THE WAGE EFFECTS OF FIXED-TERM CONTRACTS

Paola Naddeo

1. Introduction

In most European countries, for a long time in the public sector and at least in large private enterprises (LPEs) the rules governing employment relationships have been based on permanent contracts. In recent years in Europe, however, there has been a shift towards the flexibilization of working conditions with a rise in fixed-term contracts and other atypical forms of job contracts.

There are various reasons for this shift: in the private sector, for example, the technological changes that require constantly new skills (or that cause the obsolescence of older workers' skills) and the need to respond better to the economic cycle; in the public sector also budget constraints and the limits imposed on hiring decisions. Moreover, many countries, such as Spain, France, Italy, Portugal and Germany, have used fixed-term contracts as a way to reduce firing costs and thus reduce unemployment rates (during the 1990s) without losing the support of insider workers (Saint-Paul, 2004).

According to the compensation theory (Mincer, 1958) or the equalizing theory (Rosen, 1986), in a pure competitive market one should observe that permanent workers receive wages lower than those of their colleagues with fixed-term contracts who have equal characteristics so as to compensate for the lower probability of losing their jobs.

Instead, many studies have shown the existence in all countries of a substantial permanent contract wage gap[1], i.e. higher earnings for permanent workers than for workers with fixed-term contracts (see, for example, Comi and Grasseni, 2012; da Silva and Turrini, 2015).

This is true also in European countries where the Council Directive 1999/70/EC requires that "*in respect of employment conditions, fixed-term workers shall not be treated in a less favourable manner than comparable permanent workers solely*

[1] According to the mainstream literature, we use the expression 'wage gap' to denote the raw difference in average earnings between permanent and fixed-term workers, and 'wage premium' to denote the residual difference after correction for the explained part of this difference due to differences in human capital and employment characteristics.

because they have a fixed-term contract or relation unless different treatment is justified on objective grounds".

Comi and Grasseni (2012) quote several possible explanations for this phenomenon, inter alia the reduced investment in firm specific training, or the explanations provided by no-competitive theories such as insider – outsider theory developed by Lindbeck and Snower (2002).

Besides lower wages, workers with fixed-term contracts experience lower job satisfaction and work-related training. Moreover, they seem to have fewer career opportunities. Many empirical studies have addressed the problem of whether a fix-term job can be considered a 'stepping stone' or a 'dead end' (Booth, Francesconi, Frank, 2002).

This paper uses a database hitherto not widely used - Eurostat's *Structure of Earnings Survey* (SES) - to provide new insights in the analysis of the permanent contract wage premium. In fact, these data have already been utilised to analyse earning differences between permanent and fixed-term employees by Magda and Potoczna (2014), Ramos, Sanromá and Simón (2014), and da Silva and Turrini (2015).

In the following analysis we consider the five largest European countries (Italy, France, Germany, Spain and the United Kingdom) and concentrate mainly on monthly earnings. There are two main reasons for this choice: a) the workers' objective function considers total earnings and not the wage ratio; b) also Eurostat considers monthly earnings (in the month of October). Hourly earnings are obtained as the ratio between monthly earnings and monthly working hours; hence if working hours are not estimated correctly, also hourly earnings are not reliable (for example, there are problems with the correct measurement of working time for the education sector in Italy). Conversely, we are aware that in many cases earnings are a function of working hours, so that it may be more correct to consider the hourly earnings. But the opposite also holds: there are cases in which the monthly wage is fixed independently by the length of the working time. Hence the best solution should be to consider both simultaneously. Consideration of monthly earnings limits the analysis to full-time workers.

Finally we consider the public and private sectors separately; and for the latter we present the results also for LPEs, i.e. private firms with more than 250 employees, generally characterized by a high presence of trade unions.

2. The empirical framework

In this paper we analyse the differences in earnings for permanent and fixed-term employees following most of the empirical literature in considering a

decomposition of the public-private earning gap derived mainly along the lines of the Oaxaca-Blinder specification. This approach allows estimation of the part of the observed gap that can be explained by observed differences between workers (i.e. where different outcomes are explained by group differences in endowments and structural characteristics), and a residual, unexplained, part that has been variously labelled as the "premium", the residual advantage to be employed in a certain job, the discriminatory gap, and so on. Clearly, this unexplained part may depend on unobserved characteristics of workers and jobs that are not possible to consider.

The empirical literature has observed that the Oaxaca-Blinder results could be corrected to take into account the problem of selection bias or to overcome the problem of comparability. These problems have been highlighted in the case of the gender pay gap (see, for example, for the former, Heckman, 1979, and, for the latter, Ñopo, 2008). For our case they mean that workers who get a permanent job could have some specific characteristics that differentiate them from fixed-term employees, or some jobs could exist only with fixed-term (or permanent) contracts, so there is no sense in comparing the earnings of the workers employed in them.

The wage equations, for permanent and fixed-term employees, are the traditional Mincer equations:

$lnW\_i=\beta\_i X\_i+\epsilon\_i$

where:

$W=$ wages

$X=$ a vector containing the characteristics of workers and a constant term

$\beta=$ a vector containing the slope parameters and the intercept

I stands for permanent (*A*) or fixed-term (*B*) employees.

The difference between permanent and fixed-term employees average wage is:

$R = E(lnW_A) - Eln(W_B) = E(X_A)'^{\beta_A} - E(X_B)'\beta_B$

Let β^*be a non-discriminatory coefficient vector (that can be used to determine the contribution of the differences in the parameters); the previous equation can be expressed as:

$$R = \{E(X_A) - E(X_B)\}'\beta^* + \left\{E(X_A)'^{(\beta_A-\beta^*)} + E(X_B)'(\beta^* - \beta_B)\right\} = Q + U$$

where

$Q=\{E(X_A) - E(X_B)\}'\beta^*$ is the outcome differential explained by group differences in the variables, and

$U=\left\{E(X_A)'^{(\beta_A-\beta^*)} + E(X_B)'(\beta^* - \beta_B)\right\}$ is the unexplained part.

The unexplained part is usually attributed to discrimination or premium (the former term may be considered the discrimination in favour of group A, the latter the discrimination against group B), but it may obviously also reflect the effects of unobserved variables.

3. The data

In what follows we rely on the most recent wave of the *Structure of Earnings Survey* (SES), referring to 2010.

As often happens, the choice of a particular dataset has pros and cons. The main shortcomings of SES data are the inclusion of information only on employed workers (not on the rest of population) and the absence of any information on work histories. Their most important advantage is that SES provides, for each country, harmonised information on a much larger number of employees than other sources and this enables more correct comparisons between countries. The data concern the level of remuneration, the individual characteristics of employees (gender, age, occupation, job tenure, etc.) and of their employers (economic activity, size, location and the proprietary form, public or private), for almost all sectors of economic activity, except for NACE classification A (Agriculture, forestry and fishing), T (Activities of households as employers; undifferentiated goods - and services - producing activities of households for own use) and U (Activities of extra-territorial organisations and bodies). Moreover the inclusion of employers belonging to sector O (Public administration and defence; compulsory social security) of the NACE classification is optional. The SES generally does not cover micro-enterprises. Indeed, as indicated by Eurostat, "*the inclusion of enterprises with fewer than 10 employees … is optional*".

As stated by Eurostat (2010) SES data are "*collected from tailored questionnaires, existing surveys, administrative sources or a combination of such sources, which provide the equivalent information*". This careful validation activity of the data should enable the SES to provide more reliable data than other database.

Moreover, the present analysis excludes young workers (aged under 20) and workers for which there is ambiguity about the size or the proprietary form (public or private) of their establishments.

All the data presented in this paper are weighted for the *grossing-up factor* for employees indicated in the database[2].

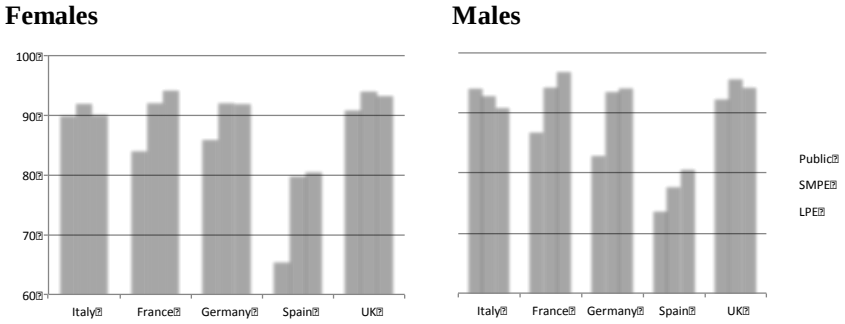
4. The main results

The data show, somewhat surprisingly, that recourse to fixed-term contracts is greater in the public sector than in the private one, independently of whether the latter concerns large private enterprises or small and medium-sized ones (Figure 1).

[2] Eurostat provides directly the grossing-up factor for each employee. For major details see *Structure of Earnings Survey 2010, Eurostat's arrangements for implementing the Council Regulation 530/1999, the Commission Regulations 1916/2000 and 1738/2005*, Eurostat, 24.10.2010.

Generally, the share of employees with permanent contracts is higher for males than females, although the differences are not very large.

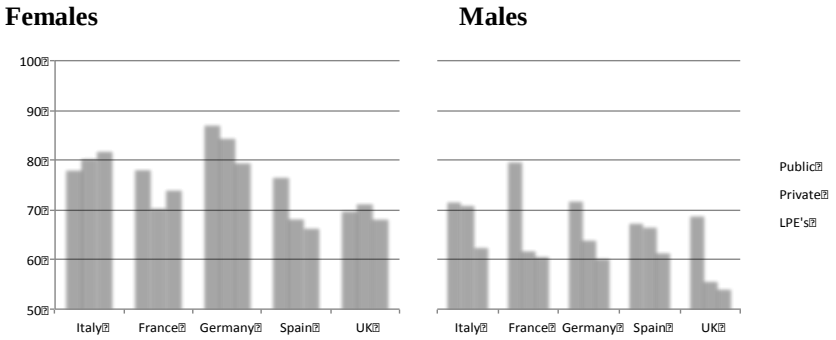
Figure 1 – *Share of employees with a permanent contract by gender and type of enterprises*



Source: Elaboration on Eurostat data, Structure of Earnings Survey (SES), 2010

The raw data show the existence of very large differences between the average monthly earnings of permanent and fixed-term employees (Figure 2). This is particularly the case of males. It is not clear why women are less disadvantaged by a fixed-term contract. One could argue that the introduction of flexible types of employment contract is still a recent phenomenon, and that it concerns especially younger workers, who are characterized by reduced differences in earnings by gender, so that the observed differences in earnings by type of employment contract is an effect of the high gender wage gap for older workers.

Figure 2 – *Ratio between the monthly earnings of fixed-term employees and the monthly earnings of permanent employees*



Source: Elaboration on Eurostat data, Structure of Earnings Survey (SES), 2010

Generally, the differences are larger in the private sector than in the public one. A possible explanation may be the stronger role of trade unions in the public sector. They are able to reduce differences in earnings among employees, also those with different types of employment contract.

Starting from these findings, we have used the Oaxaca-Blinder decomposition method to estimate the extent to which they are due to the differences in the endowment of characteristics and the extent to which they are due to unexplained components (or discrimination).

Table 1 – *Wage gap by type of employment contract (monthly earnings) – males and females*

	Italy	France	Germany	Spain	UK
			Total		
Difference	0.304	0.218	0.334	0.196	0.237
Explained	0.154	0.131	0.152	0.144	0.110
Unexplained	0.150	0.087	0.181	0.053	0.126
			Public		
Difference	0.279	0.181	0.154	0.213	0.076
Explained	0.104	0.075	0.019	0.105	0.026
Unexplained	0.174	0.106	0.136	0.107	0.050
			LPEs		
Difference	0.416	0.303	0.457	0.279	0.423
Explained	0.269	0.298	0.239	0.230	0.230
Unexplained	0.147	0.005*	0.218	0.049	0.192
			Private		
Difference	0.317	0.259	0.409	0.228	0.343
Explained	0.183	0.241	0.211	0.187	0.176
Unexplained	0.134	0.017*	0.197	0.041	0.167

** Not statistically significant*

Source: Elaboration on Eurostat data, Structure of Earnings Survey (SES), 2010

When we consider monthly earnings we see that the apparent difference is lower in the public sector and higher for the LPEs (Table 1). In some cases, for example Germany and the UK, the differences are very marked, respectively 0.154 log point vs. 0.457 log point and 0.076 log point versus 0.423 log point.

Conversely the LPEs register the higher values for the explained component; as a result of the combination of the greater apparent differences and the higher explained components, we observe that not always is the type of contract wage premium higher in the LPEs. Indeed the value for LPEs tends to be closer to the one recorded for the private sector as a whole, and lower than that for the public sector in Italy, France and Spain. In France the differences in earnings between permanent and fixed-term employees tend to be null.

We obtain similar results when we consider hourly earnings instead of monthly earnings (Table 2). The only notable differences concern Italy, where the unexplained component of the wage gap between permanent and fixed-term

contracts becomes very small. One possible explanation of the differences in the results for Italy may be underestimation of working time in the Education sector for public employees with a consequent overestimation of the hourly earnings. This sector is characterized in Italy by a high incidence of fixed-term contracts, especially for civil servants.

Table 2 – *Wage gap by type of employment contract (hourly earnings) – males and females*

	Italy	France	Germany	Spain	UK
			Total		
Difference	0.250	0.202	0.338	0.194	0.231
Explained	0.161	0.119	0.158	0.144	0.104
Unexplained	0.089	0.083	0.180	0.049	0.126
			Public		
Difference	0.139	0.179	0.160	0.211	0.076
Explained	0.108	0.077	0.024	0.111	0.018
Unexplained	0.031	0.102	0.136	0.100	0.058
			LPEs		
Difference	0.424	0.295	0.462	0.286	0.430
Explained	0.280	0.277	0.245	0.240	0.242
Unexplained	0.144	0.018*	0.217	0.046	0.188
			Private		
Difference	0.301	0.247	0.411	0.235	0.343
Explained	0.186	0.228	0.217	0.197	0.183
Unexplained	0.116	0.019*	0.194	0.038	0.160

** Not statistically significant*

Source: Elaboration on Eurostat data, Structure of Earnings Survey (SES), 2010

Table 3 – *Wage gap by type of employment contract (monthly earnings) – females*

	Italy	France	Germany	Spain	UK
			Total		
Difference	0.233	0.174	0.239	0.110	0.104
Explained	0.118	0.094	0.084	0.063	0.043
Unexplained	0.115	0.080	0.155	0.047	0.062
			Public		
Difference	0.248	0.180	0.140	0.160	0.058
Explained	0.098	0.061	0.058	0.102	0.013*
Unexplained	0.150	0.119	0.082	0.058	0.045
			LPEs		
Difference	0.299	0.205	0.329	0.235	0.252
Explained	0.231	0.238	0.132	0.196	0.153
Unexplained	0.068	-0.033*	0.198	0.039	0.099
			Private		
Difference	0.238	0.168	0.302	0.195	0.173
Explained	0.157	0.192	0.121	0.148	0.105
Unexplained	0.081	-0.023*	0.181	0.047	0.068

** Not statistically significant*

Source: Elaboration on Eurostat data, Structure of Earnings Survey (SES), 2010

When we limit our attention to the female component of the labour force, we observe patterns similar to those that characterize employment as a whole, although

the observed and the unexplained gaps tend to be smaller than in the previous case (Table 3).

These results also hold for hourly earnings (Table 4).

Table 4 – *Wage gap by type of employment contract (hourly earnings) – females*

	Italy	France	Germany	Spain	UK
			Total		
Difference	0.180	0.167	0.245	0.100	0.114
Explained	0.131	0.088	0.089	0.058	0.042
Unexplained	0.049	0.080	0.156	0.042	0.072
			Public		
Difference	0.156	0.181	0.148	0.161	0.066
Explained	0.149	0.063	0.062	0.110	0.014*
Unexplained	0.007*	0.117	0.085	0.051	0.052
			LPEs		
Difference	0.317	0.210	0.334	0.238	0.278
Explained	0.239	0.223	0.136	0.204	0.157
Unexplained	0.078	-0.014*	0.198	0.034	0.120
			Private		
Difference	0.240	0.170	0.307	0.202	0.192
Explained	0.163	0.183	0.126	0.158	0.109
Unexplained	0.077	-0.014*	0.181	0.044	0.082

** Not statistically significant*

Source: Elaboration on Eurostat data, Structure of Earnings Survey (SES), 2010

5. Conclusions

The results of our analysis are not unequivocal. In general, they show the presence of a positive and unexplained wage premium for permanent employees with respect to fixed-term ones. The only partial exceptions are represented by private employees in France and by public employees in Italy, when we consider hourly earnings.

In some countries, Italy (in the case of hourly earnings), Germany and the UK, fixed-term employees are relatively better off in the public sector compared to permanent employees; in the other cases the opposite holds.

The most striking result of our analyses is that the endowment of characteristics largely explains the observed gap in the private sector especially for the LPEs, while in the public sector the explained part of the differences in earnings between permanent and fixed-term employees is very small. In other words, it seems that in the public sector the differences between the two types of workers are very limited; by contrast, in the private sector (especially in the LPEs) there are very large differences between fixed-term and permanent workers.

Although further analysis is required, we can advance the hypothesis that in the public sector the recourse to permanent contracts is mainly driven by budget

constraints, i.e. the firing freeze; in the private sector (and especially for the LPEs) the recourse to fix-term contracts may be explained by productive reasons, in the sense that there are specific and differentiated positions for temporary employees. In other words, in the private sector the possession of high skills is, in many cases, a precondition for access to better jobs, i.e. jobs with permanent contracts.

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SUMMARY

The Wage Effects of Fixed-Term Contracts

The aim of the paper is to show the existence of a wage premium for employees on open-ended contracts with respect to employees on fixed-term contracts in five selected countries (Italy, France, Germany, Spain and the UK). Using an Oaxaca-Blinder decomposition model, we show that, although in the public sector the apparent wage gap is lower than in the private sector, and particularly in regard to large private enterprises, the unexplained part of this premium tends to be higher in the public sector especially in countries like France, Spain and Italy when we consider monthly earnings. Although further analysis is required, it is possible to advance the hypothesis that there exist two different models of recourse by the public and private sectors to fixed-term contracts.

Paola NADDEO, Istat, naddeo@istat.it