr>
<tr>
<td>263/06</td>
<td>Análisis de la Presencia de la Mujer en los Consejos de Administración de las Mil Mayores Empresas Españolas.</td>
<td>Ruth Mateos de Cabo, Lorenzo Escot Mangas y Ricardo Gimeno Nogués.</td>
</tr>
<tr>
<td>264/06</td>
<td>Crisis y Reforma del Pacto de Estabilidad y Crecimiento. Las Limitaciones de la Política Económica en Europa.</td>
<td>Ignacio Álvarez Peralta</td>
</tr>
<tr>
<td>266/06</td>
<td>Health Human Capital And The Shift From Foraging To Farming.</td>
<td>Paolo Rungo</td>
</tr>
<tr>
<td>269/06</td>
<td>Banking competition, financial dependence and economic growth</td>
<td>Joaquín Maudos y Juan Fernández de Guevara</td>
</tr>
<tr>
<td>270/06</td>
<td>Efficiency, subsidies and environmental adaptation of animal farming under CAP</td>
<td>Werner Kleinhanß, Carmen Murillo, Carlos San Juan y Stefan Sperlich</td>
</tr>
<tr>
<td>Year</td>
<td>Title</td>
<td>Authors</td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>272/2006</td>
<td>Riesgo asimétrico y estrategias de momentum en el mercado de valores español</td>
<td>Luis Muga y Rafael Santamaria</td>
</tr>
<tr>
<td>273/2006</td>
<td>Valoración de capital-riesgo en proyectos de base tecnológica e innovadora a través de la teoría de opciones reales</td>
<td>Gracia Rubio Martín</td>
</tr>
<tr>
<td>274/2006</td>
<td>Capital stock and unemployment: searching for the missing link</td>
<td>Ana Rosa Martínez-Cañete, Elena Márquez de la Cruz, Alfonso Palacio-Vera and Inés Pérez-Soba Aguilar</td>
</tr>
<tr>
<td>275/2006</td>
<td>Study of the influence of the voters’ political culture on vote decision through the simulation of a political competition problem in Spain</td>
<td>Sagrario Lantarón, Isabel Lillo, Mª Dolores López and Javier Rodrigo</td>
</tr>
<tr>
<td>276/2006</td>
<td>Investment and growth in Europe during the Golden Age</td>
<td>Antonio Cubel and Mª Teresa Sanchis</td>
</tr>
<tr>
<td>277/2006</td>
<td>Efectos de vincular la pensión pública a la inversión en cantidad y calidad de hijos en un modelo de equilibrio general</td>
<td>Robert Meneu Gaya</td>
</tr>
<tr>
<td>278/2006</td>
<td>El consumo y la valoración de activos</td>
<td>Elena Márquez y Belén Nieto</td>
</tr>
<tr>
<td>280/2006</td>
<td>Three measures of returns to education: An illustration for the case of Spain</td>
<td>María Arrazola y José de Hevia</td>
</tr>
<tr>
<td>281/2006</td>
<td>Composition of Firms versus Composition of Jobs</td>
<td>Antoni Cunyat</td>
</tr>
<tr>
<td>282/2006</td>
<td>La vocación internacional de un holding tranviario belga: la Compagnie Mutuelle de Tramways, 1895-1918</td>
<td>Alberte Martínez López</td>
</tr>
<tr>
<td>283/2006</td>
<td>Una visión panorámica de las entidades de crédito en España en la última década.</td>
<td>Constantino García Ramos</td>
</tr>
<tr>
<td>285/2006</td>
<td>Los intereses belgas en la red ferroviaria catalana, 1890-1936</td>
<td>Alberte Martínez López</td>
</tr>
<tr>
<td>286/2006</td>
<td>The Governance of Quality: The Case of the Agrifood Brand Names</td>
<td>Marta Fernández Barcala, Manuel González-Díaz y Emmanuel Raynaud</td>
</tr>
<tr>
<td>287/2006</td>
<td>Modelling the role of health status in the transition out of malthusian equilibrium</td>
<td>Paolo Rungo, Luis Currais and Berta Rivera</td>
</tr>
<tr>
<td>288/2006</td>
<td>Industrial Effects of Climate Change Policies through the EU Emissions Trading Scheme</td>
<td>Xavier Labandeira and Miguel Rodríguez</td>
</tr>
<tr>
<td>Year</td>
<td>Title</td>
<td>Authors</td>
</tr>
<tr>
<td>-------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>289/06</td>
<td>Globalisation and the Composition of Government Spending: An analysis for OECD countries</td>
<td>Norman Gemmell, Richard Kneller and Ismael Sanz</td>
</tr>
<tr>
<td>290/06</td>
<td>La producción de energía eléctrica en España: Análisis económico de la actividad tras la liberalización del Sector Eléctrico</td>
<td>Fernando Hernández Martínez</td>
</tr>
<tr>
<td>291/06</td>
<td>Further considerations on the link between adjustment costs and the productivity of R&amp;D investment: evidence for Spain</td>
<td>Desiderio Romero-Jordán, José Félix Sanz-Sanz and Inmaculada Álvarez-Ayuso</td>
</tr>
<tr>
<td>292/06</td>
<td>Una teoría sobre la contribución de la función de compras al rendimiento empresarial</td>
<td>Javier González Benito</td>
</tr>
<tr>
<td>293/06</td>
<td>Agility drivers, enablers and outcomes: empirical test of an integrated agile manufacturing model</td>
<td>Daniel Vázquez-Bustelo, Lucía Avella and Esteban Fernández</td>
</tr>
<tr>
<td>294/06</td>
<td>Testing the parametric vs the semiparametric generalized mixed effects models</td>
<td>María José Lombardía and Stefan Sperlich</td>
</tr>
<tr>
<td>295/06</td>
<td>Nonlinear dynamics in energy futures</td>
<td>Mariano Matilla-García</td>
</tr>
<tr>
<td>296/06</td>
<td>Estimating Spatial Models By Generalized Maximum Entropy Or How To Get Rid Of W</td>
<td>Esteban Fernández Vázquez, Matías Mayor Fernández and Jorge Rodríguez-Valez</td>
</tr>
<tr>
<td>297/06</td>
<td>Optimización fiscal en las transmisiones lucrativas: análisis metodológico</td>
<td>Félix Domínguez Barrero</td>
</tr>
<tr>
<td>298/06</td>
<td>La situación actual de la banca online en España</td>
<td>Francisco José Climent Diran zo y Alexandre Momparler Pechuán</td>
</tr>
<tr>
<td>299/06</td>
<td>Estrategia competitiva y rendimiento del negocio: el papel mediador de la estrategia y las capacidades productivas</td>
<td>Javier González Benito y Isabel Suárez González</td>
</tr>
<tr>
<td>300/06</td>
<td>A Parametric Model to Estimate Risk in a Fixed Income Portfolio</td>
<td>Pilar Abad and Sonia Benito</td>
</tr>
<tr>
<td>301/07</td>
<td>Análisis Empírico de las Preferencias Sociales Respecto del Gasto en Obra Social de las Cajas de Ahorros</td>
<td>Alejandro Esteller-Moré, Jonathan Jorba Jiménez y Albert Solé-Ollé</td>
</tr>
<tr>
<td>302/07</td>
<td>Assessing the enlargement and deepening of regional trading blocs: The European Union case</td>
<td>Salvador Gil-Pareja, Rafael Llorca-Vivero y José Antonio Martínez-Serrano</td>
</tr>
<tr>
<td>303/07</td>
<td>¿Es la Franquicia un Medio de Financiación?: Evidencia para el Caso Español</td>
<td>Vanesa Solís Rodríguez y Manuel González Díaz</td>
</tr>
<tr>
<td>304/07</td>
<td>On the Finite-Sample Biases in Nonparametric Testing for Variance Constancy</td>
<td>Paulo M.M. Rodrigues and Antonio Rubia</td>
</tr>
<tr>
<td>305/07</td>
<td>Spain is Different: Relative Wages 1989-98</td>
<td>José Antonio Carrasco Gallego</td>
</tr>
</tbody>
</table>
Poverty reduction and SAM multipliers: An evaluation of public policies in a regional framework
Francisco Javier De Miguel-Vélez y Jesús Pérez-Mayo

La Eficiencia en la Gestión del Riesgo de Crédito en las Cajas de Ahorro
Marcelino Martínez Cabrera

Optimal environmental policy in transport: unintended effects on consumers' generalized price
M. Pilar Socorro and Ofelia Betancor

Agricultural Productivity in the European Regions: Trends and Explanatory Factors
Roberto Ezcurra, Belén Iráizoz, Pedro Pascual and Manuel Rapún

Long-run Regional Population Divergence and Modern Economic Growth in Europe: a Case Study of Spain
María Isabel Ayuda, Fernando Collantes and Vicente Pinilla

Financial Information effects on the measurement of Commercial Banks’ Efficiency
Borja Amor, María T. Tascón and José L. Fanjul

Neutralidad e incentivos de las inversiones financieras en el nuevo IRPF
Félix Domínguez Barrero

The Effects of Corporate Social Responsibility Perceptions on The Valuation of Common Stock
Waymond Rodgers, Helen Choy and Andres Guiral-Contreras

Country Creditor Rights, Information Sharing and Commercial Banks’ Profitability Persistence across the world
Borja Amor, María T. Tascón and José L. Fanjul

¿Es Relevante el Déficit Corriente en una Unión Monetaria? El Caso Español
Javier Blanco González y Ignacio del Rosal Fernández

The Impact of Credit Rating Announcements on Spanish Corporate Fixed Income Performance: Returns, Yields and Liquidity
Pilar Abad, Antonio Díaz and M. Dolores Robles

Indicadores de Lealtad al Establecimiento y Formato Comercial Basados en la Distribución del Presupuesto
César Augusto Bustos Reyes y Óscar González Benito

Migrants and Market Potential in Spain over The XXth Century: A Test Of The New Economic Geography
Daniel A. Tirado, Jordi Pons, Elisenda Paluzie and Javier Silvestre

El Impacto del Coste de Oportunidad de la Actividad Emprendedora en la Intención de los Ciudadanos Europeos de Crear Empresas
Luis Miguel Zapico Aldeano

Los belgas y los ferrocarriles de vía estrecha en España, 1887-1936
Alberte Martínez López

Competición política bipartidista. Estudio geométrico del equilibrio en un caso ponderado
Isabel Lillo, Mª Dolores López y Javier Rodrigo

Human resource management and environment management systems: an empirical study
Mª Concepción López Fernández, Ana Mª Serrano Bedía and Gema García Piqueres
Wood and industrialization. evidence and hypotheses from the case of Spain, 1860-1935. Iñaki Iriarte-Goñi and María Isabel Ayuda Bosque

New evidence on long-run monetary neutrality. J. Cunado, L.A. Gil-Alana and F. Perez de Gracia

Monetary policy and structural changes in the volatility of us interest rates. Juncal Cuñado, Javier Gomez Biscarri and Fernando Perez de Gracia

The productivity effects of intrafirm diffusion. Lucio Fuentelsaz, Jaime Gómez and Sergio Palomas

Unemployment duration, layoffs and competing risks. J.M. Arranz, C. García-Serrano and L. Toharia

El grado de cobertura del gasto público en España respecto a la UE-15 Nuria Rueda, Begoña Barruso, Carmen Calderón y Mª del Mar Herrador

The Impact of Direct Subsidies in Spain before and after the CAP'92 Reform Carmen Murillo, Carlos San Juan and Stefan Sperlich

Determinants of post-privatisation performance of Spanish divested firms Laura Cabeza García and Silvia Gómez Ansón

¿Por qué deciden diversificar las empresas españolas? Razones oportunistas versus razones económicas Almudena Martínez Campillo

Dynamical Hierarchical Tree in Currency Markets Juan Gabriel Brida, David Matesanz Gómez and Wiston Adrián Risso

Los determinantes sociodemográficos del gasto sanitario. Análisis con microdatos individuales Ana María Angulo, Ramón Barberán, Pilar Egea y Jesús Mur

Why do companies go private? The Spanish case Inés Pérez-Soba Aguilar

The use of gis to study transport for disabled people Verónica Cañal Fernández

The long run consequences of M&A: An empirical application Cristina Bernad, Lucio Fuentelsaz and Jaime Gómez

Las clasificaciones de materias en economía: principios para el desarrollo de una nueva clasificación Valentín Edo Hernández

Reforming Taxes and Improving Health: A Revenue-Neutral Tax Reform to Eliminate Medical and Pharmaceutical VAT Santiago Álvarez-García, Carlos Pestana Barros y Juan Prieto-Rodríguez

Impacts of an iron and steel plant on residential property values Celia Bilbao-Terol

Firm size and capital structure: Evidence using dynamic panel data Víctor M. González and Francisco González
¿Cómo organizar una cadena hotelera? La elección de la forma de gobierno Marta Fernández Barcala y Manuel González Díaz

Análisis de los efectos de la decisión de diversificar: un contraste del marco teórico “Agencia-Stewardship” Almudena Martínez Campillo y Roberto Fernández Gago

Selecting portfolios given multiple eurostoxx-based uncertainty scenarios: a stochastic goal programming approach from fuzzy betas Enrique Ballestero, Blanca Pérez-Gladish, Mar Arenas-Parra and Amelia Bilbao-Terol

“El bienestar de los inmigrantes y los factores implicados en la decisión de emigrar” Anastasia Hernández Alemán y Carmelo J. León


Diferencias salariales entre empresas públicas y privadas. El caso español Begoña Cueto y Nuria Sánchez- Sánchez

Effects of Fiscal Treatments of Second Home Ownership on Renting Supply Celia Bilbao Terol and Juan Prieto Rodríguez

Auditors’ ethical dilemmas in the going concern evaluation Andres Guiral, Waymond Rodgers, Emiliano Ruiz and Jose A. Gonzalo


Socially responsible investment: mutual funds portfolio selection using fuzzy multiobjective programming Blanca Mª Pérez-Gladish, Mar Arenas-Parra, Amelia Bilbao-Terol and Mª Victoria Rodríguez-Uría

Persistencia del resultado contable y sus componentes: implicaciones de la medida de ajustes por devengo Raúl Iñiguez Sánchez y Francisco Poveda Fuentes

Wage Inequality and Globalisation: What can we Learn from the Past? A General Equilibrium Approach Concha Betrán, Javier Ferri and Maria A. Pons

Eficacia de los incentivos fiscales a la inversión en I+D en España en los años noventa Desiderio Romero Jordán y José Félix Sanz Sanz

Convergencia regional en renta y bienestar en España Robert Meneu Gaya

Tributación ambiental: Estado de la Cuestión y Experiencia en España Ana Carrera Poncela

Salient features of dependence in daily us stock market indices Luis A. Gil-Alana, Juncal Cuñado and Fernando Pérez de Gracia

La educación superior: ¿un gasto o una inversión rentable para el sector público?
Inés P. Murillo y Francisco Pedraja

358/2007  Effects of a reduction of working hours on a model with job creation and job destruction
Emilio Domínguez, Miren Ullibarri y Idoya Zabaleta

359/2007  Stock split size, signaling and earnings management: Evidence from the Spanish market
José Yagüe, J. Carlos Gómez-Sala and Francisco Poveda-Fuentes

360/2007  Modelización de las expectativas y estrategias de inversión en mercados de derivados
Begoña Font-Belaire

361/2008  Trade in capital goods during the golden age, 1953-1973
Mª Teresa Sanchis and Antonio Cubel

362/2008  El capital económico por riesgo operacional: una aplicación del modelo de distribución de pérdidas
Enrique José Jiménez Rodríguez y José Manuel Feria Domínguez

363/2008  The drivers of effectiveness in competition policy
Joan-Ramon Borrell and Juan-Luis Jiménez

364/2008  Corporate governance structure and board of directors remuneration policies:
evidence from Spain
Carlos Fernández Méndez, Rubén Arrondo García and Enrique Fernández Rodríguez

365/2008  Beyond the disciplinary role of governance: how boards and donors add value to Spanish foundations
Pablo De Andrés Alonso, Valentín Azofra Palenzuela y M. Elena Romero Merino

366/2008  Complejidad y perfeccionamiento contractual para la contención del oportunismo en los acuerdos de franquicia
Vanesa Solís Rodríguez y Manuel González Díaz

367/2008  Inestabilidad y convergencia entre las regiones europeas
Jesús Mur, Fernando López y Ana Angulo

368/2008  Análisis espacial del cierre de explotaciones agrarias
Ana Aldanondo Ochoa, Carmen Almansa Sáez y Valero Casanovas Oliva

369/2008  Cross-Country Efficiency Comparison between Italian and Spanish Public Universities in the period 2000-2005
Tommaso Agasisti and Carmen Pérez Esparrells

370/2008  El desarrollo de la sociedad de la información en España: un análisis por comunidades autónomas
María Concepción García Jiménez y José Luis Gómez Barroso

371/2008  El medioambiente y los objetivos de fabricación: un análisis de los modelos estratégicos para su consecución
Lucía Avella Camarero, Esteban Fernández Sánchez y Daniel Vázquez-Bustelo

372/2008  Influence of bank concentration and institutions on capital structure: New international evidence
Víctor M. González and Francisco González

373/2008  Generalización del concepto de equilibrio en juegos de competición política
Mª Dolores López González y Javier Rodrigo Hiños
374/2008 Smooth Transition from Fixed Effects to Mixed Effects Models in Multi-level regression Models
María José Lombardía and Stefan Sperlich

375/2008 A Revenue-Neutral Tax Reform to Increase Demand for Public Transport Services
Carlos Pestana Barros and Juan Prieto-Rodriguez

376/2008 Measurement of intra-distribution dynamics: An application of different approaches to the European regions
Adolfo Maza, María Hierro and José Villaverde

377/2008 Migración interna de extranjeros y ¿nueva fase en la convergencia?
María Hierro y Adolfo Maza

378/2008 Efectos de la Reforma del Sector Eléctrico: Modelización Teórica y Experiencia Internacional
Ciro Eduardo Bazán Navarro

379/2008 A Non-Parametric Independence Test Using Permutation Entropy
Mariano Matilla-García and Manuel Ruiz Marín

380/2008 Testing for the General Fractional Unit Root Hypothesis in the Time Domain
Uwe Hassler, Paulo M.M. Rodrigues and Antonio Rubia

381/2008 Multivariate gram-charlier densities
Esther B. Del Brio, Trino-Manuel Núñez and Javier Perote

382/2008 Analyzing Semiparametrically the Trends in the Gender Pay Gap - The Example of Spain
Ignacio Moral-Arce, Stefan Sperlich, Ana I. Fernández-Sainz and Maria J. Roca

383/2008 A Cost-Benefit Analysis of a Two-Sided Card Market
Santiago Carbó Valverde, David B. Humphrey, José Manuel Liñares Zegarra and Francisco Rodríguez Fernandez

384/2008 A Fuzzy Bicriteria Approach for Journal Deselection in a Hospital Library
M. L. López-Avello, M. V. Rodriguez-Uría, B. Pérez-Gladish, A. Bilbao-Terol, M. Arenas-Parra

385/2008 Valoración de las grandes corporaciones farmacéuticas, a través del análisis de sus principales intangibles, con el método de opciones reales
Gracia Rubio Martín y Prosper Lamothe Fernández

386/2008 El marketing interno como impulsor de las habilidades comerciales de las pyme españolas: efectos en los resultados empresariales
Mª Leticia Santos Vijande, Mª José Sanzo Pérez, Nuria García Rodríguez y Juan A. Trespalacios Gutiérrez

387/2008 Understanding Warrants Pricing: A case study of the financial market in Spain
David Abad y Belén Nieto

388/2008 Aglomeración espacial, Potencial de Mercado y Geografía Económica: Una revisión de la literatura
Jesús López-Rodríguez y J. Andrés Faíña

389/2008 An empirical assessment of the impact of switching costs and first mover advantages on firm performance
Jaime Gómez, Juan Pablo Maicas

390/2008 Tender offers in Spain: testing the wave
Ana R. Martínez-Cañete y Inés Pérez-Soba Aguilar
La integración del mercado español a finales del siglo XIX: los precios del trigo entre 1891 y 1905
Mariano Matilla García, Pedro Pérez Pascual y Basilio Sanz Carnero

Cuando el tamaño importa: estudio sobre la influencia de los sujetos políticos en la balanza de bienes y servicios
Alfonso Echazarra de Gregorio

Una visión cooperativa de las medidas ante el posible daño ambiental de la desalación
Borja Montaño Sanz

Efectos externos del endeudamiento sobre la calificación crediticia de las Comunidades Autónomas
Andrés Leal Marcos y Julio López Laborda

Technical efficiency and productivity changes in Spanish airports: A parametric distance functions approach
Beatriz Tovar & Roberto Rendeiro Martín-Cejas

Network analysis of exchange data: Interdependence drives crisis contagion
David Matesanz Gómez & Guillermo J. Ortega

Explaining the performance of Spanish privatised firms: a panel data approach
Laura Cabeza García and Silvia Gomez Anson

The institutional determinants of CO₂ emissions: A computational modelling approach using Artificial Neural Networks and Genetic Programming
Marcos Álvarez-Díaz, Gonzalo Caballero Míguez and Mario Soliño

Alternative Approaches to Include Exogenous Variables in DEA Measures: A Comparison Using Monte Carlo
José Manuel Cordero-Ferrera, Francisco Pedraja-Chaparro and Daniel Santín-González

Efecto diferencial del capital humano en el crecimiento económico andaluz entre 1985 y 2004: comparación con el resto de España
Mª del Pópulo Pablo-Romero Gil-Delgado y Mª de la Palma Gómez-Calero Valdés

Análisis de fusiones, variaciones conjeturales y la falacia del estimador en diferencias
Juan Luis Jiménez y Jordi Perdigueró

Política fiscal en la uem: ¿basta con los estabilizadores automáticos?
Jorge Uxó González y Mª Jesús Arroyo Fernández

Papel de la orientación emprendedora y la orientación al mercado en el éxito de las empresas
Óscar González-Benito, Javier González-Benito y Pablo A. Muñoz-Gallego

La presión fiscal por impuesto sobre sociedades en la unión europea
Elena Fernández Rodríguez, Antonio Martínez Arias y Santiago Álvarez García

408/2008
The environment as a determinant factor of the purchasing and supply strategy: an empirical analysis
Dr. Javier González-Benito y MS Duilio Reis da Rocha

409/2008
Cooperation for innovation: the impact on innovatory effort
Gloria Sánchez González and Liliana Herrera

410/2008
Spanish post-earnings announcement drift and behavioral finance models
Carlos Forner and Sonia Sanabria

411/2008
Decision taking with external pressure: evidence on football manager dismissals in argentina and their consequences
Ramón Flores, David Forrest and Juan de Dios Tena

412/2008
Comercio agrario latinoamericano, 1963-2000: aplicación de la ecuación gravitacional para flujos desagregados de comercio
Raúl Serrano y Vicente Pinilla

413/2008
Voter heuristics in Spain: a descriptive approach elector decision
José Luís Sáez Lozano and Antonio M. Jaime Castillo

414/2008
Análisis del efecto área de salud de residencia sobre la utilización y acceso a los servicios sanitarios en la Comunidad Autónoma Canaria
Ignacio Abásolo Alessón, Lidia Garcíía Pérez, Raquel Aguiar Ibáñez y Asier Amador Robayna

415/2008
Impact on competitive balance from allowing foreign players in a sports league: an analytical model and an empirical test
Ramón Flores, David Forrest & Juan de Dios Tena

416/2008
Organizational innovation and productivity growth: Assessing the impact of outsourcing on firm performance
Alberto López

417/2008
Value Efficiency Analysis of Health Systems
Eduardo González, Ana Cárcaba & Juan Ventura

418/2008
Equidad en la utilización de servicios sanitarios públicos por comunidades autónomas en España: un análisis multinivel
Ignacio Abásolo, Jaime Pinilla, Miguel Negrín, Raquel Aguiar y Lidia García

419/2008
Piedras en el camino hacia Bolonia: efectos de la implantación del EEES sobre los resultados académicos
Carmen Florido, Juan Luis Jiménez e Isabel Santana

420/2008
The welfare effects of the allocation of airlines to different terminals
M. Pilar Socorro and Ofelia Betancor

421/2008
How bank capital buffers vary across countries. The influence of cost of deposits, market power and bank regulation
Ana Rosa Fonseca and Francisco González

422/2008
Analysing health limitations in Spain: an empirical approach based on the European community household panel
Marta Pascual and David Cantarero
Regional productivity variation and the impact of public capital stock: an analysis with spatial interaction, with reference to Spain
Miguel Gómez-Antonio and Bernard Fingleton

Average effect of training programs on the time needed to find a job. The case of the training schools program in the south of Spain (Seville, 1997-1999).
José Manuel Cansino Muñoz-Repiso and Antonio Sánchez Braza

Medición de la eficiencia y cambio en la productividad de las empresas distribuidoras de electricidad en Perú después de las reformas
Raúl Pérez-Reyes y Beatriz Tovar

Acermando posturas sobre el descuento ambiental: sondeo Delphi a expertos en el ámbito internacional
Carmen Almansa Sáez y José Miguel Martínez Paz

Determinants of abnormal liquidity after rating actions in the Corporate Debt Market
Pilar Abad, Antonio Díaz and M. Dolores Robles

Export led-growth and balance of payments constrained. New formalization applied to Cuban commercial regimes since 1960
David Matesanz Gómez, Guadalupe Fugarolas Álvarez-Ude and Isis Mañalich Gálvez

La deuda implícita y el desequilibrio financiero-actuarial de un sistema de pensiones. El caso del régimen general de la seguridad social en España
José Enrique Devesa Carpio y Mar Devesa Carpio

Efectos de la descentralización fiscal sobre el precio de los carburantes en España
Desiderio Romero Jordán, Marta Jorge García-Inés y Santiago Álvarez García

Euro, firm size and export behavior
Silviano Esteve-Pérez, Salvador Gil-Pareja, Rafael Llorca-Vivero and José Antonio Martínez-Serrano

Does social spending increase support for free trade in advanced democracies?
Ismael Sanz, Ferran Martínez i Coma and Federico Steinberg

Potencial de Mercado y Estructura Espacial de Salarios: El Caso de Colombia
Jesús López-Rodríguez y Maria Cecilia Acevedo

Persistence in Some Energy Futures Markets
Juncal Cunado, Luis A. Gil-Alana and Fernando Pérez de Gracia

¿Flexibilidad o rigidez salarial en España?: un análisis a escala regional
Ignacio Moral Arce y Adolfo Maza Fernández

Intangible relationship-specific investments and the performance of r&d outsourcing agreements
Andrea Martínez-Noya, Esteban García-Canal & Mauro F. Guillén

Friendly or Controlling Boards?
Pablo de Andrés Alonso & Juan Antonio Rodríguez Sanz
<table>
<thead>
<tr>
<th>Número</th>
<th>Título</th>
<th>Autor(a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>439/2009</td>
<td>La sociedad Trenor y Cía. (1838-1926): un modelo de negocio industrial en la España del siglo XIX</td>
<td>Amparo Ruiz Llopis</td>
</tr>
<tr>
<td>440/2009</td>
<td>Continental bias in trade</td>
<td>Salvador Gil-Pareja, Rafael Llorca-Vivero &amp; José Antonio Martínez Serrano</td>
</tr>
<tr>
<td>441/2009</td>
<td>Determining operational capital at risk: an empirical application to the retail banking</td>
<td>Enrique José Jiménez-Rodríguez, José Manuel Feria-Dominguez &amp; José Luis Martín-Marín</td>
</tr>
<tr>
<td>442/2009</td>
<td>Costes de mitigación y escenarios post-kyoto en España: un análisis de equilibrio general para España</td>
<td>Mikel González Ruiz de Eguino</td>
</tr>
<tr>
<td>443/2009</td>
<td>Las revistas españolas de economía en las bibliotecas universitarias: ranking, valoración del indicador y del sistema</td>
<td>Valentín Edo Hernández</td>
</tr>
<tr>
<td>444/2009</td>
<td>Convergencia económica en España y coordinación de políticas económicas. un estudio basado en la estructura productiva de las CC.AA.</td>
<td>Ana Cristina Mingorance Arnáiz</td>
</tr>
<tr>
<td>445/2009</td>
<td>Instrumentos de mercado para reducir emisiones de co2: un análisis de equilibrio general para España</td>
<td>Mikel González Ruiz de Eguino</td>
</tr>
<tr>
<td>446/2009</td>
<td>El comercio intra e inter-regional del sector Turismo en España</td>
<td>Carlos Llano y Tamara de la Mata</td>
</tr>
<tr>
<td>447/2009</td>
<td>Efectos del incremento del precio del petróleo en la economía española: Análisis de cointegración y de la política monetaria mediante reglas de Taylor</td>
<td>Fernando Hernández Martínez</td>
</tr>
<tr>
<td>449/2009</td>
<td>Global Economy Dynamics? Panel Data Approach to Spillover Effects</td>
<td>Gregory Daco, Fernando Hernández Martínez &amp; Li-Wu Hsu</td>
</tr>
<tr>
<td>450/2009</td>
<td>Pricing levered warrants with dilution using observable variables</td>
<td>Isabel Abínzano &amp; Javier F. Navas</td>
</tr>
<tr>
<td>452/2009</td>
<td>A Detailed Comparison of Value at Risk in International Stock Exchanges</td>
<td>Pilar Abad &amp; Sonia Benito</td>
</tr>
<tr>
<td>453/2009</td>
<td>Understanding offshoring: has Spain been an offshoring location in the nineties?</td>
<td>Belén González-Díaz &amp; Rosario Gandoy</td>
</tr>
<tr>
<td>454/2009</td>
<td>Outsourcing decision, product innovation and the spatial dimension: Evidence from the Spanish footwear industry</td>
<td>José Antonio Belso-Martínez</td>
</tr>
</tbody>
</table>
Does playing several competitions influence a team’s league performance? Evidence from Spanish professional football
Andrés J. Picazo-Tadeo & Francisco González-Gómez

Does accessibility affect retail prices and competition? An empirical application
Juan Luis Jiménez and Jordi Perdigueru

Cash conversion cycle in smes
Sonia Baños-Caballero, Pedro J. García-Teruel and Pedro Martínez-Solano

Un estudio sobre el perfil de hogares endeudados y sobreendeudados: el caso de los hogares vascos
Alazne Mujika Alberdi, Iñaki García Arrizabalaga y Juan José Gibaja Martín

Imposing monotonicity on outputs in parametric distance function estimations: with an application to the Spanish educational production
Sergio Perelman and Daniel Santín

Key issues when using tax data for concentration analysis: an application to the Spanish wealth tax
José Mª Durán-Cabré and Alejandro Esteller-Moré

¿Se está rompiendo el mercado español? Una aplicación del enfoque de feldstein –horioka
Saúl De Vicente Queijeiro, José Luis Pérez Rivero y María Rosalía Vicente Cuervo

Financial condition, cost efficiency and the quality of local public services
Manuel A. Muñiz & José L. Zafrá

Including non-cognitive outputs in a multidimensional evaluation of education production: an international comparison
Marián García Valiñas & Manuel Antonio Muñiz Pérez

A political look into budget deficits. The role of minority governments and oppositions
Albert Falcó-Gimeno & Ignacio Jurado

La simulación del cuadro de mando integral. Una herramienta de aprendizaje en la materia de contabilidad de gestión
Elena Urquía Grande, Clara Isabel Muñoz Colomina y Elisa Isabel Cano Montero

Análisis histórico de la importancia de la industria de la desalización en España
Borja Montaño Sanz

The dynamics of trade and innovation: a joint approach
Silviano Esteve-Pérez & Diego Rodríguez

Measuring international reference-cycles
Sonia de Lucas Santos, Inmaculada Álvarez Ayuso & Mª Jesús Delgado Rodríguez

Measuring quality of life in Spanish municipalities
Eduardo González Fidalgo, Ana Cárcaea García, Juan Ventura Victoria & Jesús García García

¿Cómo se valoran las acciones españolas: en el mercado de capitales doméstico o en el europeo?
Begoña Font Belaire y Alfredo Juan Grau Grau

Patterns of e-commerce adoption and intensity. evidence for the european union-27
María Rosalía Vicente & Ana Jesús López
On measuring the effect of demand uncertainty on costs: an application to port terminals
Ana Rodríguez-Álvarez, Beatriz Tovar & Alan Wall

Order of market entry, market and technological evolution and firm competitive performance
Jaime Gomez, Gianvito Lanzolla & Juan Pablo Maicas

La Unión Económica y Monetaria Europea en el proceso exportador de Castilla y León (1993-2007): un análisis de datos de panel
Almudena Martínez Campillo y Mª del Pilar Sierra Fernández

Do process innovations boost SMEs productivity growth?
Juan A. Mañez, María E. Rochina Barrachina, Amparo Sanchis Llopis & Juan A. Sanchis Llopis

Incertidumbre externa y elección del modo de entrada en el marco de la inversión directa en el exterior
Cristina López Duarte y Marta Mª Vidal Suárez

Testing for structural breaks in factor loadings: an application to international business cycle
José Luis Cendejas Bueno, Sonia de Lucas Santos, Inmaculada Álvarez Ayuso & Mª Jesús Delgado Rodríguez

¿Esconde la rigidez de precios la existencia de colusión? El caso del mercado de carburantes en las Islas Canarias
Juan Luis Jiménez y Jordi Perdiguero

The poni test with structural breaks
Antonio Aznar & María-Isabel Ayuda

Accuracy and reliability of Spanish regional accounts (CRE-95)
Verónica Cañal Fernández

Estimating regional variations of R&D effects on productivity growth by entropy econometrics
Esteban Fernández-Vázquez y Fernando Rubiera-Morollón

Why do local governments privatize the provision of water services? Empirical evidence from Spain
Francisco González-Gómez, Andrés J. Picazo-Tadeo & Jorge Guardiola

Assessing the regional digital divide across the European Union-27
María Rosalía Vicente & Ana Jesús López

Measuring educational efficiency and its determinants in Spain with parametric distance functions
José Manuel Cordero Ferrera, Eva Crespo Cebada & Daniel Santín González

Spatial analysis of public employment services in the Spanish provinces
Patricia Suárez Cano & Matías Mayor Fernández

Trade effects of continental and intercontinental preferential trade agreements
Salvador Gil-Pareja, Rafael Llorca-Vivero & José Antonio Martínez-Serrano

Testing the accuracy of DEA for measuring efficiency in education under endogeneity
Salvador Gil-Pareja, Rafael Llorca-Vivero & José Antonio Martínez-Serrano

Measuring efficiency in primary health care: the effect of exogenous variables on results
José Manuel Cordero Ferrera, Eva Crespo Cebada & Luis R. Murillo Zamorano
<table>
<thead>
<tr>
<th>Year</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>489/2009</td>
<td>Capital structure determinants in growth firms accessing venture funding</td>
<td>Marina Balboa, José Martí &amp; Álvaro Tresierra</td>
</tr>
<tr>
<td>490/2009</td>
<td>Determinants of debt maturity structure across firm size</td>
<td>Víctor M. González</td>
</tr>
<tr>
<td>491/2009</td>
<td>Análisis del efecto de la aplicación de las NIIF en la valoración de las salidas a bolsa</td>
<td>Susana Álvarez Otero y Eduardo Rodríguez Enríquez</td>
</tr>
<tr>
<td>492/2009</td>
<td>An analysis of urban size and territorial location effects on employment probabilities: the Spanish case</td>
<td>Ana Viñuela-Jiménez, Fernando Rubiera-Morollón &amp; Begoña Cueto</td>
</tr>
<tr>
<td>493/2010</td>
<td>Determinantes de la estructura de los consejos de administración en España</td>
<td>Isabel Acero Fraile y Nuria Alcalde Fradejas</td>
</tr>
<tr>
<td>494/2010</td>
<td>Performance and completeness in repeated inter-firm relationships: the case of franchising</td>
<td>VanesaSolis-Rodríguez &amp; Manuel Gonzalez-Díaz</td>
</tr>
<tr>
<td>495/2010</td>
<td>A Revenue-Based Frontier Measure of Banking Competition</td>
<td>Santiago Carbó, David Humphrey &amp; Francisco Rodríguez</td>
</tr>
<tr>
<td>496/2010</td>
<td>Categorical segregation in social networks</td>
<td>Antoni Rubí-Barceló</td>
</tr>
<tr>
<td>497/2010</td>
<td>Beneficios ambientales no comerciales de la directiva marco del agua en condiciones de escasez: análisis económico para el Guadalquivir</td>
<td>Julia Martín-Ortega, Giacomo Giannoccaro y Julio Berbel Vecino</td>
</tr>
<tr>
<td>498/2010</td>
<td>Monetary integration and risk diversification in eu-15 sovereign debt markets</td>
<td>Juncal Cuñado &amp; Marta Gómez-Puig</td>
</tr>
<tr>
<td>500/2010</td>
<td>The role of learning in firm R&amp;D persistence</td>
<td>Juan A. Mañez, María E. Rochina-Barrachina, Amparo Sanchis-Llopis &amp; Juan A. Sanchis-Llopis</td>
</tr>
<tr>
<td>501/2010</td>
<td>Is venture capital more than just money?</td>
<td>Marina Balboa, José Martí &amp; Nina Zieling</td>
</tr>
<tr>
<td>503/2010</td>
<td>Corporate cash holding and firm value</td>
<td>Cristina Martínez-Sola, Pedro J. García-Teruel &amp; Pedro Martínez-Solano</td>
</tr>
<tr>
<td>504/2010</td>
<td>El impuesto de flujos de caja de sociedades: una propuesta de base imponible y su aproximación contable en España</td>
<td>Lourdes Jerez Barroso y Joaquín Texeira Quirós</td>
</tr>
<tr>
<td>505/2010</td>
<td>The effect of technological, commercial and human resources on the use of new technology</td>
<td>Jaime Gómez &amp; Pilar Vargas</td>
</tr>
</tbody>
</table>
¿Cómo ha afectado la fiscalidad a la rentabilidad de la inversión en vivienda en España? Un análisis para el periodo 1996 y 2007
Jorge Onrubia Fernández y María del Carmen Rodado Ruiz

Modelización de flujos en el análisis input-output a partir de la teoría de redes
Ana Salomé García Muñiz

Export-led-growth hypothesis revisited. a balance of payments approach for Argentina, Brazil, Chile and Mexico
David Matesanz Gómez & Guadalupe Fugarolas Álvarez-Ude

Realised hedge ratio properties, performance and implications for risk management: evidence from the spanish ibex 35 spot and futures markets
David G McMillan & Raquel Quiroga García

Do we sack the manager... or is it better not to? Evidence from Spanish professional football
Francisco González-Gómez, Andrés J. Picazo-Tadeo & Miguel A. García-Rubio

Have Spanish port sector reforms during the last two decades been successful? A cost frontier approach
Ana Rodríguez-Álvarez & Beatriz Tovar

Size & Regional Distribution of Financial Behavior Patterns in Spain
Juan Antonio Maroto Acín, Pablo García Estévez & Salvador Roji Ferrari

The impact of public reforms on the productivity of the Spanish ports: a parametric distance function approach
Ramón Nuñez-Sánchez & Pablo Coto-Millán

Trade policy versus institutional trade barriers: an application using “good old” ols
Laura Márquez-Ramos, Inmaculada Martínez-Zarzoso & Celestino Suárez-Burguet

The “Double Market” approach in venture capital and private equity activity: the case of Europe
Marina Balboa & José Martí

International accounting differences and earnings smoothing in the banking industry
Marina Balboa, Germán López-Espinosa & Antonio Rubia

Convergence in car prices among European countries
Simón Sosvilla-Rivero & Salvador Gil-Pareja

Effects of process and product-oriented innovations on employee downsizing
José David Vicente-Lorente & José Ángel Zúñiga-Vicente

Inequality, the politics of redistribution and the tax-mix
Jenny De Freitas

Efectos del desajuste educativo sobre el rendimiento privado de la educación: un análisis para el caso español (1995-2006)
Inés P. Murillo, Marta Rahona y Mª del Mar Salinas

Structural breaks and real convergence in OPEC countries
Juncal Cuñado

Human Capital, Geographical location and Policy Implications: The case of Romania
Jesús López-Rodríguez, Andres Faiña y Bolea Cosmin-Gabriel
523/2010 Organizational unlearning context fostering learning for customer capital through time: lessons from SMEs in the telecommunications industry
Anthony K. P. Wensley, Antonio Leal-Millán, Gabriel Cepeda-Carrión & Juan Gabriel Cegarra-Navarro

524/2010 The governance threshold in international trade flows
Marta Felis-Rota

525/2010 The intensive and extensive margins of trade decomposing exports growth differences across Spanish regions
Asier Minondo Uribe-Etxeberria & Francisco Requena Silvente

526/2010 Why do firms locate r&d outsourcing agreements offshore? the role of ownership, location, and externalization advantages
Andrea Martínez-Noya, Esteban García-Canal & Mauro F. Guillén

527/2010 Corporate Taxation and the Productivity and Investment Performance of Heterogeneous Firms: Evidence from OECD Firm-Level Data
Norman Gemmell, Richard Kneller, Ismael Sanz & José Félix Sanz-Sanz

528/2010 Modelling Personal Income Taxation in Spain: Revenue Elasticities and Regional Comparisons
John Creedy & José Félix Sanz-Sanz

529/2010 Mind the Remoteness!. Income disparities across Japanese Prefectures
Jesús López-Rodríguez, Daisuke Nakamura

530/2010 El nuevo sistema de financiación autonómica: descripción, estimación empírica y evaluación
Antoni Zabalza y Julio López Laborda

531/2010 Markups, bargaining power and offshoring: an empirical assessment
Lourdes Moreno & Diego Rodríguez

532/2010 The snp-dcc model: a new methodology for risk management and forecasting
Esther B. Del Brio, Trino-Manuel Ñíguez & Javier Perote

533/2010 El uso del cuadro de mando integral y del presupuesto en la gestión estratégica de los hospitales públicos
David Naranjo Gil

534/2010 Análisis de la efectividad de las prácticas de trabajo de alta implicación en las fábricas españolas
Daniel Vázquez-Bustelo y Lucía Avella Camarero

535/2010 Energía, innovación y transporte: la electrificación de los tranvías en España, 1896-1935
Alberte Martínez López

536/2010 La ciudad como negocio: gas y empresa en una región española, Galicia 1850-1936
Alberte Martínez López y Jesús Mirás Araujo

537/2010 To anticipate or not to anticipate? A comparative analysis of opportunistic early elections and incumbents’ economic performance
Pedro Riera Sagrera

538/2010 The impact of oil shocks on the Spanish economy
Ana Gómez-Loscos, Antonio Montañés & María Dolores Gadea
The efficiency of public and publicly-subsidized high schools in Spain. Evidence from PISA-2006
Maria Jesús Mancebón, Jorge Calero, Álvaro Choi & Domingo P. Jiménez-de-Embún

Regulation as a way to force innovation: the biodiesel case
Jordi Perdiguero & Juan Luis Jiménez

Pricing strategies of Spanish network carrier
Xavier Fageda, Juan Luis Jiménez & Jordi Perdiguero

Papel del posicionamiento del distribuidor en la relación entre la marca de distribuidor y lealtad al establecimiento comercial
Oscar González-Benito y Mercedes Martos-Partal

How Bank Market Concentration, Regulation, and Institutions Shape the Real Effects of Banking Crises
Ana I. Fernández, Francisco González & Nuria Suárez

Una estimación del comercio interregional trimestral de bienes en España mediante técnicas de interpolación temporal
Nuria Gallego López, Carlos Llano Verduras y Julián Pérez García

Puerto, empresas y ciudad: una aproximación histórica al caso de Las Palmas de Gran Canaria
Miguel Suárez, Juan Luis Jiménez y Daniel Castillo

Multinationals in the motor vehicles industry: a general equilibrium analysis for a transition economy
Concepción Latorre & Antonio G. Gómez-Plana

Core/periphery scientific collaboration networks among very similar researchers
Antoni Rubí-Barceló

Basic R&D in vertical markets
Miguel González-Maestre & Luis M. Granero

Factores condicionantes de la presión fiscal de las entidades de crédito españolas, ¿existen diferencias entre bancos y cajas de ahorros?
Ana Rosa Fonseca Díaz, Elena Fernández Rodríguez y Antonio Martínez Arias

Analyzing an absorptive capacity: Unlearning context and Information System Capabilities as catalysts for innovativeness
Gabriel Cepeda-Carrión, Juan Gabriel Cegarra-Navarro & Daniel Jimenez-Jimenez

The resolution of banking crises and market discipline: international evidence
Elena Cubillas, Ana Rosa Fonseca & Francisco González

A strategic approach to network value in information markets
Lucio Fuentelsaz, Elisabet Garrido & Juan Pablo Maicas

Accounting for the time pattern of remittances in the Spanish context
Alfonso Echazarra

How to design franchise contracts: the role of contractual hazards and experience
Vanessa Solís-Rodríguez & Manuel González-Díaz
555/2010 Una teoría integradora de la función de producción al rendimiento empresarial
Javier González Benito

556/2010 Height and economic development in Spain, 1850-1958
Ramón María-Dolores & José Miguel Martínez-Carrión

557/2010 Why do entrepreneurs use franchising as a financial tool? An agency explanation
Manuel González-Díaz & Vanesa Solís-Rodríguez

558/2010 Explanatory Factors of Urban Water Leakage Rates in Southern Spain
Francisco González-Gómez, Roberto Martínez-Espiñeira, María A. García-Valiñas & Miguel Á. García Rubio

559/2010 Los rankings internacionales de las instituciones de educación superior y las clasificaciones universitarias en España: visión panorámica y prospectiva de futuro.
Carmen Pérez-Esparrells y José Mª Gómez-Sancho.

560/2010 Análisis de los determinantes de la transparencia fiscal: Evidencia empírica para los municipios catalanes
Alejandro Esteller Moré y José Polo Otero

561/2010 Diversidad lingüística e inversión exterior: el papel de las barreras lingüísticas en los procesos de adquisición internacional
Cristina López Duarte y Marta Mª Vidal Suárez

562/2010 Costes y beneficios de la competencia fiscal en la Unión Europea y en la España de las autonómicas
José Mª Cantos, Agustín García Rico, Mª Gabriela Lagos Rodríguez y Raquel Álamo Cerrillo

563/2010 Customer base management and profitability in information technology industries
Juan Pablo Maicas y Francisco Javier Sese

564/2010 Expansión internacional y distancia cultural: distintas aproximaciones —hofstede, schwartz, globel
Cristina López Duarte y Marta Mª Vidal Suárez

565/2010 Economies of scale and scope in service firms with demand uncertainty: An application to a Spanish port
Beatriz Tovar & Alan Wall

566/2010 Financiación de los cuidados de larga duración en España
Raúl del Pozo Rubio y Francisco Escribano Sotos
570/2010 Is the Border Effect an Artefact of Geographic Aggregation? Carlos Llano-Verduras, Asier Minondo-Uribe & Francisco Requena-Silvente

571/2010 Notes on using the hidden asset or the contribution asset to compile the actuarial balance for pay-as-you-go pension systems Carlos Vidal-Meliá & María del Carmen Boado-Penas


573/2010 Endogenous mergers of complements with mixed bundling Ricardo Flores-Fillol & Rafael Moner-Colonques

574/2010 Redistributive Conflicts and Preferences for Tax Schemes in Europe Antonio M. Jaime-Castillo & Jose L. Saez-Lozano

575/2010 Spanish emigration and the setting-up of a great company in Mexico: bimbo, 1903-2008 Javier Moreno Lázaro

576/2010 Mantenimiento temporal de la equidad horizontal en el sistema de financiación autonómica Julio López Laborda y Antoni Zabalza

577/2010 Sobreeducación, Educación no formal y Salarios: Evidencia para España Sandra Nieto y Raúl Ramos

578/2010 Dependencia y empleo: un análisis empírico con la encuesta de discapacidades y atención a la dependencia (edad) 2008. David Cantarero-Prieto y Patricia Moreno-Mencía

579/2011 Environment and happiness: new evidence for Spain Juncal Cuñado & Fernando Pérez de Gracia

580/2011 Analysis of emerging barriers for e-learning models. a case of study Nuria Calvo & Paolo Rungo

581/2011 Unemployment, cycle and gender Amado Peiró, Jorge Belaire-Franch, & Maria Teresa Gonzalo


583/2011 The Efficiency of Performance-based-fee Funds Ana C. Díaz-Mendoza, Germán López-Espinosa & Miguel A. Martínez-Sedano

584/2011 Green and good?. The investment performance of US environmental mutual funds Francisco J. Climent-Diranzo & Pilar Soriano-Felipe

585/2011 El fracaso de Copenhague desde la teoría de juegos. Yolanda Fernández Fernández, Mª Ángeles Fernández López y Blanca Olmedillas Blanco

586/2011 Tie me up, tie me down! the interplay of the unemployment compensation system, fixed-term contracts and rehirings José M. Arranz & Carlos García-Serrano
| Financial intermediation, real state and renting | 0.021 | 0.142 | 0.037 | 0.189 | 0.016 | 0.126 | 0.013 | 0.114 | 0.032 | 0.177 | 0.013 | 0.112 | 0.015 | 0.121 | 0.015 | 0.120 |
| Education | 0.020 | 0.140 | 0.037 | 0.188 | 0.025 | 0.158 | 0.018 | 0.132 | 0.036 | 0.186 | 0.039 | 0.193 | 0.022 | 0.148 | 0.022 | 0.148 |
| Health | 0.072 | 0.258 | 0.103 | 0.303 | 0.055 | 0.228 | 0.047 | 0.211 | 0.062 | 0.241 | 0.076 | 0.266 | 0.065 | 0.246 | 0.083 | 0.276 |
| Other services, personal services and housing | 0.207 | 0.405 | 0.187 | 0.390 | 0.247 | 0.431 | 0.217 | 0.412 | 0.160 | 0.367 | 0.258 | 0.437 | 0.229 | 0.420 | 0.175 | 0.380 |
| Firm size | 0.091 | 0.288 | 0.089 | 0.285 | 0.097 | 0.295 | 0.098 | 0.298 | 0.087 | 0.283 | 0.089 | 0.284 | 0.092 | 0.289 | 0.085 | 0.279 |
| 1-9 workers | 0.116 | 0.320 | 0.122 | 0.327 | 0.123 | 0.329 | 0.128 | 0.334 | 0.137 | 0.344 | 0.109 | 0.311 | 0.111 | 0.314 | 0.122 | 0.328 |
| 10-19 workers | 0.160 | 0.367 | 0.204 | 0.403 | 0.149 | 0.356 | 0.155 | 0.362 | 0.232 | 0.422 | 0.154 | 0.361 | 0.164 | 0.371 | 0.239 | 0.427 |
| 20-49 workers | 0.154 | 0.361 | 0.214 | 0.410 | 0.119 | 0.324 | 0.120 | 0.326 | 0.220 | 0.414 | 0.107 | 0.309 | 0.127 | 0.334 | 0.198 | 0.399 |
| 50-249 workers | 0.093 | 0.291 | 0.040 | 0.196 | 0.330 | 0.470 | 0.235 | 0.424 | 0.026 | 0.159 | 0.035 | 0.184 | 0.025 | 0.155 | 0.002 | 0.042 |
| 250+ workers | 0.009 | 0.095 | 0.048 | 0.214 | 0.026 | 0.158 | 0.015 | 0.122 | 0.215 | 0.411 | 0.020 | 0.140 | 0.014 | 0.119 | 0.113 | 0.316 |
| Contract in previous job | 0.395 | 0.489 | 0.413 | 0.492 | 0.306 | 0.461 | 0.378 | 0.485 | 0.402 | 0.490 | 0.371 | 0.483 | 0.398 | 0.489 | 0.337 | 0.473 |
| Open-ended | 0.434 | 0.496 | 0.406 | 0.491 | 0.297 | 0.457 | 0.329 | 0.470 | 0.273 | 0.445 | 0.500 | 0.500 | 0.490 | 0.500 | 0.442 | 0.497 |
| Permanent per-task | 0.068 | 0.252 | 0.094 | 0.292 | 0.041 | 0.198 | 0.042 | 0.201 | 0.084 | 0.278 | 0.073 | 0.260 | 0.074 | 0.261 | 0.107 | 0.309 |
| Temporary per-task | 0.017 | 0.128 | 0.014 | 0.117 | 0.151 | 0.358 | 0.093 | 0.290 | 0.015 | 0.121 | 0.017 | 0.128 | 0.014 | 0.117 | 0.151 | 0.358 |
| Casual | 0.017 | 0.128 | 0.014 | 0.117 | 0.151 | 0.358 | 0.093 | 0.290 | 0.015 | 0.121 | 0.017 | 0.128 | 0.014 | 0.117 | 0.151 | 0.358 |
| Other fixed-term | 0.012 | 0.056 | 0.040 | 0.146 | 0.048 | 0.192 | 0.129 | 0.273 | 0.073 | 0.260 | 0.074 | 0.261 | 0.107 | 0.309 |
| Tenure in previous job | 0.425 | 0.380 | 0.382 | 0.413 | 0.439 | 0.497 | 0.500 | 0.571 | 0.495 | 0.743 | 0.437 | 0.775 | 0.417 | 0.787 | 0.409 |
| < 6 months | 0.012 | 0.303 | 0.121 | 0.326 | 0.192 | 0.394 | 0.193 | 0.395 | 0.328 | 0.470 | 0.257 | 0.437 | 0.225 | 0.417 | 0.213 | 0.409 |
| >6 months and <1 year | 0.017 | 0.128 | 0.014 | 0.117 | 0.151 | 0.358 | 0.093 | 0.290 | 0.015 | 0.121 | 0.017 | 0.128 | 0.014 | 0.117 | 0.151 | 0.358 |
| >1 year and <3 years | 0.056 | 0.230 | 0.040 | 0.196 | 0.242 | 0.428 | 0.217 | 0.412 | 0.086 | 0.280 | 0.056 | 0.230 | 0.040 | 0.196 | 0.242 | 0.428 |
| >3 years | 0.012 | 0.056 | 0.040 | 0.146 | 0.048 | 0.192 | 0.129 | 0.273 | 0.073 | 0.260 | 0.074 | 0.261 | 0.107 | 0.309 |
| Sample | 217,194 | 120,414 | 20,868 | 65,507 | 34,155 | 2,762 | 6,769 | 5,125 |
| Sample (weighted) | 5,429,850 | 3,010,350 | 521,700 | 1,637,675 | 853,875 | 69,050 | 169,225 | 128,125 |

Notes: See Table A.1