

Labour Market Intermittency and Its Effect on Gender Wage Gap in Spain

L'intermittence du marché du travail et ses effets sur l'écart salarial entre les sexes en Espagne

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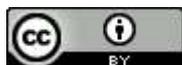
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Introduction

- 1 During the last decades the role of women in the labour market has been the main issue in numerous studies and analysis from different perspectives¹. Many of these studies are focused on the decisions of labour participation and their consequences on employment and future income. In particular, one of the most analyzed issues regarding labor inequality by gender is wage differentials, not only in Spain but also in many other countries.
- 2 Generally, wages or average incomes of employed women are lower than those of men and the distribution of occupations is unfavorable to women in a double sense. On the one hand, women are concentrated in a relatively small number of occupations and, on the other hand, their participation in the better-paid jobs is much lower than that of men. However, when comparing the earnings of those who are employed in the same occupation the gender gap still remains as it has become evident in numerous studies, like the global analysis in the World Economic Forum Report (2012); from a theoretical perspective in Maruani, Rogerat and Tonrs (2000) and empirical analysis for the case of the US in Blau and Kahn (2000).
- 3 One explanation is that, in general, women have less experience in employment than men. Many times it is argued that one of the reasons why women earn less is because they work intermittently, especially during the early years of their career as it is pointed out in Sutter and Miller (1973), Stratton (1995), Jacobsen and Levin (1995) or Baum (2002).

Between the ages of 20 and 40, most men work full-time continuously, while many women are forced to leave employment or to reduce their working hours to be able to combine their working career with family life, especially with the care of their children². This is why women accumulate less work experience than men and therefore they have fewer opportunities to promote to better paid jobs. According with the World Bank Report (2012) the gender differences in work experience are still quite prominent, suggesting that they arise mainly during the childbearing years. Because work experience is a valuable input into production, gender differences in this dimension contribute to differences in productivity and earnings.

- 4 Broadly speaking, empirical works on wage differentials by gender recognize the importance of labor trajectories on wages but in many cases it is difficult to find a suitable indicator to measure it. For this reason papers come to very different conclusions about the duration of periods out of employment and the magnitude of their effect on wages. Some authors find that the influence of an interruption of employment on subsequent wages is greater the first five years after the return to employment (Mincer and Ofek 1982). Others conclude that penalty is maintained also in the longer-term, even after twenty years (Jacobsen and Levin, 1995). Some studies reveal that women who work discontinuously have wages quite below of those who work continuously (Sorenson 1993). The difference between these results is determined by the method used to classify a worker as intermittent. In some studies a worker with a single episode out of employment is classified as intermittent worker; in others the proportion of time outside the labour market is taken into account and in others the total time out of employment. However, it seems reasonable to think that employers take into account various aspects of the previous career of their future employees. In particular, there are three important elements: on the one hand the number of times that a person has abandoned a job, on the other hand, time out of the labour market and, finally, how much time has elapsed since the last episode of interruption. Taking all these factors into account, it seems advisable to use some synthetic indicator to measure the importance of periods out of employment, as Hotchkiss and Pitts (2005) propose, by estimating an index of labour interruptions.
- 5 Our main objective is to point out the gender differences in labour market interruptions with reference to its role on the explanation of gender wage differences in Spain. This issue is extremely interesting due to many circumstances. On the one hand, in Spain the gender wage gap has been analyzed in many studies, using different methodologies and data sources, but the employment trajectories are only measured using variables of potential employment or experience on the current job (De la Rica and Ugidos 1995, Moreno *et al* 1995, Gardeazábal and Ugidos 2004, Simon *et al* 2008, De la Rica *et al* 2008). On the other hand, Spain has traditionally had one of the lowest female employment rates in the European Union as well as it has one of the highest gender wage gap (see, for example, European Commission 2009). Although this scenario is changing, Spain still has a higher incidence of the traditional male breadwinner model. Family formation and motherhood are still associated with a sharp decline in women's employment rates despite rising participation rates as younger cohorts of women move through their working lives. There are few institutional provisions to enable women to combine employment with motherhood, as is showed by Escobedo and Meil (2012) the relatively low public provision of childcare facilities for young pre-school children, the low income replacement rate and the weakness of subsequent employment guarantees for parental

leave systems, still endorse the notion of the ‘housewife’ system of childcare and the ‘male breadwinner’ system of family provisioning. Working-time rigidities and in particular the low availability of part-time jobs, still constitute a barrier to women’s labour market integration and so encourages a traditional gender division of labour, (Anxo *et al.*, 2007, Salido 2011).

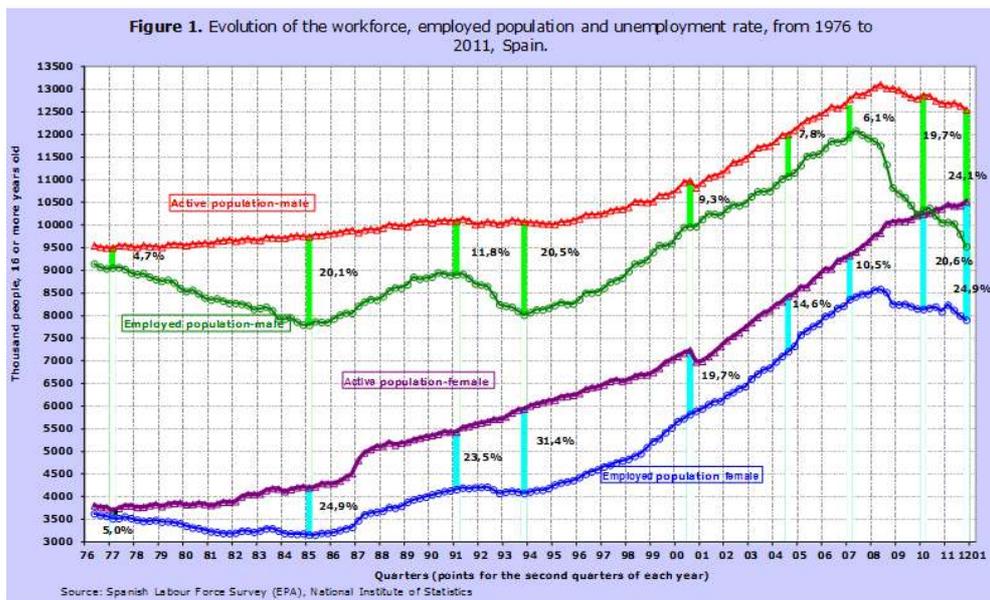
- 6 In Spain there is a source of data that provides information on labour trajectories of individuals included in its sample since 2004. It is The Muestra Continua de Vidas Laborales or Continuous Sample of Working Life (hereinafter the CSWL). The CSWL contains information on all the employment episodes registered in the Social Security, so it is possible to know the duration of employment and absence of employment periods for each individual. This allows to reproduce the indicator proposed by Hotchkiss and Pitts (2005) to measure the importance that interruptions in the labour career have had and to estimate whether there is any relationship between them and current wages. To this purpose, the paper is organized as follows. Section 2 provides an overview of the evolution of the situation of women in the Spanish labour market in recent years. Section 3 shows relevant differences in this indicator by gender and age in Spain. In section 4 some wage equations are estimated in order to assess which variables have influence on wages and the weight of the trajectories in the explanation of the current wage. The last section summarizes the most important findings and some conclusions from the analysis are finally presented.

Women’s Situation and Recent Evolution in the Spanish Labour Market

- 7 The Spanish female labour force participation rate is among the lowest of all OECD countries although participation has been steadily growing during the past decades. However, this increase has not been accompanied by the necessary changes to achieve equality between men and women (Cebrián and Moreno, 2008).
- 8 During the last economic expansion, more than half of all jobs created have been filled by women. There are several factors that explain the increased presence of women in the workforce. One is the growing importance of the services sector; the jobs created here make it easier to combine work and family as it is pointed in Blau and Juhn (2000) and in Hakim (2004), and for the Spanish case in Iglesias, Llorente and Dueñas, (2009)
- 9 Another factor is the increase of the educational level of women; they are making great progress in gaining access to education and the trend is for more women to become economically active (Albert, 2008).
- 10 Despite the persistence of numerous obstacles, the presence of women in the labour market has increased significantly. Figure 1 presents the evolution of the three main population groups of the labour market in absolute numbers: actives, employed and unemployed men and women with data from the Spanish Labour Force Survey (EPA). This shows how this evolution has taken place and their current situation in the Spanish labour market. It is interesting to point out that not only in terms of activity rate, as it is usually explained, but also in absolute figures, the presence of women has increased remarkably, especially if we compare them with men. This Figure shows the evolution of the active and employed population, in absolute numbers, by gender from 1976 until the third quarter of 2012. The unemployed population is deducted from the difference

between the two series and the color bars stand out unemployment rate levels of male and female in some key periods.

- 11 Although it can be said that the presence in labour market of men and women have been reduced, some differentiating elements can still be found. At least five stages in the Spanish labour market can be identified from 1976 to the present day. Firstly, between 1976 and 1985 the great crisis of employment took place caused by the world economic crisis. The crisis was worse in Spain due to the Francoist protectionist economy and the serious technological and competitive problems of the Spanish production system. In addition, since the beginning of the 1980s, the active population began to grow as those born during the 1960s baby-boom entered the labour market and the rate of infant mortality was reduced. Figure 1 shows the growth of active population, both male and female, but with greater growth rate among female active population. During this stage employment decreased dramatically and the female unemployment rate was 1 out of 4 women in the labour market, while the male rate was 1 out of 5.
- 12 From 1985 to 1991, it was a period of recovery through which employment rose at a rate unprecedented in the Spanish economy. Several factors contributed to that employment expansion: the global recovery, the Spanish access to the European Community in 1986, productive settings from the previous stage, but above all, the reform of the Statute of Workers in 1984 which allowed fixed term labour contracts without cause to justify them.



- 13 However, in Figure 1 can be seen that, despite job creation, the growth of the female active population only reduced the female unemployment rate to 23.5 per cent at the end of the expansive period. On the contrary, the male active population grew more slowly, they were better off with the job creation and male unemployment rate was reduced to 11.8 per cent.
- 14 From 1991 to 1994 the Spanish labour market suffered the effects of the economic crisis. In addition to the negative effects of the international economic crisis, there were internal problems of the Spanish economy, like the increase in wages and the loss of purchasing power of the national currency (peseta), which significantly reduced the competitiveness of the Spanish productive system.

- 15 Thus, the destruction of employment was more intense than during the previous crisis. Although female's employment loss was less than male's, the female active population rise and the female unemployment rate reached to 31.4 per cent in 1994, which means that 1 each 3 active women was unemployed. While male unemployment rate was 10 points lower than female, despite the loss of male employment was greater than female.
- 16 The next stage includes the last expansion of the Spanish economy between 1994 and 2007. The level of employment increased by 67 per cent, 8.3 million jobs were created and 4.3 million were held by women. But this increase was not enough to reduce the levels of female unemployment and during the second quarter of 2007, the female unemployment rate was still 10.5 per cent, while male rate was 6.1 percent.
- 17 The current economic crisis is having a profound impact from a gender perspective on the traditional Spanish labour market model, as women are currently assuming a more active role in comparison to their male counterparts. The traditional socioeconomic model in the country is being undermined, with changing economic activity rates, female employment proving to be less vulnerable to the crisis and higher unemployment growth among men. The Spanish male activity rate experienced for the first time in the last 10 years a small decrease in 2009, from 69.5 per cent per cent in 2008 to 68.6 per cent per cent in 2009. In contrast, the female activity rate increased from 50.5 per cent to 51.6 per cent in the same time period (Spanish Labour Force Survey, EPA, National Institute of Statistics). Furthermore, the Spanish female activity rate is slightly higher than the average level in the European Union for the first time in the last 10 years. Meanwhile, the total number of Spanish male active workers decreased by 0.7 per cent in 2009 in comparison to 2008 (from 13.03 million in 2008 to 12.94 million in 2009), whereas the number for women increased by 2.9 per cent (from 9.82 million in 2008 to 10.09 million in 2009). This trend reflects the more proactive role of Spanish women in terms of employment opportunities. During the economic crisis, female employment has shown a lower level of vulnerability than male employment.
- 18 This change in female participation is even more evident if the activity rates are examined by age groups; last figures from the EPA (2012, third quarter) show that the activity rate for women between 25 and 29 years is 84 per cent and between 30 and 34 is 85 per cent, when seven years ago these rates were 79 and 74 per cent respectively.
- 19 However, nowadays the labour trajectories by gender are still different. It is possible that women who today are young and have higher rates of activity will remain more stable in employment than women of previous generations. If interruptions in employment are a source of wage inequality, the stability could be a source of equality. The aim of this paper is to analyze the impact of labour interruptions on gender wage gap in Spain.

Labour Trajectories, Differences by Gender. The Spanish Case

- 20 It seems reasonable to think that employers will take into account various aspects of the previous professional career of a future employee. In particular, there are three important elements: first, the number of times that employment has been interrupted, second, how long has been these periods and finally, how much time has passed since the last episode of abandonment. That is what Hotchkiss y Pitts (2005) do by proposing and estimating an index to measure intermittency. We use this index as an instrument with

the aim of measuring the importance of drop-outs of the employment in the explanation of gender wage gap in Spain.

21 This index is an appropriate measure to weight the interruptions in employment trajectories and it reflects the total time outside employment during working life observed, how many spells of interruption are and how long ago was the last interruption. These three components are related and analyzed together could be a good indicator of the role of interruptions of employment during the life cycle. In particular, it allows observing the differences between male and female careers and it is an appropriate measure of the valuation that will make the employer in deciding what wage will pay to his employee.

22 The index calculated is:

$$I_i = \left[N_i \left(\frac{1}{T_i} \sum_{j=1}^{N_j} L_{ji} \right) \right]^{w_i}$$

23 where:

I_i the index estimated for each individual

N_i number of spells of interruptions/number of total spells observed (employment + interruptions)

T_i total amount of time since first recorded employment

L_{ji} length of spell of absence j for the person i

w_i proportion of employment time accumulated since the last spell of interruption

24 The index ranges between 0 and 1, and a greater value indicates a greater weight for interruptions in that trajectory. The index increases with the number of spells of interruptions and the index decreases with total time in employment or with time in employment since the last interruption.

25 The Muestra Continua de Vidas Laborales or Continuous Sample of Working Life Histories (CSWL) is carried out by The Ministry of Labour and Social Affairs. It contains longitudinal information about a representative sample of individuals registered with Social Security administration³ at any time in the reference year, from 2004 to 2010⁴. This database provides annual information on more than one million people who have had some kind of relationship with Social Security administration⁵ every reference year, and it comes from a 4 per cent non-stratified random sample of all people in the Social Security system in each year⁶. Information from the computerized records of the Spanish Social Security is linked with the Continuous Municipal Register and with tax data from the annual tax declaration of employers to the National Revenue Agency. The tax module provides the total amount paid by employers to their employees, including total salary payments and any other type of compensations in cash or in kind. There are many very interesting aspects available in the data about worker and employer characteristics, work turnover, wages, pensions, unemployment benefits, etc.

26 Longitudinal information in the CSWL is very useful to the aim of our work because it makes possible to know for any person in the sample, how many times and how long she has been employed and out of employment and, therefore, to attribute a value of the intermittent employment index to each person (Moreno and Cebrián, 2009). We can calculate the weight of the spells of interruption over the labor trajectories and to analyze the index proposed from 2005 until 2010. We select all individuals with at least one episode of employment registered in the Social security system during the period of

reference 2005--2010. We use retrospective information to rebuild her past employment history and to define periods of no employment. For each individual it is selected the last episode of full employment that is recorded in the period. Part time is not considered because there is a significant variability in working hours associated to this type of employment and in the CSWL data about working hours is not available⁷.

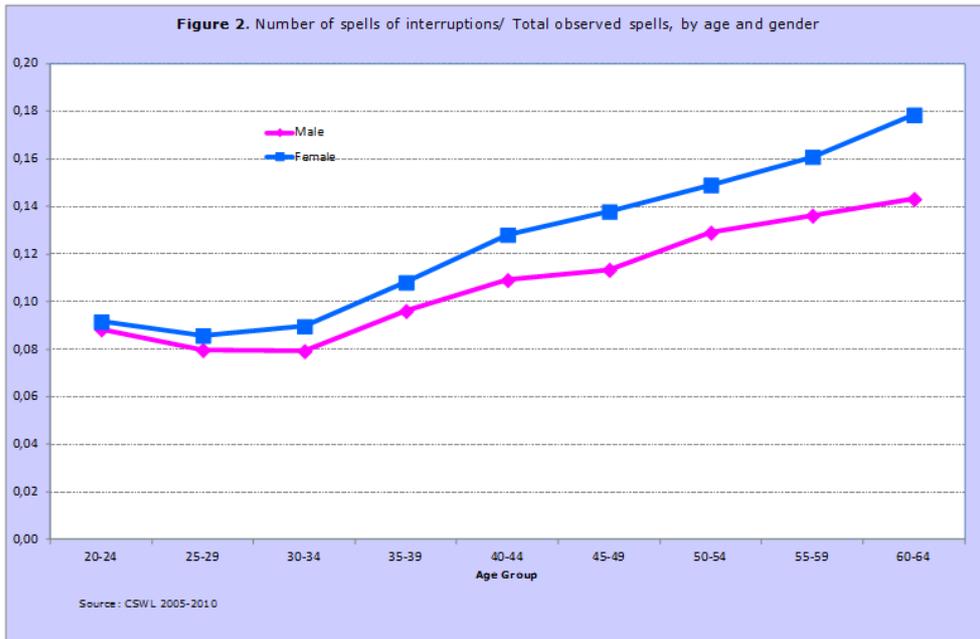
- 27 The final sample is 468.204 people between 20 and 64 years old, the youngest people have joined the labour market recently and they have not had time yet to have interruptions and older people could have spells of interruptions associated with retirement. The data base includes information about employees, their personal characteristics and their job characteristics, this from the last episode of employment. As well as information about his professional career since his first employment was recorded.
- 28 Employment interruptions can be defined in different ways and it is necessary to delimit how we define them for this paper. With the CSWL it is possible to know for each individual not only the number of spells out of employment, but also the time spent out of employment without social security contributions. Given that the aim of this paper is to measure the possible depreciation in human capital due to interruptions of employment, it seems appropriate to include only periods of long interruptions, a year or more. Interruptions of employment by less time may be related to frictional unemployment (the time between leaving a job and deal with the following) and the high turnover rate of the Spanish labour market due to the high temporality rate.. In fact, the average number of interruptions, considering as such any period between employment and employment regardless of its duration, is by mean 11.7, while the average number of long drop-outs is 1.3. Table 1 shows the average number of episodes of "short" and "long" interruptions, by gender and by age groups. There are just few differences by gender, observed interruptions increase with age as it would be expect and there are more differences by gender in ages associated with maternity.

Table 1. Average number of spells of interruptions, all and only long spells, by age and gender.

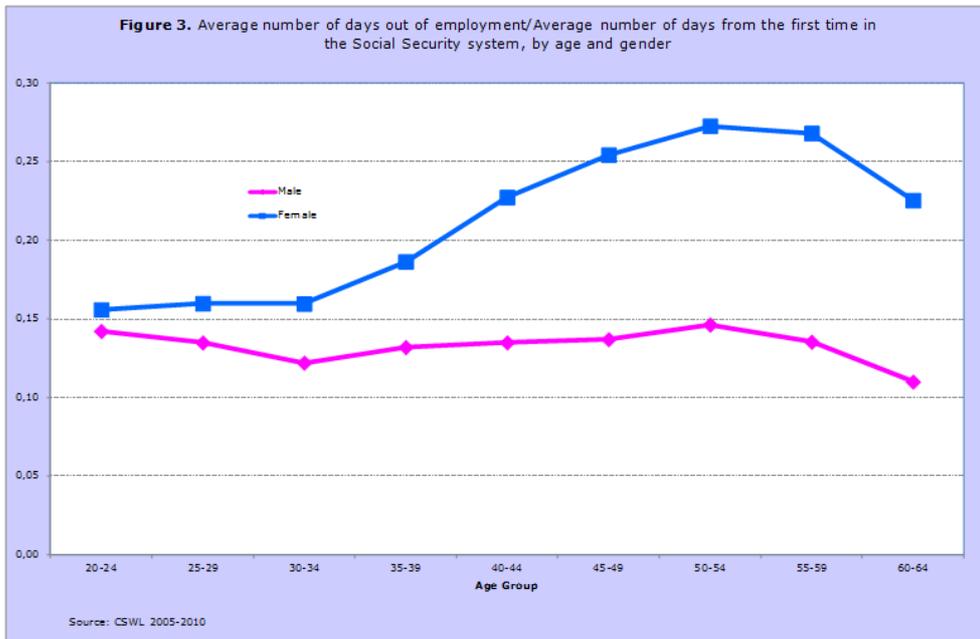
	Male		Female	
	All interruptions	Interruptions a year or more	All interruptions	Interruptions a year or more
20-24	6,66	0,50	6,74	0,50
25-29	10,38	0,62	10,55	0,67
30-34	12,38	0,77	12,87	0,83
35-39	13,63	1,11	14,44	1,17
40-44	14,77	1,37	14,88	1,47
45-49	14,71	1,48	15,27	1,60
50-54	14,89	1,71	15,49	1,66
55-59	14,17	1,77	12,42	1,50
60-64	13,22	1,58	10,23	1,37
Total	13,02	1,17	13,12	1,17

Source: CSWL, 2005-2010

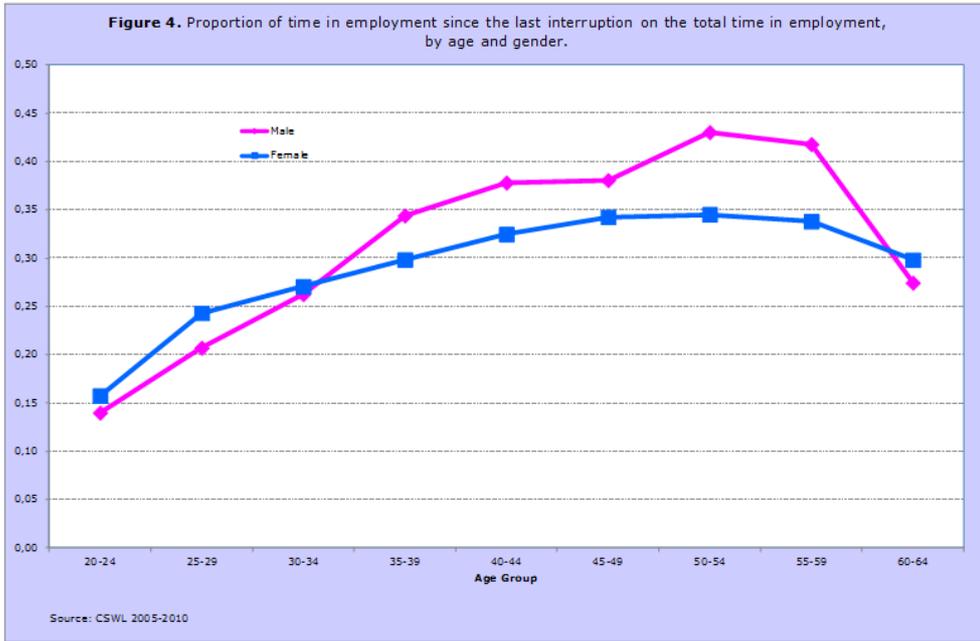
- 29 As a prelude to the analysis of the index we present three graphics containing the components included in the development of the indicator. First, Figure 2 shows the number of episodes of interruption on the number of total episodes observed for an individual (employment plus non employment). They are average values by age and sex. The weight of the spells of interruption is greater for women in all age groups, except in the very young where are similar. The differences are greater in the middle ages, which means that female labour trajectories are more often interrupted than male.



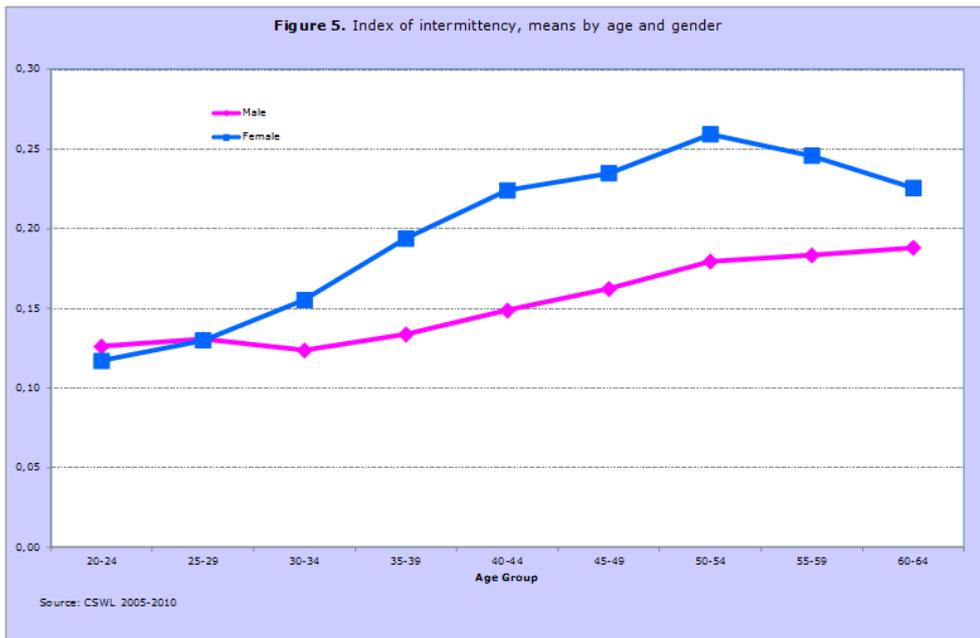
- 30 Figure 3 summarizes two of the components of the index, on the one hand the time that one individual has been out of employment and, on the other hand, the seniority in the labour market. The available information allows knowing the date of the first relation with employment registered in the Social Security system for each individual. Then with this variable and the date of the last episode of employment observed it is possible to calculate how long each person has been in the labour market. In the case of the younger, up to 40 years, there is no significant difference in seniority, measured as the number of days in the Social Security system, but differences increase with age. This indicates that the work pattern of younger women is similar to that of men, at least in the sense that women enter the labour market at the same time as men of their age cohort and during the first years they have similar behavior.



- 31 The other variable that is included in Figure 3 is the sum of the lengths of all the episodes of non employment that an individual has had from his/her incorporation to the Social Security system until the final episode of employment observed. Here the differences by gender are notable. Practically in all age groups women have more days of non employment than men and differences increase for ages higher than 40.
- 32 The proportion of time in employment since the last spell of interruption observed on the total time that the persons have been employed in their working lives is also introduced in the calculation of the index. Figure 4 shows that the proportion is slightly higher for females until 30 years old and above that age is higher for males. This could be because the work behavior of both genders is very similar until age 30-34 and from here there are differences that reveal the lower female linked to the labour market related to the age of motherhood. The number of children is a determinant of female labour participation. Many studies, like Klerman and Leibowitz (1994), Del Boca and Vuri (2007), Emery and Ferrer (2009) or Euwals and others (2011), show that mothers have less probability of working than women without children.



33 Finally, Figure 5 shows interruptions index calculated for men and women and by age groups. The differences are important almost from the beginning, although they increase with age, reaching its maximum value between 40 and 50 years and subsequently decreasing.



34 The analysis of the various aspects of the interruptions of employment shows that the differences between men and women appear mainly in the sum of the duration of these periods of absence of employment. The number of dropouts is similar for men and women, and also the seniority in the social security system. This is what explains that the index take values higher for women in the middle ages and what justifies the interest of

using an aggregate indicator containing all aspects that an employer can consider in assessing past labour trajectories of his employees.

Estimation of Gender Wages Differentials and their Relation with Labour Market Intermittency

- 35 In this section, several wages equations are estimated to identify whether labour market intermittency affect negatively wages as well as if this penalty is a source of the lower wages observed for women, as women have a higher level of intermittency along their life cycle than men, as it has been explained before.
- 36 In the first place, gross differences between men and women in their last job observed show that there is a wage gap by gender of about 14 percent. This gap points out that female wages are in general 14 per cent lower than male wages on an annual point of view. On the other hand, when time spent in employment is taken into account, female duration in employment is lower than for men, although only 1.5 percent. The CSWL does not show the number of hours of work, but we can have the number of days worked in a certain job during a year, so it is possible to calculate wages per day.
- 37 However there are many other variables which can be influencing salaries. These gross wage differentials can be the result of several explanatory factors as well as some type of wage discrimination practices. Wage discrimination exists only when the woman receives a lower salary than a man for an equal work, being equally effective and productive, with similar levels of qualification and the same experience. Nevertheless, as has been shown in previous sections, women are at a certain disadvantage in the labor market and show greater intermittency levels. All these factors can explain part of the gross wage differentials observed.
- 38 Consequently, we estimate wage equations in which the dependent variable is the wage per day of work in the last year of observation. The explanatory variables are a vector of personal characteristics (gender, age, nationality, number of children in household, type of municipality, time since first contact with employment in Social Security is a proxy for work experience, and intermittency index), job specific characteristics (professional category, as a proxy for occupation, and the type of contract) and some aspects related with the firm (region, size, sector of economic activity and type of employer).
- 39 We estimate three wage equations. The first one includes gender as explanatory variable to determine the possible net gender gap, and the two other estimations analyze separately males and females daily wages.
- 40 These are the three wage equations:
- $$w = \beta X + u$$
- $$w_f = \beta_f X_f + u_f$$
- $$w_m = \beta_m X_m + u_m$$
- 41 w is the logarithm of daily wage, X are the regressors and β is the estimated coefficient related to the market price for all these characteristics. f and m indicate females and males specific equations and characteristics.

- 42 Taking into account that our most important concern addresses in this paper is to assess the incidence of intermittency on wages, the results from the estimations related to gender and the intermittency index are presented in Table 2.

Table 2. Results from estimations of the daily wage in the last year observed by gender	
Net Wage Gap	12.7
Intermittency Index Coefficient	
Both	-0,307
Women	-0,308
Men	-0,297

Source: CSWL, 2005-2010

- 43 The sample size is of 468.204 employees with a full time job. In our sample there are not residents in Navarre and Basque Country because they have a different tax regime and their salaries are not included in the fiscal version of the CSWL. Almost all the variables included are significant as it is presented in Table in the annex, for space reasons, we will not discuss the results for each variable in detail.
- 44 First of all, we have to point out that after controlling for all the explanatory variables, there still exists a wage gap against women and all the coefficients have the expected sign.
- 45 Secondly, the intermittency index coefficients present a negative effect of interruptions on wages, that is, the higher the index, a more intense drop in wages and therefore lower earnings. The sign and the value of the coefficient is almost equal for men and women, indicating that labor disruptions penalize equally both genders, although there is a slightly greater penalty for women. Then if this variable had some weight in explaining the wage gap, it would have to be attributed to the different paths of labor disruptions experienced by men and women and not for being penalized in different ways both groups.

Conclusions

- 46 Labour market in Spain shows important differences between men and women, not only related to type of jobs, but also on wages, after controlling for labour and demand factors. However, there is an aspect never analyzed before in Spain that is how intermittency in labour life affects those differences.
- 47 The main contribution of this paper is to introduce as a explanatory variable in wage equations a measure of the weight of previous labour trajectories and different breaks that individuals have throughout their active life in the analysis in order to understand the wage differentials between men and women in Spain. Interruptions that are taken into account in this analysis are those which mean to be out of employment for a period of one year or more, regardless that these interruptions or drop-outs are voluntary or not.

- 48 An index of interruptions has been estimated. This index collects various relevant aspects like the number of times that the individual has been out of employment, the duration of these episodes and the time elapsed since the last spell of interruption. The results of this analysis show that women have a higher index than men, especially in the middle ages which correspond to the periods of maternity when women can decide to quit the labour market for ever or only for a period. The differences are mainly found in the average duration of these breaks, which are greater for women.
- 49 Interruptions of employment have a negative impact on wages, both for men and women, as can be seen from the coefficients obtained for this variable in the estimates of wages, which is slightly higher for women. Thus it demonstrates that wages in Spain are affected by job instability and trajectories in the labour market as it is also shown by Hotchkiss and Pitts (2007) for the US. The index of interruptions and its results are a complement for the analysis on wage differences, covering the various aspects of the interruptions.
- 50 The finding of the negative effects on wage income of discontinuous labor trajectories leads to insist on the need to promote the permanence in employment or aim to reduce periods out of employment, especially for women. In this sense, any measure which will enhance the reconciliation of family and work life, including better maternity/parental leave and job security during the leave, could contribute to improve incomes and reduce the gender wage gap. However, the Spanish labour market is experiencing a silent but important qualitative change in the last two years as a consequence of the current economic crisis, characterized by an increasing presence of women in the labour market and a decreasing presence of men. The situation may also have negative consequences since more women might also be involved in household related work as it is not clear that most of their male counterparts are assuming a more active role in household activities.

Table 1A. Result from daily wage estimations

Variable	Coefficient	Female		Male		Descriptives (*)		
		Coefficient	Female Coefficient	Coefficient	Male Coefficient	Both	Females	Males
Intercept	3,88 ***		3,43 ***		3,86 ***			
Women	-0,13 ***					39,55	100,00	0,00
Foreigner	-0,1 ***	-0,09 ***		-0,1 ***		13,66	11,20	15,26
Age	0,01 ***	0,02 ***		0,01 ***		39,74	39,19	40,10
Age squared	0 ***	0 ***		0 ***				
Big size town	-0,01	-0,02		0		31,94	34,52	30,25
Middle town	-0,02 ***	-0,03 ***		-0,01 **		21,66	21,22	21,94
Smaller town						46,36	44,24	47,76
Young children	0,02 ***	0		0,02 ***		47,11	46,92	47,23
Autonomous Community								
Andalucía(8)						18,12	17,91	18,25
Aragón	0,02 ***	0,02		0,03 ***		3,10	3,08	3,12
Asturias	0	-0,02		0,01		2,29	2,25	2,32
Baleares	-0,02 **	-0,01		-0,02 *		2,40	2,55	2,31
Canary islands	-0,1 ***	-0,06 ***		-0,13 ***		4,70	4,92	4,56
Cantabria	0	0,01		-0,01		1,19	1,06	1,28
Castille-Leon	-0,03 ***	-0,01		-0,04 ***		5,31	5,07	5,47
Castille-Mancha	-0,03 ***	-0,02 *		-0,03 ***		4,52	4,18	4,73
Catalonia	0,06 ***	0,06 ***		0,07 ***		17,96	18,32	17,72
C. Valencia	-0,06 ***	-0,05 ***		-0,06 ***		10,35	9,97	10,60
Extremadura	-0,1 ***	-0,07 ***		-0,12 ***		2,25	2,17	2,30
Galicia	-0,04 ***	-0,01		-0,06 ***		5,94	6,05	5,86
Madrid	-0,03 ***	-0,02 ***		-0,02 ***		17,79	18,76	17,16
Murcia	-0,05 ***	-0,05 ***		-0,05 ***		3,17	2,83	3,40
La Rioja	0,05 ***	0,08 ***		0,05 **		0,71	0,70	0,72
Ceuta&Melilla	0,06 **	0,1 **		0,02		0,20	0,18	0,21

Job category									
White-collar high-skilled	0,76	***	0,73	***	0,8	***	7,88	8,77	7,30
White-collar medium-skilled	0,6	***	0,62	***	0,56	***	6,64	10,17	4,32
Administrative	0,5	***	0,51	***	0,49	***	4,45	3,60	5,01
Blue Collar high skilled	0,33	***	0,3	***	0,34	***	3,36	2,88	3,68
Blue Collar medium skilled	0,14	***	0,17	***	0,14	***	27,47	40,44	18,98
Blue Collar skilled	0,09	***	0,1	***	0,09	***	31,53	16,65	41,26
Blue Collar Low skilled (&)							18,68	17,50	19,45
Type of Economic Activity									
Agriculture and Fishing	0,14	***	0,18	***	0,1	***	5,95	5,70	6,12
Manufacturing	0,11	***	0,11	***	0,1	***	14,50	8,64	18,34
Construction	0,19	***	0,14	***	0,16	***	12,26	2,68	18,53
Wholesale; Retail (&)							14,87	16,34	13,90
Hotel & restaurants	0,09	***	0,16	***	0,02	**	6,15	7,98	4,95
Transport	0,14	***	0,21	***	0,1	***	7,50	4,75	9,29
Finance, Insurance and Real Estate	0,48	***	0,48	***	0,48	***	2,83	3,31	2,51
Business activities and renting	0,09	***	0,15	***	0,04	***	12,94	14,64	11,83
Public administration and Services	-0,01	**	0		-0,02	**	19,51	31,59	11,60
Others and Personal Services	-0,02	**	-0,02	**	0		3,50	4,38	2,92
Firm size									
0 (closed)	-0,23	***	-0,26	***	-0,22	***	5,65	4,72	6,26
1-9 workers	-0,28	***	-0,29	***	-0,27	***	24,33	21,68	26,06
10-19 workers	-0,23	***	-0,23	***	-0,23	***	10,64	8,77	11,86
20-49 workers	-0,2	***	-0,19	***	-0,2	***	14,15	12,46	15,26
50-249 workers	-0,12	***	-0,11	***	-0,12	***	20,25	20,03	20,39
More than 249 (&)							24,98	32,33	20,17
Type of employer									
Corporation (&)							28,82	25,26	31,15
Other type of companies	-0,14	***	-0,13	***	-0,15	***	40,77	34,59	44,81
Cooperatives	-0,03	***	0		-0,05	***	5,50	7,27	4,34
Public sector	0,04	***	0,08	***	0,01		15,95	23,82	10,80
Natural person	-0,26	***	-0,22	***	-0,27	***	8,96	9,06	8,89
Starting year									
Before 2005 (&)							24,68	21,94	26,48
2005	-0,07	***	-0,06	***	-0,06	***	4,92	4,97	4,88
2006	-0,07	***	-0,06	***	-0,07	***	6,54	6,95	6,26
2007	-0,07	***	-0,08	***	-0,06	***	8,83	9,64	8,30
2008	-0,06	***	-0,06	***	-0,06	***	10,10	10,96	9,53
2009	-0,08	***	-0,08	***	-0,08	***	11,67	11,99	11,46
2010	0,3	***	0,38	***	0,25	***	33,26	33,55	33,08

Type of contract									
Open ended (&)						57,85	56,97	58,42	
Temporary per task	0	-0,09	***	0,04	***	17,13	11,49	20,82	
Casual	0,07	***	0,09	***	0,06	***	11,13	12,47	10,26
Other temporal	0,29	***	0,34	***	0,17	***	7,83	13,11	4,38
Agriculture contracts	-0,48	***	-0,44	***	-0,49	***	5,89	5,78	5,97
Intermittency Index	-0,31	***	-0,31	***	-0,3	***	14,18	15,77	13,13

Source: CSWL, 2005-2010

Notes: sample size is of 468.204 employees with a full time job.

(&) indicates the characteristics of reference.

(*) Descriptives are based on percentage of cases in each category, except means for age and intermittency index.

Confidence Interval:

*** Covariates are statistically significant at 1 percent.

** Covariates are statistically significant at 5 percent.

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NOTES

1. For example, in 1986 Killingsworth and Heckman presented a survey of female labour supply from a theoretical perspective. Rubery, Smith and Fagan in 1999 analyzed female employment in Europe and ILO in 2009 introduced global analysis of female employment. In Spain there are also many studies, the most interesting from an economic point of view are Bover and Arellano (1995), Alba (2000) or Cebrian and Moreno (2008).
 2. This is so because institutional maternity arrangements are insufficient, for example in Spain maternity leave length is only sixteen weeks, funding hundred per cent of earnings. Parental leave is up to three years after childbirth without payment or funding. During the first year, return to the same job position is protected; after the first year, job protection is restricted to a job of the same category.
 3. This is possible because an individual in the sample who remains registered in following years, stays in the sample. Moreover, information about her past registered history is also available.
 4. However, we only use data from 2005 because labour market information is more accurate since then.
 5. Employees, self-employed workers unemployment benefits recipients and pension earners.
 6. The sample is restored every wave to remain representative of the population.
 7. Although there are no hours of work, there is a coefficient to measure working time. However results obtained in several analyses previously done, recommended not to use, as far as there is no information about the total amount of hours of work in the full time job of reference. This also explains why our analysis is only based in full time episodes, mainly when we want to compare men and women.
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RÉSUMÉS

Cet article analyse les différences de genre dans les épisodes d'abandon de l'emploi salarié dans les itinéraires de travail des individus, ainsi que leur répercussion sur les salaires perçus dans le dernier emploi. L'analyse est fondée sur les données de la Muestra Continua de Vidas Laborales, des années 2005 à 2010. Cette base de données permet de construire un indicateur composé des aspects les plus importants touchant les interruptions de travail. Cet indicateur est utilisé pour décrire la relation entre les itinéraires ou trajectoires de travail et la situation sur le marché du travail des hommes et des femmes, ainsi que pour mesurer son influence sur le salaire. Les résultats obtenus montrent que les interruptions dans l'emploi ont un impact négatif et significatif sur les revenus salariaux et expliquent en partie les différences observées entre les hommes et les femmes.

The current economic crisis is having a profound impact from a gender perspective on the traditional Spanish labour market model, as women are currently assuming a more active role in comparison to their male counterparts. Nevertheless important gender differences still remain, especially in wages. The objective of this paper is to analyze how gender differences in labour market interruptions explain gender wage gap in Spain. We use the information from the

Muestra Continua de Vidas Laborales (CSWL), from years 2005 to 2010. With this source of data it is possible to define an index to control for the whole information from any type of employment interruption. This index is used to describe the relationship between trajectories and situation in labour market, and also to assess their influence on earnings. Our main findings show that interruptions of employment have a negative impact on wages and they explain part of the observed differences in gender wage gap.

INDEX

Mots-clés : écart de rémunération entre les sexes, index de l'intermittence, interruptions, trajectoires d'emploi

Keywords : gender wage differentials, index of intermittency, interruptions, labour market trajectories

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