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# Decomposing gender differences in temporary contracts

Frederic Salladarre\* & Boubaker Hlaimi†

## Abstract:

This study analyses gender differences in fixed term contracts in 19 European countries, using micro data from the *European Social Survey*. Our estimates show that temporary employment appears to be more feminized and that gender differences in temporary employment can arise from a female specific behaviour where young women often appear more concerned with atypical jobs. Moreover, the marital status affects negatively the probability of holding a fixed term contract where single men work more frequently than women in temporary employment while women often hold temporary contracts when they are married. Alternatively, the presence of kids is conversely connected with the probability of being in a fixed term contract, principally for men.

Basing on Oaxaca and Blinder technique, decomposing gender difference in employment contracts allow us to better understand such differences regarding temporary work. The endowments reduce by approximately 13% the difference in the probability of being in fixed term contract for women. Conversely, the gender difference in unobservable characteristics is negative. Between the two groups, the decomposition of coefficients explains approximately 116% this difference. We find that, beyond the individual characteristics, controlling for the branch of industry allow only partially for explaining gender differences regarding the held contractual form. Other elements could be required to explain the gender differences such as labour market regulation which seems to perpetuate the other forms of gender inequality linked to education, homework sharing or even temporal flexibility.

**Key words:** fixed term contracts, gender difference, permanent jobs

**JEL classification:** J22, J28, J71

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\* University of Nantes 322 chemin de la Censive de Tertre 44322 Nantes; Email: [fsalladarre@yahoo.fr](mailto:fsalladarre@yahoo.fr)

† LEST CNRS and University of Aix Marseille II, [hlaimi@univmed.fr](mailto:hlaimi@univmed.fr)

## INTRODUCTION:

For more than two decades, temporary employment has shown a progression in the majority of the OECD countries. On average, in the European countries, the part of fixed term contracts grew from 5.5% in 1983, to 14% in 2005; from 4.6% to 13,4% for men and from 6,9% to 14,7% for women (OECD, 2007). Fixed term contracts, interim, contracts on demand and other contractual forms like public subsidised jobs was created and developed. Several reforms led to an increase in the use of those contracts generating low firing costs (Belot and Van Ours, 2002). Modifying legal standards regarding work conditions, the utilisation of new contractual forms aims to increase the labour market flexibility in order to reduce unemployment and to allow for an adaptation to an unexpected or limited demand (Blank and Freeman, 1994).

Most of the economic literature tried to identify the determinants and the individual factors associated to temporary employment. This form of employment combines several specificities. In several countries, employment of fixed duration appears, on average, less qualified, less remunerated and less syndicated and more feminised (Salladarre and Hlaimi 2007, Petrongolo 2004). Generally, these studies focuses on the hypothesis that fixed term contracts have been effective stepping-stones to permanent jobs during the period under observation (Guell and Petrongolo, 2007). The conversion rates of terminating into permanent employment are quantified.

However, a limited number of studies seem to have focused on international comparisons of individual data regarding both the form of employment and the gender. Indeed, since the incidence of atypical forms of employment may differ across genders, as well as their associated individual characteristics, the features of these contracts may be an important factor of gender discrimination in the labour market<sup>‡</sup>. In addition, for several European countries, the share of female's fixed-term employment is always higher than that of men (OECD 2007). Moreover, beyond employment instability, the growth of temporary employment seems to generate a differentiating and unequal dynamics by gender. Our paper aims at understanding why women in Europe are more likely than men to be segregated in atypical jobs and whether segregation can be interpreted as a source of gender discrimination.

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<sup>‡</sup> Following Gary Becker (1957), labour market discrimination may take the form of different wage rates for equally productive workers with different personal characteristics (such as race, sex, age, religion, nationality, or education).

Labour market discrimination may also take the form of exclusion from jobs on the grounds of social class, union membership, or political beliefs.

Gender differences in temporary employment may be due to individual characteristics such as level of education or sectoral effect (compositional effect), or unobserved factors such as discrimination or self selection.

Studies on gender discrimination have focused on the issue of gender wage gap, by measuring the part of gender wage difference which cannot be explained by differences in their individual characteristics, skills or labour market prices (Pissarides et al 2003). Discrimination by job segregation is another form of discrimination, which may also lead to wage gaps, if the jobs to which women are segregated are lower-paying ones.

Furthermore, job segregation could be due to other reasons than discrimination. First, men and women may differ in their human capital and productivity, which can lead to differences in comparative advantages across jobs. Second, their preferences for particular job characteristics or even for working time flexibility may also differ. Thus, discrimination may arise from the two explanations and would be consistent with employer preferences which may be more severe in some types of jobs.

A key topic is the source of differences in human capital and job preferences between men and women. Investment in women's human capital may be discouraged by anticipating future labour market discrimination and through possible inequity in the quality and quantity of schooling (Thomas 1990). In addition, women's preferences for some job features – such as tertiary or part-time jobs – may be driven by social norms (Akerlof and Kranton 2000) or the family task sharing. In this context, working mothers could choose discontinuous employment in order to manage their home-works and may be childcare responsibilities (Gash and McGinnity 2007). Although it is difficult to precisely compute these aspects, the potential endogeneity of human capital investments and preferences regarding gender discrimination would imply that the unexplained component of job segregation provides a lower bound for the extent of gender discrimination in the labour market.

Our purpose is to analyse gendered socio-economic characteristics of temporary employment. We seek to identify explained and unexplained components of the gender difference in temporary employment using Oaxaca and Blinder technique.

This paper will be organized as follow: In the first section, we present the data and the variables used in our empirical analysis. The third section is devoted to empirical results while the fourth we present gendered decompositions of temporary contracts. Finally the section five concludes.

## 2. DATA AND DESCRIPTIVE STATISTICS:

### 2.1. The European Social Survey:

The data used in this study are from the first wave of the European Social Survey (henceforth ESS). The sample counts 42.359 questioned individuals on the whole and will be used on 19 countries (Austria, Belgium, Switzerland, Germany, Denmark, Spain, Finland, France, United Kingdom, Greece, Ireland, Iceland, Italy, Luxembourg, Netherlands, Norway, Portugal Sweden and Slovenia). This wave provides more than 500 questions regarding employment, conditions of work, and socio-demographic characteristics of individuals, their couple and their parents. Several questions refer to the methods of the participation in the labour market. In addition, the ESS contains information on individual behaviours and beliefs in the European countries. The study carried out relates to the only active wage-earners (people declaring to practice a remunerated profession and giving the number of working hours) of more than 15 years, that is 37964 observations. In the ESS survey, individuals are questioned on the nature of their employment contract (contract of limited duration or not). Among the wage-earners, a binary variable is defined to give us information about the temporary work. We use several econometric statistical tools that enable us, all things being equal, to establish the explanatory factors of fixed term employment. The endogenous variable is the occupation of a fixed term job in opposition to the employment with unspecified duration considered as situation of reference. The explanatory variables are related to individual and family characteristics of wage-earners.

### 2.2. Some descriptive statistics:

**Table 1 Fixed term contract descriptive statistics**

	Permanent contracts			Fixed term contracts		
	Total	Men	Women	Total	Men	Women
<b>Fixed Term Contracts part in the total paid work</b>	81.5	83.4	79.8	18.5	16.6	20.2
<b>Gender</b>						
Male	49.0			43.2		
Female	51.0			56.8		
<b>Citizenship</b>						
Citizen of the country	95.6	95.4	95.9	95.0	94.9	95.1
Immigrant	4.4	4.6	4.1	5.0	5.1	4.9
<b>Age</b>						
15-24 years	5.4	5.7	5.2	27.9	33.4	23.7
25-34 years	16.8	16.7	16.8	23.2	22.0	24.0
35-44 years	22.4	21.9	22.9	17.0	14.4	19.1
45-54 years	19.0	18.8	19.1	12.4	11.5	13.0
55-65 years	17.1	17.2	17.0	8.9	8.3	9.4
More 65 years	19.3	19.7	19.0	10.6	10.4	10.8
<b>Children</b>						

No child	57.7	60.3	55.4	66.6	76.5	59.0
One child	17.7	16.1	19.2	14.4	10.6	17.3
Two children	17.1	16.3	17.7	12.5	8.6	15.4
Three children or more	7.5	7.3	7.7	6.5	4.3	8.3
<b>Marital status</b>						
Married	59.5	62.7	56.5	38.2	32.9	42.1
Separated/divorced	9.4	7.4	11.2	6.9	5.9	7.6
Widowed	7.6	3.8	11.2	5.2	2.1	7.6
Never married	23.5	26.1	21.1	49.7	59.1	42.7
<b>Domicile description</b>						
Big city	16.4	15.8	17.0	19.5	18.3	20.4
Suburb or outskirts of big city	17.4	17.1	17.6	15.3	16.3	14.6
Town or Small city	29.6	29.7	29.5	30.5	31.2	30.0
Rural area	36.6	37.4	35.9	34.7	34.2	35.0
<b>Highest level of education</b>						
Not completed primary education	2.1	2.1	2.2	3.7	3.7	3.7
Primary or first stage of basic	10.1	10.4	9.7	11.2	10.6	11.6
Secondary Education	66.0	64.7	67.2	64.4	66.7	62.8
Tertiary Education : first stage	15.8	16.2	15.4	14.4	13.1	15.4
Tertiary Education : second stage	6.0	6.6	5.5	6.3	5.9	6.5
<b>Classification Nace</b>						
Agriculture, hunting and fishing	2.1	2.5	1.6	4.5	4.9	4.3
Extractives and manufacturing industries	6.5	5.7	7.2	5.2	4.2	6.0
Other manufacturing industries	10.1	14.5	5.8	6.3	9.3	4.0
Manufacturing of electrical and transport	4.8	6.7	3.0	3.5	5.7	1.9
Construction and Electricity supply	7.5	13.2	2.0	7.3	15.0	1.4
Trade, hotels and restaurants	15.7	12.0	19.3	18.7	16.4	20.4
Transport and financial intermediation	10.4	13.4	7.5	6.6	8.8	5.1
Real Estate, public administration	16.1	17.1	15.1	14.6	16.4	13.2
Education, Health and social work	20.3	9.9	30.5	22.9	11.4	31.4
Social, personal services and household	6.5	5.0	8.0	10.4	7.9	12.3
<b>Countries</b>						
Austria	86.7	86.6	86.9	13.3	13.4	13.1
Belgium	86.0	89.3	81.9	14.0	10.7	18.1
Switzerland	88.8	87.6	89.9	11.2	12.4	10.1
Germany	86.4	85.9	86.8	13.6	14.1	13.2
Denmark	84.5	85.8	83.3	15.5	14.2	16.7
Spain	65.1	70.8	58.0	34.9	29.2	42.0
Finland	72.9	76.2	70.1	27.1	23.8	29.9
France	73.8	78.0	70.0	26.2	22.0	30.0
Great Britain	86.5	85.4	87.4	13.5	14.6	12.6
Greece	77.7	83.4	72.1	22.3	16.6	27.9
Ireland	77.1	77.7	76.6	22.9	22.3	23.4
Island	71.6	75.0	68.9	28.4	25.0	31.1
Italy	81.4	87.1	76.1	18.6	12.9	23.9
Luxembourg	87.9	89.9	85.8	12.1	10.1	14.2
Netherlands	86.0	88.5	83.8	14.0	11.5	16.2
Norway	85.2	86.8	83.5	14.8	13.2	16.5
Portugal	77.8	81.6	75.0	22.2	18.4	25.0
Sweden	78.2	81.3	75.3	21.8	18.7	24.7
Slovenia	79.7	79.1	80.3	20.3	20.9	19.7
<b>Total</b>	21,524	10,558	10,966	4,872	2,103	2,769

Source: ESS 2002-2003

In this paper, temporary work is defined as work covered by either a fixed-term contract or no contract at all. However, permanent work is defined as the form of employment covered by contracts of unlimited duration. The prevalence of both permanent and temporary contracts differs not only across countries but also across genders. In all European countries, two

groups can be distinguished with reference to gendered distribution of temporary contracts: the first group is composed of Austria, Belgium, Switzerland, Germany, Denmark, Great Britain, Italy, Luxembourg, Netherlands and Norway. In this group the proportion of men who hold temporary contract is between 10 and 16%. The second group is composed of the other countries where the same proportion is above 20%. For women, figures are considerably higher, but international differences seem less important except for Spain, Iceland, France and Finland.

For both men and women, several countries have considerable gender difference in temporary contracts (Italy 11 points, France 8 points, Spain 12.8 points and Greece 11.3 points). For the rest of countries this difference is substantially lower. Austria and Germany seem to be the best performing countries with approximately the same proportions of temporary employment between men and women.

For the other characteristics, fixed term contracts seem held often by women generally young, without children and never married. With reference to their education, both temporary and permanent workers have usually a middle level of schooling (secondary education). Finally, relatively to the different branch of activities, women are likely to be employed on fixed term contracts among tertiary activities except for financial intermediation's branch.

### **3 - THE GENDER BASED DETERMINANTS OF FIXED TERM CONTRACTS:**

Basing on this international sample, the determinants of fixed term employment will be analyzed. This approach will allow for capture similarities and differences in the employment of fixed duration between European countries.

Given the qualitative nature of our endogenous variable, the traditional methods of inferences based on linear specifications cannot be adopted. Models with qualitative variables enable in this case to take into account discontinuity of the dependant variables. The explanatory factors selected are the followings: gender, age, the citizenship, the household size, the marital status (with 4 modalities), the number of children (with 4 modalities), the level of education (with 4 modalities), the socioeconomic status (basing on the *General Nomenclature of the Economic Activities in the European Community*) and the geographic location (with 4 modalities).

We use a simple probit model to look at how women perform relatively to men in their employment characteristics as well as institutional ones. Our estimates aim at determining the probabilities of holding either fixed term contract or a permanent contract for both men and women, controlling for a number of individual and job characteristics. We present results in table 2.

**Table 2: Socio demographic determinants of fixed term contracts by gender**

	ALL		MEN		WOMEN	
	Coeff.	t-test	Coeff.	t-test	Coeff.	t-test
Constant	1.633	11.34***	1.681	7.96***	1.731	8.75***
Gender: female	0.123	5.68***				
Age	-0.069	-18.40***	-0.077	-13.77***	-0.063	-12.22***
Age squared (/100)	0.052	13.91***	0.061	10.97***	0.046	8.83***
Citizen of the country	-0.129	-2.20**	-0.159	-1.82*	-0.103	-1.28
Born in the country	-0.094	-2.37**	-0.062	-0.99	-0.121	-2.35**
Household size	0.052	4.90***	0.056	3.75***	0.048	3.11***
<b>Marital status</b>						
Married	Ref.		Ref.		Ref.	
Separated/divorced	0.165	4.36***	0.264	4.26***	0.097	1.99**
Widowed	0.124	2.59***	0.056	0.60	0.151	2.57***
Never married	0.224	7.36***	0.261	5.60***	0.213	5.19***
<b>Children</b>						
No child	Ref.		Ref.		Ref.	
One child	-0.115	-3.72***	-0.177	-3.52***	-0.058	-1.45
Two children	-0.182	-4.86***	-0.288	-4.83***	-0.088	-1.78*
Three children or more	-0.170	-3.19***	-0.298	-3.51***	-0.062	-0.88
<b>Highest level of education</b>						
Not completed primary education	Ref.		Ref.		Ref.	
Primary or first stage of basic	-0.238	-3.64***	-0.310	-3.13***	-0.180	-2.03**
Secondary Education	-0.399	-6.32***	-0.458	-4.85***	-0.345	-4.02***
Tertiary Education : first stage	-0.480	-7.08***	-0.551	-5.43***	-0.428	-4.64***
Tertiary Education : second stage	-0.345	-4.59***	-0.431	-3.84***	-0.269	-2.63***
<b>Classification Nace</b>						
Agriculture, hunting and fishing	Ref.		Ref.		Ref.	
Extractives and manufacturing industries	-0.519	-7.58***	-0.418	-4.10***	-0.669	-6.96***
Other manufacturing industries	-0.634	-9.56***	-0.478	-5.33***	-0.796	-7.76***
Manufacturing of electrical and transport	-0.567	-7.61***	-0.365	-3.71***	-0.814	-6.77***
Construction and Electricity supply	-0.453	-6.79***	-0.251	-2.90***	-0.763	-5.65***
Trade, hotels and restaurants	-0.490	-7.97***	-0.337	-3.80***	-0.665	-7.52***
Transport and financial intermediation	-0.607	-9.17***	-0.414	-4.56***	-0.807	-8.09***
Real Estate, public administration	-0.455	-7.32***	-0.244	-2.79***	-0.673	-7.40***
Education, Health and social work	-0.272	-4.45***	-0.029	-0.32	-0.487	-5.59***
Social, personal services and household activities	-0.155	-2.36**	-0.023	-0.24	-0.327	-3.55***
<b>Domicile description</b>						
Big city	Ref.		Ref.		Ref.	
Suburb or outskirts of big city	-0.022	-0.64	0.003	0.06	-0.041	-0.87
Town or Small city	0.033	1.08	0.055	1.18	0.017	0.41
Rural area	0.008	0.27	-0.003	-0.07	0.012	0.30
<b>Countries</b>						
Austria	-0.116	-1.88*	-0.065	-0.71	-0.163	-1.93*
Belgium	-0.115	-1.73*	-0.283	-2.87***	0.031	0.34
Switzerland	-0.205	-3.25***	-0.121	-1.32	-0.286	-3.27***
Germany	-0.003	-0.06	0.055	0.66	-0.061	-0.78
Denmark	Ref.		Ref.		Ref.	
Spain	0.598	9.41***	0.448	4.89***	0.738	8.25***



Finland	0.377	6.60***	0.300	3.52***	0.437	5.64***
France	0.318	4.68***	0.233	2.30**	0.378	4.12***
Great Britain	-0.014	-0.23	0.068	0.78	-0.081	-1.00
Greece	0.261	4.02***	0.074	0.76	0.391	4.43***
Ireland	0.225	3.65***	0.240	2.60***	0.209	2.51**
Island	0.342	5.40***	0.267	2.80***	0.396	4.63***
Italy	0.117	1.52	-0.135	-1.13	0.280	2.76***
Luxembourg	-0.363	-4.56***	-0.396	-3.38***	-0.348	-3.18***
Netherlands	-0.027	-0.45	-0.097	-1.08	0.023	0.29
Norway	-0.046	-0.77	-0.101	-1.14	0.001	0.01
Portugal	0.210	3.12***	0.149	1.44	0.247	2.77***
Sweden	0.149	2.53**	0.063	0.73	0.228	2.85***
Slovenia	0.240	3.70***	0.290	3.04***	0.190	2.13**
Number of observations	25354		12189		13165	
Number of Fixed-term contract	4874		2103		2769	
Log likelihood	-10518.775		-4635.689		-5817.939	
Pseudo R2	0.1315		0.150		0.122	

Reported coefficients are estimated with a Probit model. The population is composed by dependant workers aged 15 years and more. The significance levels are respectively equal to 1% (\*\*\*), 5% (\*\*) and 10% (\*).

Source: ESS 2002-2003

The table above summarises the gendered socio-demographic determinants of fixed term employment in 19 European countries. Temporary employment appears to be more feminized (Dolado et al., 2002; Booth et al., 2002; Petrongolo, 2004). The difference between men and women regarding temporary employment can arise from a female specific behaviour. The women seem more inclined to work at given duration: this tendency can result from a propensity of women who passed towards the public and non-market sector (Booth et al, 2002; Lazear and Rosen, 1990). They seem more frequently to be self-selected in temporary employment whose finality does not consist with a filtering or a probationary period.

Another explanation can be associated with the types of employment traditionally occupied by women. The remunerated activities, characterized by a relatively important proportion of women, are those where non-permanent employment is developed the most. This structural effect linked to the permanent employment could allow for explaining this difference. Beyond these explanations, with equal endowments and identical behaviours, unexplained factors can be at the origin of this difference. Taking into consideration the kinds of security, this situation can reduce the employment stability for women, possibly that of work, their income security, but it can contribute positively to their combined security, in particular when it is the case of a choice. Nevertheless, the importance of the national context should be stressed.

Temporary employment appears conversely connected with the age: the profile of this last variable takes an inverted U-shaped. However, the minimum is around 66 years for total, 63 years for men and 68.5 years for women. This form of employment also concerns mainly the youth (Gash and McGinnity, 2007). Concerning gender difference, decreasing effect of age on probability of working temporary is less fast for women than men. Citizenship affects

negatively the probability of being employed on a temporary form only for men, whereas to be born in country reduce this probability simply for women. Household size increases temporary employment especially for men.

Moreover, the marital status affects negatively the probability of working in fixed term contract. Excepted when they are widowed, men work more frequently than women in temporary employment when they are not married or separated. Conversely, women often hold temporary contracts when they are married. The marriage reduces the probability to be employed in a fixed-term contract form, especially for men.

Alternatively, the presence of children is conversely connected with the probability of being in a fixed term contract, principally for men. For them, the presence of at least one child can be perceived like a signal favourable to a more stable contractual form for an employer. This effect appears less striking for women.

The level of education appears highly significant for the probability of being in fixed duration contract. The absence of diploma in particular or a primary level of education supports the possibility of having a temporary activity (Dolado and al., 2002). This effect is more pronounced for men compared to women.

For the economic activities, European Social Survey utilizes the general Nomenclature of the Economic activities in the European Communities (NACE). Temporary employment appears to be associated with agriculture, hunting and fishing, reflecting a rather seasonal employment. Being in a fixed term contract appears to be related with education, health and social work. A similar tendency appears in the Community, Social and Personal Service's sector, cultural activities and sporting and activities of households. In Europe, temporary employment is relatively important in the services, food industries and the construction. Conversely, the probability of being in a non-permanent job is lower in manufacturing industries, transport and communications, financial intermediation.

Finally, the probability of being employed on a temporary basis is higher for women compared to men in several countries: in Belgium, in Spain, in Finland, in France, in Greece, in Island, in Italy, in Luxembourg, in Portugal and in Sweden. Conversely, in Austria, in Switzerland, in Ireland and in Slovenia, women are less frequently in temporary job. Such differences can arise from cultural and institutional differences between European countries, as well as from national employment legislation.

Furthermore, estimates from a probit specification allowed us to explain gender differences in observable characteristics, but one can not determine precisely their explicability power and thus the length of the unexplained component. So, we go one step further by decomposing

gender difference in order to delimitate the explicability power of the observable and the unobservable components.

#### 4. DECOMPOSING GENDER DIFFERENCES IN FIXED TERM CONTRACTS:

*4.1. Decomposing differences in the probability of being employed on a fixed term contract*

We define a dummy variable  $W_i$  which is equal to one when the employee is currently employed on a fixed term contract and to 0 (when he works on a permanent contract). We estimate the probability  $\Pr(W_i = 1)$  using a simple Probit model such that:

$$\Pr(W_i = 1) = \Phi(\delta'Z_i + \gamma'O_i) \quad (1)$$

With  $Z_i$  is a set of variables related to the child (including educational attainment) and  $O_i$  picks up individual and institutional variables, and  $\delta$  and  $\gamma$  are the corresponding vectors to estimate. We are now interested in understanding whether differences between (men and women stem from differences in observable characteristics or from differences in the returns to these characteristics) men and women stem from differences in observable characteristics or from differences in the returns to these characteristics (which is hence linked to gender discrimination). Let  $J$  be a variable indexing the two gendered groups, with  $J = 1$  for men,  $J = 2$  for women. In what follows, we seek to compare respectively  $\Pr(W_{i,1})$  and  $\Pr(W_{i,2})$ .

In the case of a continuous dependent variable, the appropriate methodology is to rely on Oaxaca-Blinder decomposition (Oaxaca and Ramson, 1994). However, the problem is more complex in our setting as the work status is a binary choice. We then choose to rely on the original approach proposed by Yun (2004), which provides a method to decompose differences in the first moment. Suppose that we are interested in the difference  $\Pr(W_{i,1}) - \Pr(W_{i,2})$ . By definition, we have  $\Pr(W_{i,1} = 1) = \Phi(\delta_1'Z_{i,1})$  and  $\Pr(W_{i,2} = 1) = \Phi(\delta_2'Z_{i,2})$ . It follows that:

$$\bar{P}_1 - \bar{P}_2 = [\overline{\Phi(\delta_1'Z_{i,1})} - \overline{\Phi(\delta_2'Z_{i,1})}] + [\overline{\Phi(\delta_2'Z_{i,1})} - \overline{\Phi(\delta_2'Z_{i,2})}] \quad (2)$$

Where  $\bar{P}_1$  and  $\bar{P}_2$  are the mean probabilities of being in fixed-term contract respectively for men and women. According to (2), we construct a fictitious group of workers who have the same characteristics than men (the advantaged group), but the returns to these covariates are those of women (disadvantaged group). Importantly, the first term in brackets in (2) measures

differences in returns to covariates (discrimination), while the second term in brackets sheds light on differences in characteristics.

*4.2. Differences in the probability of being in a fixed term contract*

Two decompositions are presented here. In the first, we use the following variables: the age, the age squared, the citizenship, being born in the country, marital status, the presence of children, the level of education, the house localisation, and dummies for each country. For the second decomposition, we add variables relative to the Nomenclature of Activities. The two decompositions enable us to understand the influence of the professional activity on the probability of being on a fixed term contract.

Following the first decomposition, the average probability of being in a temporary employment is about 16.6% for men and 20.1% for women. The mean difference is so 3.5% which shows that women are more likely to be employed on temporary contracts.

On average, the component relative to the endowments (0.0044) is lower than that associated with the coefficients (-0.0408). The difference relative to the endowments is positive. It justifies a lower probability of working temporarily for women if we take into account only of their observable characteristics. The endowments reduce by approximately 13% the difference in the probability of being in fixed term contract for women. Conversely, the gender difference in the unobservable characteristics is negative. Between the two groups, the decomposition of the coefficients explains approximately 116% of the difference. The unobservable characteristics of men explain their greater average probability to be in a permanent position.

Albeit it is more closely related to discrimination, one has to keep in mind that the regression includes only individual characteristics. With more information on both individual and institutional characteristics, the role of gender discrimination would certainly be lessened.

**Table3: decomposing differences in the probability of being in a fixed term contract for men and women**

	Coefficient	t-test	P> t	95% Confidence interval	
Endowments	0.00445	2.33	0.020	-0.000711	0.008189
Coefficients	-0.04076	-7.54	0.000	-0.051361	-0.030170
Interaction	0.00131	0.68	0.497	-0.002476	0.005107
Difference	-0.03500	-7.28	0.000	-0.044422	-0.025578

The number of observation is 25927 with 12433 men and 13494 women.  
Source: ESS 2002-2003

If we integrate the nomenclature of occupations in the regressions and the decomposition (table 4), the average probability to be in temporary employment is reduced by approximately 16.5 % for men against an increase with nearly 20.2% for women. The difference between these average probabilities becomes 3.7%. The choice of the branch of industry contributes to the increase of the differences associated with the contractual form according to the sex.

The difference between the observable characteristics became negative (-0.014), but it remains lower than that associated with the coefficients (-0.025). The component relating to the observable characteristics contributes to explain, for men, a higher probability to be in a permanent job when we take into account the gender distribution of occupations. The observable characteristics of women explain 38% of the difference. Nevertheless, more of two thirds of this variation appear unexplained. While integrating the distribution of the professional activities, the unobservable characteristics account for approximately 68% of the gender difference in the probability of being in a fixed term job.

**Table 4: Decomposing difference in the probability of being in a temporary contract for men and women taking into account professional activities**

	Coefficients	t-test	P> t	Confidence Interval 95%	
Endowments	-0.014252	-3.11	0.002	-0.023236	-0.005267
Coefficients	-0.025241	-4.67	0.000	-0.035830	-0.014653
Interaction	0.002431	0.59	0.554	-0.005621	0.010482
Difference	-0.037062	-7.62	0.000	-0.046601	-0.027524

The number of observation is 25358. It consists of 12191 men and 13167 women.  
 Source: ESS 2002-2003

The branch of industry contributes to explain a part of the gender differences with reference to the **occupied contractual form**. Indeed, with respect to the nature of their activities, certain branches of industry lead them to use frequently temporary contract to respond the conjunctural evolution of their demand as well as their productive capacity. At the same time, these sectors are likely to recruit female workforce because women seem more appropriate for some jobs especially in the tertiary sector.

Beyond the individual characteristics, controlling for the branch of industry allow only partially for explaining the differences in between men and women regarding the held contractual form. Other elements could be required to explain the gender differences.

The labour market regulation seems to perpetuate the other forms of gender inequality linked to education, homework sharing or even temporal flexibility. In addition, fixed term contracts are often associated with the part-time schedules for mothers and it is viewed as an accommodation where new mothers sacrifice career advancement for more time to devote to child care. From another side, the employment protection legislation could be unfavourable for female permanent employment, especially the youth, by protecting mainly middle age men (OECD 2004). Finally, some European countries support female temporary employment through different incentives regarding social protection and unemployment benefits.

## **CONCLUSION**

Our paper provided detailed evidence on gender employment segregation in Europe using data from the European Social Survey. Our estimates show that women are over-represented in temporary jobs in most European countries, where institutional features of these jobs as well as individual characteristics may be an important factor of gender discrimination. In particular, we show that southern countries gender differences appear more striking while central and northern Europe show more balanced gender gap.

Furthermore, we find that the marital status affects negatively the probability of working in fixed term contract where single men work more frequently than women in temporary employment while women often hold temporary contracts when they are married. Alternatively, the presence of children is conversely connected with the probability of being in a fixed term contract, principally for men.

The level of education appears highly significant for the probability of being in a fixed duration contract for the two groups. For the economic activities, temporary employment is relatively important in tertiary branches of activities. The probability of being employed on a temporary job is higher for women compared to men in southern countries.

Decomposing gender difference in employment contracts allow us to such difference between men and women regarding temporary work. The endowments reduce by approximately 13% the difference in the probability of being in fixed term contract for women. Conversely, the gender difference in the unobservable characteristics is negative. Between the two groups, the decomposition of the coefficients explains approximately 116% of the difference. The unobservable characteristics of men explain their greater average probability to be in a permanent position. Albeit it is more closely related to discrimination, one has to keep in mind that the regression includes only individual characteristics. With more information on

both individual and institutional characteristics, the role of gender discrimination would certainly be lessened.

Beyond the individual characteristics, controlling for the branch of industry allow only partially for explaining the differences in between men and women regarding the held contractual form. Other elements could be required to explain the gender differences. Indeed, the labour market regulation seems to perpetuate the other forms of gender inequality linked to education, homework sharing or even temporal flexibility. In addition, fixed term contracts are often associated with the part-time schedules for mothers and it is viewed as an accommodation where new mothers sacrifice career advancement for more time to devote to child care.

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