

Saint-Paul, Gilles

**Working Paper**

## Flexibility vs. Rigidity: Does Spain have the worst of both Worlds?

IZA Discussion Papers, No. 144

**Provided in Cooperation with:**

IZA – Institute of Labor Economics

*Suggested Citation:* Saint-Paul, Gilles (2000) : Flexibility vs. Rigidity: Does Spain have the worst of both Worlds?, IZA Discussion Papers, No. 144, Institute for the Study of Labor (IZA), Bonn

This Version is available at:

<https://hdl.handle.net/10419/20994>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*

IZA DP No. 144

# **Flexibility vs. Rigidity: Does Spain have the worst of both Worlds?**

Gilles Saint-Paul

April 2000

# **Flexibility vs. Rigidity: Does Spain have the worst of both Worlds?**

**Gilles Saint-Paul**

*Universitat Pompeu Fabra, Spain, CEPR, London and IZA, Bonn*

Discussion Paper No. 144  
April 2000

IZA

P.O. Box 7240  
D-53072 Bonn  
Germany

Tel.: +49-228-3894-0  
Fax: +49-228-3894-210  
Email: [iza@iza.org](mailto:iza@iza.org)

This Discussion Paper is issued within the framework of IZA's research area *Mobility and Flexibility of Labor Markets*. Any opinions expressed here are those of the author(s) and not those of the institute. Research disseminated by IZA may include views on policy, but the institute itself takes no institutional policy positions.

The Institute for the Study of Labor (IZA) in Bonn is a local and virtual international research center and a place of communication between science, politics and business. IZA is an independent, nonprofit limited liability company (Gesellschaft mit beschränkter Haftung) supported by the Deutsche Post AG. The center is associated with the University of Bonn and offers a stimulating research environment through its research networks, research support, and visitors and doctoral programs. IZA engages in (i) original and internationally competitive research in all fields of labor economics, (ii) development of policy concepts, and (iii) dissemination of research results and concepts to the interested public. The current research program deals with (1) mobility and flexibility of labor markets, (2) internationalization of labor markets and European integration, (3) the welfare state and labor markets, (4) labor markets in transition, (5) the future of work, (6) project evaluation and (7) general labor economics.

IZA Discussion Papers often represent preliminary work and are circulated to encourage discussion. Citation of such a paper should account for its provisional character.

## ABSTRACT

### **Flexibility vs. Rigidity: Does Spain have the worst of both Worlds?\***

In this paper we study the structure of labor market flows in Spain and compare them with France and the US. We characterize a number of empirical regularities and stylized facts. One striking result is that the job finding rate is slightly higher than in France, while the job loss rate is much higher, putting Spain half-way between France and the US. This suggests that while Spain has borne the full cost of its labor market reforms in terms of job precariousness, the benefits in terms of job creation have been quite modest. We hypothesize that this has been due to the reform's credibility being imperfect, which leads to expectation of reversal.

JEL Classification: J20, J21, J23, J41, J42, J63, E24

Keywords: Unemployment, labor market flows, job finding, job loss, flexibility, temporary contracts, labor market reform, unemployment duration, unemployment recurrence, on the job search, labor force composition

Gilles Saint-Paul  
Departamento Economía i Empresa  
Universitat Pompeu Fabra  
Ramon Trias Fargas, 25-27  
E-08005 Barcelona  
Spain  
Tel.: +34 93 542-1664  
Fax: +34 93 542-1746  
E-mail: [spaul@upf.es](mailto:spaul@upf.es)

---

\* I thank Alfonso Rosolia for research assistance, as well as the Direction de la Prévision, ministère des finances, Paris, and fundacion BBV for financial support.

# 1 Introduction

Among European countries characterized by rigid labor markets, Spain is notable for a certain number of specific characteristics. First, over the last 25 years its unemployment rate has virtually been the highest in Europe, oscillating between 15 % and an appalling 25 %. Second, at face value it has one of the most rigid set of institutions, in particular concerning the structure of collective bargaining and employment protection legislation.<sup>1</sup> It differs from other European countries, however, in having implemented a far-reaching liberalization of employment protection regulation. This liberalization occurred in 1984, when, rather than reducing dismissal costs across the board, which would have been politically unfeasible, the government eased the use of temporary labor contracts<sup>2</sup>. Following this reform an employment boom occurred, where temporary contracts accounted for almost 95 % of new hires, and quickly reached a 30 % employment share. However, in the subsequent recession of the mid-nineties, employment dropped very quickly

---

<sup>1</sup>See Blanchard et al. (1995).

<sup>2</sup>See Segura et al. (1991), Bentolila and Saint-Paul (1992), Bentolila and Dolado (1994), Jimeno and Toharia (1991) for an account of this episode.

as firms could easily get rid of their temporary workers. In the end, there is no strong evidence that such a reform reduced unemployment.

This does not mean, however, that the reform has not affected the structure of the labor market. It is reasonable to speculate that it has increased labor turnover, and even absent a positive effect on the aggregate stock of unemployment, this may be considered as beneficial as the duration of unemployment is reduced.

In order to learn more about the effect of the reform, or more generally the specifics of the Spanish labor market compared to other European countries, this paper compares unemployment levels and transition rates by education, sex, and age groups for Spain, France and the U.S. We take France as a similar European-style country, but where reform has been much more timid, while the U.S. is the benchmark case of a competitive labor market.

A previous study by Cohen et al. (1997) has shown quite similar unemployment rates by cells, thus ascribing a great deal of the unemployment differential between France and the US to a composition effect due to the higher proportion of americans who go to college. They have also shown that despite these similar unemployment rates, the labor market in France functioned quite differently from the US one, since the exit from unemployment was much lower in France, and consequently the duration of unemployment was much longer. The similar unemployment rates came from the fact that the job loss rate was also much smaller in France than in the US, presumably because of more stringent job protection legislation and/or a cultural aversion to dismissals.

We look at the same variables as Cohen et al, using a decomposition of the population into three age, two sex, and four education groups. We also systematically report the numbers they find in order to ease the comparison. Finally, we look at some deeper characteristics of the Spanish labor market

such as duration dependence and unemployment recurrence.<sup>3</sup>

The main lessons of the paper are as follows.

First, and most importantly, the large unemployment differential between France and Spain is mostly explained by a much larger job loss rate in Spain compared to France rather than a smaller job finding rate. Indeed, the job finding rate is also higher in Spain, but only marginally, while the job loss rate is substantially higher, putting Spain half-way between France and the U.S.

This suggests that Spain has the "worst of both worlds", namely a job creation rate similar to that of a "rigid economy" and a job destruction rate comparable to that of a flexible one. Therefore, while employers do take advantage of the margin of flexibility allowed by temporary contracts at the time of firing, they do not consider that their availability reduces labor costs significantly. Following an argument developed by Bertola and Ichino (1996), one may speculate that this is due to the reform lacking credibility. That is, firms have been unsure about whether the reform would not be overturned, with some discretionary tightening of the conditions under which temporary contracts may be used. Consequently, they have been cautious when hiring people, fearing that firing restrictions might be increased between now and the time they might want to get rid of their workers. While lower firing costs increase dismissals right away, it is the expectation of lower firing costs in the future which increases hirings. The impact of the reduction in firing costs on hirings is lower, the less confident are firms that the reform won't be overturned. Hence, for a reduction in employment protection to increase hirings, it is fundamental for the reform to be credible.

Second, the young suffer more from unemployment relative to the middle-aged in both Spain and France compared to the U.S. (where it is also true

---

<sup>3</sup>Our findings are roughly in accordance with other Spanish studies on flows, such as Garcia Perez (1997) and Garcia-Fontes and Hopenhayn (1993).

that they suffer more). It is often believed that this is due to rigidities such as the minimum wage which make it too costly for employers to hire youngsters. Our data on flows suggest that this interpretation is wrong. In fact, in all three countries a young unemployed person is more likely to find a job than a middle aged. Their greater unemployment rate is explained by a greater inflow into unemployment, not a smaller outflow. We interpret that finding as evidence that in France and Spain, the bulk of flexibility has been concentrated on young people.

Third, we find evidence of path dependence in labor market transitions. This means that an unemployed worker is more likely to be in unemployment a year from now than his monthly exit rate would suggest. This feature may be due to either duration dependence, i.e. falling exit rates with the length of the unemployment spell, or unemployment recurrence, i.e. a higher job loss rate in one's next job than if the person had not gone through an unemployment spell. While duration dependence is documented by the existing literature, we find that unemployment recurrence is also present, although it does not appear to be a very strong phenomenon. This is somewhat surprising in the light of the presumption that a worker is very likely to exit unemployment with a temporary contract, and suggests that these contracts have not concentrated the burden of mobility on a subset of people who would move between employment and unemployment<sup>4</sup> (abstracting from the age dimension). Otherwise, one would probably have observed stronger unemployment recurrence.

Finally, there is evidence that the unemployed are twice less successful at finding jobs than employed job seekers. We interpret this as employers giving preference to employed applicants in their hirings decisions. According to Kugler and Saint-Paul (2000), this discrimination against the unemployed

---

<sup>4</sup>This is somewhat at variance with the conclusion reached by Alba-Ramirez (1997), although it is a clear case of a bottle being half-empty and half-full.

is due to employment protection legislation; it explains why job-to-job moves account for a much greater fraction of worker reallocation in Europe compared to the U.S.; it also suggests that a reduction in employment protection legislation would reduce employers' discrimination against the unemployed.

## 2 The composition of the labour force.

Following Cohen et al., we start by looking at the composition of the labor force across cells defined by age, sex, and education. Here we report the composition of the labor force split under three educational categories, which correspond to primary, secondary, and tertiary education, respectively. When we will deal with Spain alone, we will further distinguish between vocational training and general training, as far as secondary education is concerned. But for the sake of comparison with France and the U.S. it is better to use three categories.

Cohen et al. could explain a large fraction of the unemployment differential between France and the US by a composition effect. For example, for the core age group of males, all of the unemployment differential was explained by the fact that on average French workers are less educated. The same was true for women provided one looked at non-employment rates rather than employment rates. In Spain, where the unemployment rate is almost twice as high as in France, there is no way one can explain high unemployment by a simple composition effect. However, the composition effect is present, since the composition of the workforce is different.

		France	USA	Spain
All	E1	35.9	16.7	45.05
	E2	48.1	60.1	45
	E3	15.7	23	9.925
16-24	E1	32.5	29.2	11.1
	E2	60.0	63.1	83.0
	E3	7.4	7.7	6.1
25-49	E1	30.6	11.6	40.55
	E2	51.0	60.6	45.2
	E3	18.5	27.7	14.1
50-64	E1	58.0	22.8	83.5
	E2	31.6	55.4	11.7
	E3	10.4	21.7	5.2

Table 1: composition of the workforce.

As can be seen in Table 1, Spain turns out to be the least educated of the three, as one would have expected. However, for the most recent generation, Spain seems to be quite ahead of France and the U.S. in terms of lifting the whole population above level E1 (primary school only). This represents a truly amazing effort given that for the older generation more than 80 % of the population did not exceed that level! We expect this improvement in the quality of the Spanish workforce to contribute to a reduction in Spanish unemployment in the future.

### 3 Unemployment Rates

We now turn to a comparison of unemployment rates across groups and countries. Table 2 reports unemployment rates by categories for males, and table 3 does the same for females.

		France	USA	Spain
16-24	E1	27.8	17.4	44.2
	E2	14.3	8.45	36
	E3	8.0	3.3	52.7
25-49	E1	10.8	10.8	18.7
	E2	5.25	5.03	15.4
	E3	2.6	2.4	11.1
50-64	E1	11.1	6.6	13.5
	E2	6	3.2	9.1
	E3	4.0	1.9	2.6

Table 2: male unemployment rates by categories.<sup>5</sup>

		France	USA	Spain
16-24	E1	39.6	16.4	53
	E2	23.1	8.4	48.8
	E3	7.5	2.4	60.5
25-49	E1	16.7	10.4	30.8
	E2	10	4.4	32.8
	E3	4.6	2.2	20.4
50-64	E1	14.3	4.0	14.9
	E2	10.1	2.64	17.4
	E3	2.9	1.1	2.2

Table 3: female unemployment by categories

The similarities between France and the US regarding the core age group obviously breaks down when Spain enters into the picture, as Spain has an unemployment rate about twice as high as France. Nevertheless the property that the young are the most harmed is true of Spain as of France. But

<sup>5</sup>Source: Cohen et al. (1997) for France and the US, Our computations from EPA for Spain. The years were 1989 for USA, 1990 for France and 1994 for Spain, which have similar growth rates of about 2.5 %.

the composition effect certainly explains a lower fraction of Spanish unemployment than when one compares France and the US. Nevertheless, the unemployment differential between the most and least educated in the core age group is 7 % for men and 10 % for women. The rapid improvement in the quality of the Spanish workforce documented in the previous section will therefore reduce unemployment by a substantial amount. Although the net effect crucially depends on elasticities of substitution across groups as well as the curvature of the wage formation schedule, a reasonable estimate is probably in the range of 2 to 5 percentage points.

It is also true that women have a higher unemployment rate than men in both France and Spain, but not in the US. A variety of hypothesis can be formulated to explain such a difference—from pure discrimination to statistical discrimination, to greater incentives for women to register as unemployed rather than as out of the labor force. The latter explanation may be especially relevant given that Cohen et al. have found quite similar employment rates between French and American women.

The next table reports the "age gradient" of unemployment — i.e., the relative unemployment rate of the young vs. the middle aged — for each educational group. This gradient is remarkably constant across categories when computed as a ratio and is highest in France and lowest in the US, with Spain in the middle.

	Absolute difference			Ratio		
	F	USA	Sp	F	USA	Sp
E1	17	6.6	25.5	2.57	1.6	2.36
E2	9.05	3.42	20.6	2.72	1.68	2.33
E3	4.7	0.9	41.6	2.42	1.4	4.74

Table 4: the age gradient

Next we perform a similar exercise by looking at the relative unemployment rate of the least educated. Our benchmark is not the most educated but the next category, as some specific phenomena might be going on for the best educated.

	Absolute diff.			ratio		
	F	USA	Sp	F	USA	Sp
16-24	13.5	8.95	8.2	1.94	2.06	1.23
25-49	5.55	5.77	3.3	2.05	2.15	1.21
50-64	5.1	3.4	4.4	1.85	2.06	1.48

table 5: the skill gradient.

The ratios are somewhat more stable than when one looks at differentials according to age, but the results are striking. The ratio between unskilled and skilled unemployment is about 2 in both France and the US, and just 1.2-1.3 for Spain. Thus, while in Europe it is the young that are hit the hardest by unemployment relative to other groups, in the US it is the least educated. This may be ascribed to two factors. First, technology is less biased in favor of the skilled in Europe, and being unskilled is less of a handicap when there are more unskilled people around. Second, the two-tier style of labor market reforms in Europe has concentrated the burden of flexibility on new entrants, especially the young but also women. This is confirmed by the next tables that look at labor market flows.

## 4 Flows

We now compare workers flows across the three countries. Cohen et al. report monthly flows while our data only allow us to catch quarterly flows. In order to make the figures comparable we report the monthly flows consistent with

our data under the hypothesis that hirings and separations follow a Poisson process. This is done by computing the "cubic root" of our estimated 3-state transition matrix. That is, if we call the latter  $P$ ,  $Q$  such that  $Q^3 = P$ .<sup>6</sup>

We first start by comparing hiring rates, i.e. transitions from unemployment to employment.

	France	Spain	USA
Males	5.97	7.24	23.8
Females	4.77	4.06	29.4

Table 6: Aggregate job finding rates

The aggregate job finding rates tell us that Spain is more comparable to France than to the US. The labor market for men is more active than its French counterpart, while the reverse holds for women. In both countries men's job finding rate is higher than women's, while the pattern is inverted in the US. A variety of explanations can be put forward for that pattern (see below).

We then compare more deeply by disaggregating across groups.

---

<sup>6</sup>In practice this is done by first diagonalizing  $P : MFM^{-1}$ , where  $F$  is diagonal, and computing  $Q$  as  $Q = M\Phi M^{-1}$ , where  $\Phi$  is a diagonal matrix with coefficients equal to the cubic roots of the coefficients of  $F$ .

		France	USA	Spain
	E1	8.3	26.5	7.8
16-24	E2	10.85	31.1	8.3
	E3	9.7	40.0	4.9
	E1	5.2	30.0	8.0
25-49	E2	7.5	30.7	7.05
	E3	8.15	22.4	5.1
	E1	1.0	36.7	5.6
50-64	E2	1.4	28.5	3.4
	E3	3.0	14.8	6.5

Table 7: Monthly hiring rates, males

A few remarkable features should be noted.

First, monthly hiring rates in Spain are similar in magnitude to their French counter-part that is, far below the US number.

Second, while for the core age group job finding rates are roughly increasing with education in France, they are declining in both Spain and the US. This may result from the fact that people are either more choosy or more specialized. On the other hand, the increasing pattern found in France may be the result of a "ranking" "overqualification" effect where the most skilled are preferred over the least skilled for any given job. This effect dominates in France, while the former effects dominate in Spain and the US.

Third, in all three countries there is no evidence that the young have any more difficulty to find a job than older workers, a point already commented in the Cohen et al. paper. This confirms the above made point that the young's greater unemployment rate is explained by the fact that they bear the burden of flexibility rather than any reluctance of employers to hire them, as would be suggested by theories blaming youth unemployment on the minimum wage.

Fourth, older workers are at a slight disadvantage in Spain and the U.S., while the French data suggest they are almost excluded from the workforce,

with hiring rates as low as 1 % for the least educated. This is consistent with the very large wage loss found for these workers by Cohen et al. for France and Rosolia and Saint-Paul for Spain. The interesting question is why is France so different in terms of the treatment of 50-64 year old workers. One possible explanation is the prevalence of early retirement schemes and of other labour market policies that exclude the "old" to "make room for the young", based on the widespread fallacy that total employment is fixed.

The next table reports female hiring rates.

		France	USA	Spain
	E1	7.0	24.2	5.9
16-24	E2	10	29.4	4.96
	E3	21.3	50.0	6.4
	E1	4.2	22.1	3.5
25-49	E2	6.82	25.1	2.95
	E3	8.4	27.2	1.0
	E1	0.7	16.2	2.8
50-64	E2	2.05	25.05	2.1
	E3	1.5		0.0

Table 8: Female hiring rates

The Spanish data suggest that Spanish society is more "traditional" than either French or US society.

For the 16-24 year old the job finding rates are comparable between men and women in all three countries, indeed higher for women in the most educated groups (as much as twice higher in France), perhaps because men elect more specialized occupations. Yet even for the young the Spanish flows are typically lower for women than for men (except for the most educated group), whereas they are basically the same for men and women in France and the US, and higher for women in the most educated groups.

In the core age group hiring rates are quite similar across sexes in both France and the US, while they are dramatically lower for women in Spain. This may be due to the fact that they do not search as intensively as men because they are more likely to be secondary earners (and also because the primary earner is less likely to be unemployed, as many Spanish study show a very low unemployment rate for household heads); or to the fact that employers prefer male applicants (discrimination). The two explanations are not mutually exclusive.

It would be interesting to know whether the difference of hiring rates between young and middle aged-women is a cohort effect or an age effect. Do young women find job more quickly in Spain than older ones because "times are changing" or because women's attachment to the workforce goes down after child-bearing?

We now turn to the analysis of job loss. The first table shows aggregate rates and the next one decomposes across groups. It is not clear in the Cohen et al. paper whether job loss represents transitions from employment to unemployment or from employment to either unemployment or out of the labor force. Furthermore the concepts might not be that easy to compare across countries. For this reason, for Spain we report both a lower bound which is the employment to unemployment flow, and an upper bound which is the outflow from employment.

	France	USA	Spain	
			Lower Bound	Upper Bound
Males	0.5	2.84	1.47	2.07
Females	0.83	3.18	1.79	2.93

Table 9: Aggregate job loss.

		France	USA	Spain	
				Lower Bound	Upper Bound
	E1	3.2	10.8	5	6.1
16-24	E2	2.6	6.6	3.6	5.5
	E3	1.2	1.3	3	10.5
	E1	0.69	5.4	1.8	2.1
25-49	E2	0.48	2.05	1.33	1.53
	E3	0.38	1.3	0.5	0.7
	E1	1.1	3.6	0.6	1.6
50-64	E2	0.7	2.6	0.32	1.0
	E3	0.52	1.55	0.2	0.6

Table 10: Male job loss rate.

A few very interesting patterns emerge from this table.

First, Spain, just like France, has much smaller job loss rates than the U.S. This is clearly due to the more stringent job security legislation in Europe compared to the US.

Second, however, job loss is much more likely to occur in Spain than in France. In other words, the higher Spanish unemployment compared to France seems much more due to high job loss than to low job finding. An obvious suspect for explaining that is the wide use of temporary contracts by Spanish firms. It looks as if they increased job destruction but not job creation! However, if it was the only story it would not explain why unemployment was so high prior to the liberalization of temporary contracts. One possible explanation, is that then job creation was much lower, and that temporary contracts increased job creation and job destruction by similar proportions, leaving the overall unemployment rate essentially unchanged. But then, that would imply that absent temporary contracts, job finding rates would be much lower than in France, a feature difficult to interpret. More could be obtained by looking at flow prior to the reform, i.e. prior

to 1984, but this runs into the difficulty that the Labour force survey has a panel structure only since 1986, and the panel dimension is essential in order to compute flows.

Third, overall Spain reproduces the features of the other economies, namely a job loss rate that is falling with age and education (while the job finding rate is less sensitive to education). Note however that in both France and Spain, the job loss rate for young workers is 3 to 6 times greater than for the middle-aged, while in the U.S. it is 1 to 3 times greater. Thus in Europe the young's jobs are much more precarious relative to the middle-aged than in the U.S., confirming our point that they bear the burden of flexibility.

Finally, women's job loss rate is higher than men's in all three countries, with the relative difference being perhaps highest in France.

## 5 Non stationarity in hazard rates

Our data allow us to compute transition rates both on a quarterly basis and on a yearly basis. One can therefore compute the difference between yearly transition rates and their predicted values under the assumption that transition probabilities per unit of time are constant — i.e. under the assumption that the underlying process is Markov.

Discrepancies between the two may stem from several sources. Consider for example the exit from unemployment into employment ("job finding"). If we find that job finding over a horizon of one year is lower than predicted by the Markov model, this may be an indication that exit rates from unemployment are falling with the duration of the unemployment spell (negative duration dependence). But, it may also mean that the jobs found by unemployed people are more precarious —i.e., have a higher death rate — than the average of the economy, so that a greater fraction of them will be back to unemployment after one year. We call that phenomenon **unemployment**

recurrence.

For any two states  $A$  and  $B$ , we define as the path dependence index for the flow from  $A$  to  $B$  the following quantity:

$$PDI_{AB} = 1 - \frac{Y_{AB}}{Y_{AB}^{\text{Markov}}},$$

where  $Y_{AB}$  is the transition rate from  $A$  to  $B$  computed on a yearly basis, and  $Y_{AB}^{\text{Markov}}$  is its predicted value on the basis of the quarterly transition matrix raised at the fourth power.

A positive index implies that  $Y_{AB} < Y_{AB}^{\text{Markov}}$ . This means that conditional on what happens meanwhile, being in unemployment at  $t$  typically increases the probability of being unemployed one year from  $t$ . Path dependence reflects both the contribution of duration dependence and unemployment recurrence. These two phenomena may in turn be either "genuine" — i.e., a given person has lower chances to find a job if he or she has been unemployed longer — or reflect unobserved heterogeneity — i.e., long-term unemployed have a lower quality on average and therefore a lower exit rate.

## 5.1 Path dependence in Spain

We first compute our path dependence index for the various categories of the Spanish economy. We now use a decomposition into 4 educational groups, splitting group E2 into general and vocational training.

Tables 11 and 12 summarize the path dependence index for men, for job loss and job finding respectively. Tables 13 and 14 give the same information for women; these figures are very unreliable for women older than 50 because there are only few people in each cell; we therefore do not report the results for that group.

The stylized facts are the following:

1. Transitions from employment to unemployment exhibit positive path dependence both for men and women. This means that job loss falls as

tenure increases; or that people who just lost their jobs are back into the employment pool more quickly than the average of the unemployed, perhaps because of negative duration dependence of exit rates from unemployment.

2. Exits from unemployment also exhibit path dependence for both men and women.

3. For both men and women, path dependence is typically increasing with education as far as job finding is concerned. This suggests that accumulation of specific human capital on the job is more important for workers with higher education, implying a steeper negative effect of tenure on the job loss rate. The case of young women is particularly salient. For this group, job loss is increasing with education on a quarterly basis but falling on a yearly basis.

4. For men, path dependence in job finding rates does not depend on education, except for the young where it is clearly decreasing with education. This suggests that unemployment recurrence and/or negative duration dependence is more pronounced at low education levels, for the young, while for older workers it seems to be evenly distributed across educational levels. For women, path dependence in job finding rates decreases with education for both the young and the middle-aged.

Category		Yearly inflow	Yearly equivalent	P.D.I.
16-24 years	E1	17.8	28.4	0.37
	E2.1	11.3	17.7	0.36
	E2.2	11.7	18.4	0.36
	E3	10.8	18.5	0.41
25-49 years	E1	6.6	12.1	0.45
	E2.1	4.9	10.3	0.52
	E2.2	3.7	8.7	0.57
	E3	1.9	4.6	0.59
50-64 years	E1	3.4	4.4	0.22
	E2.1	1.7	3.1	0.45
	E2.2	3.1	2.9	-0.06
	E3	0.8	2.1	0.61

Table 11: Path dependence in male job loss rate

Category		Yearly outflow	Yearly equivalent	P.D.I.
16-24 years	E1	29.5	42.8	0.31
	E2.1	32.9	39.5	0.17
	E2.2	32.6	40.4	0.19
	E3	20.8	21.2	0.02
25-49 years	E1	35.4	54.9	0.35
	E2.1	37	52.3	0.29
	E2.2	35.4	54.6	0.35
	E3	27.3	42.4	0.36
50-64 years	E1	19.2	37.9	0.49
	E2.1	17.9	24.6	0.27
	E2.2	22.2	41.7	0.46
	E3	25	53.5	0.53

Table 12: Path dependence in job finding rates; men.

Category		Yearly inflow	Yearly equivalent	P.D.I.
16-24 years	E1	21.2	24.1	0.12
	E2.1	14.9	22.2	0.32
	E2.2	14.1	25.1	0.43
	E3	13.1	40.1	0.67
25-49 years	E1	5.9	12.1	0.51
	E2.1	5.8	11.8	0.51
	E2.2	5.8	15.5	0.62
	E3	3.9	8.3	0.53

Table 13: Path dependence in female job loss rate

Category		Yearly outflow	Yearly equivalent	P.D.I.
16-24 years	E1	19.2	34.8	0.44
	E2.1	22.1	25.3	0.126
	E2.2	23.7	27.7	0.144
	E3	28.8	27.5	-0.04
25-49 years	E1	15.9	24.3	0.34
	E2.1	14.1	24	0.41
	E2.2	14.1	21.2	0.33
	E3	24.6	29.8	0.17

Table 14: Path dependence in job finding rates; women.

In order to get a grasp at the phenomenon of unemployment recurrence, i.e. to disentangle it from duration dependence as a source of path dependence, we have estimated a probit regression explaining the probability of losing one's job as a function of the worker's characteristics.<sup>7</sup> This is obviously a gross way of testing for recurrence, as ideally one would prefer to condition over the whole labor market history of the worker. However, because of the limited panel dimension of the Spanish Labour Force Survey, we restrict ourselves to tenure in the current job. The results confirm a declining

<sup>7</sup>In order to increase the quality of the econometric results, the estimation was carried for years 92,94 and 96 pooled.

dependence of job loss with respect to tenure. The following table illustrates the effect. The effect is relatively modest.

Category		Tenure=0	Tenure=2 years
16-24 years	E1	16.4	14.4
	E2.1	12.9	11.2
	E2.2	11.7	10.1
	E3	8.6	7.3
25-49 years	E1	10.1	8.7
	E2.1	7.7	6.5
	E2.2	6.8	5.7
	E3	4.8	4.0
50-64 years	E1	7.7	6.5
	E2.1	5.7	4.7
	E2.2	5.0	4.2
	E3	3.5	2.8

Table 15: Quarterly job loss rate by tenure (men).

Therefore, while there is evidence of unemployment recurrence in Spain, it does not seem to be a very important phenomenon quantitatively, even though fresh hires are more likely to hold a temporary contract. The bulk of path dependence is explained by duration dependence, a phenomenon widely documented elsewhere (see e.g. Bover and Gómez (1999)). That is, while the long-term unemployed have trouble finding jobs, unemployment spells do not seem to result in a state of "precariousness", with frequent spells between employment and unemployment.

## 6 Discrimination between employed and unemployed job seekers

Another important aspect of the labor market that we have neglected up to now is the pattern of job-to-job mobility. In a rigid labor market we expect increased job to job mobility to partly make up for reduced mobility from unemployment to employment, because workers who want to change jobs are reluctant to go through a period of unemployment and prefer to search on the job instead. Furthermore, as Kugler and Saint-Paul (1999) argue, labor market rigidities induce employers to prefer hiring employed job seekers over unemployed ones because employment protection regulation makes them more sensitive to unobserved workers quality — i.e., hiring an employed job seeker provides an insurance against bad worker quality. The basic intuition is that low ability workers are more likely to lose their jobs than high ability ones, so that the pool of unemployed workers is of lower quality than the pool of employed job seekers. Absent employment protection legislation hiring someone is a one way bet as one can always get rid of the worker if he or she turned out to be of low quality. The more stringent that legislation, the more employers are reluctant to take the risk of hiring an unemployed worker, and the lower the exit rate of the unemployed relative to the employed.

To what extent is that phenomenon present in the Spanish labor market? To measure it we just compute the ratio between the quarterly exit rate from unemployment and the job finding rate of employed job seekers, as defined by those employed workers who state that they are looking for another job in the EPA questionnaire. We call this ratio the **Unemployment Discrimination Indicator**. The lower that indicator, the greater the discrimination against the unemployed. The following table reports the results, where again we only use three employment categories.

Category		U.D.I (Men)	U.D.I. (Women)
16-24	E1	0.56	0.51
	E2	0.62	0.43
	E3	0.40	0.5
25-49	E1	0.57	0.32
	E2	0.54	0.26
	E3	0.44	0.36
50-65	E1	0.38	0.39
	E2	0.17	0.14

Table 16: Unemployment Discrimination Indicator

The table clearly confirms that the unemployed have a lower probability to find a job than employed job seekers, with a ratio of about 0.5. Another interesting aspect is that at least for men, discrimination against the unemployed increases with the worker's education. At face value, this may sound paradoxical because one might believe rigidities to be more binding for less educated workers. We suspect that our results indicate that unobserved ability is more of an issue at higher education levels. Interestingly, this does not seem to be so much true for women.

To further deepen our understanding of this phenomenon, we distinguish according to the type of contract of the new job. It is well known that the Spanish labor market has temporary and permanent workers, with the majority of new hires being on temporary contracts. A priori one might expect employers to be more reluctant to give a permanent contract to an unemployed job seeker, since the employer is more likely to regret such a decision due to the expected lower quality of the pool of applicants. hence, we expect the proportion of temporary contracts in a new job to be higher for unemployed job seekers than employed job seekers, or, equivalently, that the unemployment discrimination indicator is lower in permanent contracts

than in temporary ones.

The following table tests that hypothesis by comparing the share of temporary contracts in new jobs for both employed and unemployed applicants.

Category		Unemployed	Employed
16-24	E1	91.11	97.0
	E2	96.05	94.5
	E3	86.9	94.6
25-49	E1	91.6	93.8
	E2	89.1	93.3
	E3	79.5	84.7
50-65	E1	91.4	93.1
	E2	87.5	88.5
	E3	66.7	71.4

Table 17: Share of temporary contracts in new jobs according to job seeker characteristics; men.

Category		Unemployed	Employed
16-24	E1	86.7	92.7
	E2	90.9	93.7
	E3	93.6	95.1
25-49	E1	86.1	92.7
	E2	89.6	92.0
	E3	90.1	88.7
50-65	E1	81.6	87.3
	E2	55.6	80.9
	E3	75.0	80

Table 18: Share of temporary contracts in new jobs according to job seeker characteristics; women.

The table confirms the earlier findings of the literature, namely that temporary contracts account for the vast majority of new hires. More interestingly, with the exception of older women for whom there are too few observations to draw any confident conclusion, the results go strikingly against our prior. The fraction of new jobs that are temporary is systematically higher for employed job seekers than for unemployed job seekers.

This may indicate that discrimination by the employer is not an important phenomenon, and that the lower job finding probability of the unemployed job seekers may be due to other factors, such as the disincentive effects of unemployment benefits. Another interpretation, however, is that workers differ across their (unobservable) preference for job duration, so that those who prefer long jobs will turn down offers more often and will represent a greater fraction of the unemployed. Because of this composition effect the unemployed are more likely to end up with a permanent contract than employed job seekers. Hence, in order to capture the pure effect of discrimination, it would be necessary to come up with a proxy for the unobservable taste for secure jobs.

## References

- Alba-Ramirez, Alfonso (1997) "How temporary is temporary employment in Spain?", working paper 97-14, Universidad Carlos III, Madrid
- Bentolila, S. and J. Dolado (1994) "Labor flexibility and wages: lessons from Spain", *Economic Policy*
- Bentolila, S. and G. Saint-Paul (1992) "The macroeconomic impact of flexible labor contracts, with an application to Spain", *European Economic Review*
- Bertola, G. and A. Ichino (1996) "Crossing the river" *Economic Policy*
- Blanchard, O., J. Jimeno, J. Andrés, C. Bean, E. Malinvaud, A. Revenga, G. Saint-Paul, D. Snower, R. Solow, D. Taguas, L. Toharia (1995), *Spanish Unemployment: Is There a Solution?*, CEPR
- Bover, O. and R. Gómez (1999), "Nuevos resultados sobre la duración del desempleo: el paro de larga duración y la salida a un empleo fijo" Banco de España, Servicio de Estudios, Documento de Trabajo nº 99-03
- Cohen, D., A. Lefranc and G. Saint-Paul, (1997) "French unemployment: a transatlantic perspective", *Economic Policy*
- García Pérez, J.I. (1997), "Las tasas de salida del empleo y el desempleo en España", *Investigaciones Economicas*, 21 (1), 29-53
- García-Fontes, W. and H. Hopenhayn (1993), "Flexibilización y volatilidad del empleo" in R. Marimon, ed., *La Economía Española: Una visión diferente*.
- Jimeno, J. and L. Toharia (1991) "Productivity and wage effects of temporary employment contracts", mimeo, FEDEA
- Kugler, A. and G. Saint-Paul (2000) "Hiring and Firing Costs, Adverse Selection, and Long-Term Unemployment", Working paper, Universitat Pompeu Fabra
- Segura, J., F. Duran, L. Toharia and S. Bentolila (1991), *Analysis de la contratación temporal en España*. Madrid: Ministerio de trabajo.

# IZA Discussion Papers

<b>No.</b>	<b>Author(s)</b>	<b>Title</b>	<b>Area</b>	<b>Date</b>
41	J. M. Orszag D. J. Snower	Anatomy of Policy Complementarities	3/7	5/99
42	D. S. Hamermesh	The Changing Distribution of Job Satisfaction	7	5/99
43	C. Belzil J. Hansen	Household Characteristics, Ability and Education: Evidence from a Dynamic Expected Utility Model	7	5/99
44	D. N. F. Bell R. A. Hart	Overtime Working in an Unregulated Labour Market	1	6/99
45	R. A. Hart J. R. Malley	On the Cyclical and Stability of Real Earnings	1	6/99
46	R. Rotte M. Vogler	The Effects of Development on Migration: Theoretical Issues and New Empirical Evidence	2	6/99
47	R. A. Hart F. Ritchie	Tenure-based Wage Setting	1/7	7/99
48	T. Bauer K. F. Zimmermann	Overtime Work and Overtime Compensation in Germany	1	7/99
49	H. P. Grüner	Unemployment and Labor-Market Reform: A Contract Theoretic Approach	1/3	7/99
50	K. F. Zimmermann	Ethnic German Migration After 1989 – Balance and Perspectives	1	8/99
51	A. Barrett P. J. O'Connell	Does Training Generally Work? The Returns to In-Company Training	7	8/99
52	J. Mayer R. T. Riphahn	Fertility Assimilation of Immigrants: Evidence from Count Data Models	3	8/99
53	J. Hartog P. T. Pereira J. A. C. Vieira	Inter-industry Wage Dispersion in Portugal: high but falling	7	8/99
54	M. Lofstrom	Labor Market Assimilation and the Self-Employment Decision of Immigrant Entrepreneurs	1	8/99
55	L. Goerke	Value-added Tax versus Social Security Contributions	3	8/99
56	A. Lindbeck D. J. Snower	Centralized Bargaining and Reorganized Work: Are they compatible?	1/5	9/99
57	I. N. Gang K. F. Zimmermann	Is Child like Parent? Educational Attainment and Ethnic Origin	1	9/99

58	T. Bauer K. F. Zimmermann	Occupational Mobility of Ethnic Migrants	1	9/99
59	D. J. DeVoretz S. A. Laryea	Canadian Immigration Experience: Any Lessons for Europe?	1/2/3	9/99
60	C. Belzil J. Hansen	Subjective Discount Rates, Intergenerational Transfers and the Return to Schooling	7	10/99
61	R. Winkelmann	Immigration: The New Zealand Experience	7	10/99
62	A. Thalmaier	Bestimmungsgründe von Fehlzeiten: Welche Rolle spielt die Arbeitslosigkeit?	3	10/99
63	M. Ward	Your Everyday, Average Academic	5	10/99
64	M. Ward	Salary and the Gender Salary Gap in the Academic Profession	5	10/99
65	H. Lehmann J. Wadsworth A. Acquisti	Grime and Punishment: Job Insecurity and Wage Arrears in the Russian Federation	4	10/99
66	E. J. Bird H. Kayser J. R. Frick G. G. Wagner	The Immigrant Welfare Effect: Take-Up or Eligibility?	3	10/99
67	R. T. Riphahn A. Thalmaier	Behavioral Effects of Probation Periods: An Analysis of Worker Absenteeism	1/3	10/99
68	B. Dietz	Ethnic German Immigration from Eastern Europe and the former Soviet Union to Germany: the Effects of Migrant Networks	1	11/99
69	M.-S. Yun	Generalized Selection Bias and the Decomposition of Wage Differentials	7	11/99
70	I. N. Gang F.L. Rivera-Batiz	Immigrants and Unemployment in the European Community	1	11/99
71	L. Goerke	The Wedge	3	11/99
72	J. Fersterer R. Winter-Ebmer	Are Austrian Returns to Education Falling Over Time?	7	11/99
73	G. S. Epstein S. Nitzan	The Endogenous Determination of Minimum Wage	3	11/99
74	M. Kräkel	Strategic Mismatches in Competing Teams	7	12/99
75	B. Henry M. Karanassou D. J. Snower	Adjustment Dynamics and the Natural Rate: An Account of UK Unemployment	1	12/99
76	G. Brunello M. Giannini	Selective Schools	7	12/99
77	C. M. Schmidt	Knowing What Works: The Case for Rigorous Program Evaluation	6	12/99

78	J. Hansen R. Wahlberg	Endogenous Schooling and the Distribution of the Gender Wage Gap	7	12/99
79	J. S. Earle Z. Sakova	Entrepreneurship from Scratch: Lessons on the Entry Decision into Self-Employment from Transition Economies	4	12/99
80	J. C. van Ours J. Veenman	The Netherlands: Old Emigrants – Young Immigrant Country	1	12/99
81	T. J. Hatton S. Wheatley Price	Migration, Migrants and Policy in the United Kingdom	1	12/99
82	K. A. Konrad	Privacy, time consistent optimal labor income taxation and education policy	3	12/99
83	R. Euwals	Female Labour Supply, Flexibility of Working Hours, and Job Mobility in the Netherlands	1	12/99
84	C. M. Schmidt	The Heterogeneity and Cyclical Sensitivity of Unemployment: An Exploration of German Labor Market Flows	1	12/99
85	S. Pudney M. A. Shields	Gender and Racial Discrimination in Pay and Promotion for NHS Nurses	5/6	12/99
86	J.P. Haisken-DeNew C. M. Schmidt	Money for Nothing and Your Chips for Free? The Anatomy of the PC Wage Differential	5/7	12/99
87	T. K. Bauer	Educational Mismatch and Wages in Germany	7	12/99
88	O. Bover P. Velilla	Migration in Spain: Historical Background and Current Trends	1	12/99
89	S. Neuman	Aliyah to Israel: Immigration under Conditions of Adversity	1	12/99
90	H. Lehmann J. Wadsworth	Tenures that Shook the World: Worker Turnover in Russia, Poland and Britain	4	12/99
91	M. Lechner	Identification and Estimation of Causal Effects of Multiple Treatments Under the Conditional Independence Assumption	6	12/99
92	R. E. Wright	The Rate of Return to Private Schooling	7	12/99
93	M. Lechner	An Evaluation of Public-Sector-Sponsored Continuous Vocational Training Programs in East Germany	6	12/99
94	M. Eichler M. Lechner	An Evaluation of Public Employment Programmes in the East German State of Sachsen-Anhalt	6	12/99
95	P. Cahuc A. Zylberberg	Job Protection, Minimum Wage and Unemployment	3	12/99
96	P. Cahuc A. Zylberberg	Redundancy Payments, Incomplete Labor Contracts, Unemployment and Welfare	3	12/99

97	A. Barrett	Irish Migration: Characteristics, Causes and Consequences	1	12/99
98	J.P. Haisken-DeNew C. M. Schmidt	Industry Wage Differentials Revisited: A Longitudinal Comparison of Germany and USA	5/7	12/99
99	R. T. Riphahn	Residential Location and Youth Unemployment: The Economic Geography of School-to-Work-Transitions	1	12/99
100	J. Hansen M. Lofstrom	Immigrant Assimilation and Welfare Participation: Do Immigrants Assimilate Into or Out-of Welfare?	1/3/7	12/99
101	L. Husted H. S. Nielsen M. Rosholm N. Smith	Employment and Wage Assimilation of Male First Generation Immigrants in Denmark	3	1/00
102	B. van der Klaauw J. C. van Ours	Labor Supply and Matching Rates for Welfare Recipients: An Analysis Using Neighborhood Characteristics	2/3	1/00
103	K. Brännäs	Estimation in a Duration Model for Evaluating Educational Programs	6	1/00
104	S. Kohns	Different Skill Levels and Firing Costs in a Matching Model with Uncertainty – An Extension of Mortensen and Pissarides (1994)	1	1/00
105	G. Brunello C. Graziano B. Parigi	Ownership or Performance: What Determines Board of Directors' Turnover in Italy?	7	1/00
106	L. Bellmann S. Bender U. Hornsteiner	Job Tenure of Two Cohorts of Young German Men 1979 - 1990: An analysis of the (West-)German Employment Statistic Register Sample concerning multivariate failure times and unobserved heterogeneity	1	1/00
107	J. C. van Ours G. Ridder	Fast Track or Failure: A Study of the Completion Rates of Graduate Students in Economics	7	1/00
108	J. Boone J. C. van Ours	Modeling Financial Incentives to Get Unemployed Back to Work	3/6	1/00
109	G. J. van den Berg B. van der Klaauw	Combining Micro and Macro Unemployment Duration Data	7	1/00
110	D. DeVoretz C. Werner	A Theory of Social Forces and Immigrant Second Language Acquisition	1	2/00
111	V. Sorm K. Terrell	Sectoral Restructuring and Labor Mobility: A Comparative Look at the Czech Republic	1/4	2/00
112	L. Bellmann T. Schank	Innovations, Wages and Demand for Heterogeneous Labour: New Evidence from a Matched Employer-Employee Data-Set	5	2/00
113	R. Euwals	Do Mandatory Pensions Decrease Household Savings? Evidence for the Netherlands	7	2/00

114	G. Brunello A. Medio	An Explanation of International Differences in Education and Workplace Training	7	2/00
115	A. Cigno F. C. Rosati	Why do Indian Children Work, and is it Bad for Them?	7	2/00
116	C. Belzil	Unemployment Insurance and Subsequent Job Duration: Job Matching vs. Unobserved Heterogeneity	7	2/00
117	S. Bender A. Haas C. Klose	IAB Employment Subsample 1975-1995. Opportunities for Analysis Provided by the Anonymised Subsample	7	2/00
118	M. A. Shields M. E. Ward	Improving Nurse Retention in the British National Health Service: The Impact of Job Satisfaction on Intentions to Quit	5	2/00
119	A. Lindbeck D. J. Snower	The Division of Labor and the Market for Organizations	5	2/00
120	P. T. Pereira P. S. Martins	Does Education Reduce Wage Inequality? Quantile Regressions Evidence from Fifteen European Countries	5/7	2/00
121	J. C. van Ours	Do Active Labor Market Policies Help Unemployed Workers to Find and Keep Regular Jobs?	4/6	3/00
122	D. Munich J. Svejnar K. Terrell	Returns to Human Capital under the Communist Wage Grid and During the Transition to a Market Economy	4	3/00
123	J. Hunt	Why Do People Still Live in East Germany?	1	3/00
124	R. T. Riphahn	Rational Poverty or Poor Rationality? The Take-up of Social Assistance Benefits	3	3/00
125	F. Büchel J. R. Frick	The Income Portfolio of Immigrants in Germany - Effects of Ethnic Origin and Assimilation. Or: Who Gains from Income Re-Distribution?	1/3	3/00
126	J. Fersterer R. Winter-Ebmer	Smoking, Discount Rates, and Returns to Education	6/7	3/00
127	M. Karanassou D. J. Snower	Characteristics of Unemployment Dynamics: The Chain Reaction Approach	7	3/00
128	O. Ashenfelter D. Ashmore O. Deschênes	Do Unemployment Insurance Recipients Actively Seek Work? Evidence From Randomized Trials in Four U.S. States	6	3/00
129	B. R. Chiswick M. E. Hurst	The Employment, Unemployment and Unemployment Compensation Benefits of Immigrants	1/3	3/00
130	G. Brunello S. Comi C. Lucifora	The Returns to Education in Italy: A New Look at the Evidence	5/7	3/00
131	B. R. Chiswick	Are Immigrants Favorably Self-Selected? An Economic Analysis	1	3/00

132	R. A. Hart	Hours and Wages in the Depression: British Engineering, 1926-1938	7	3/00
133	D. N. F. Bell R. A. Hart O. Hübler W. Schwerdt	Paid and Unpaid Overtime Working in Germany and the UK	1	3/00
134	A. D. Kugler G. Saint-Paul	Hiring and Firing Costs, Adverse Selection and Long-term Unemployment	3/7	3/00
135	A. Barrett P. J. O'Connell	Is There a Wage Premium for Returning Irish Migrants?	1	3/00
136	M. Bräuninger M. Pannenberg	Unemployment and Productivity Growth: An Empirical Analysis within the Augmented Solow Model	7	3/00
137	J.-St. Pischke	Continuous Training in Germany	7	3/00
138	J. Zweimüller R. Winter-Ebmer	Firm-specific Training: Consequences for Job Mobility	1	3/00
139	R. A. Hart Y. Ma	Wages, Hours and Human Capital over the Life Cycle	1	3/00
140	G. Brunello S. Comi	Education and Earnings Growth: Evidence from 11 European Countries	5/7	4/00
141	R. Hujer M. Wellner	The Effects of Public Sector Sponsored Training on Individual Employment Performance in East Germany	6	4/00
142	J. J. Dolado F. Felgueroso J. F. Jimeno	Explaining Youth Labor Market Problems in Spain: Crowding-Out, Institutions, or Technology Shifts?	7	4/00
143	P. J. Luke M. E. Schaffer	Wage Determination in Russia: An Econometric Investigation	4	4/00
144	G. Saint-Paul	Flexibility vs. Rigidity: Does Spain have the worst of both Worlds?	1	4/00