Does Union Membership increase Job Security? Evidence from British Panel Data

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Abstract

Why do workers join Union? Union wages are available to all workers, regardless of their Union membership status. Recent literature stressed the role of Unions in providing excludable employment security to their members, by enforcing higher firing cost. Using BHPS panel data, we'll test the hypotheses that: i) Union Membership reduces involuntary layoff/dismissal; ii) Union Members increase the probability and the amount of a severance payment upon dismissal.I found that Union Membership reduced firing probability by 50% (from 7 to 3.5%) and increases received severance pay by roughly two month of pre-displacement wage.

JEL: J00, J08, J33, J50, J51, J52, J53, J63, J64, J65, J83. Keywords: Labor Market , Trade Unions, Dismissal Conflicts, Employment Protection, Severance Pay .

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Introduction

Why is better to belong to a Trade Union?
Non Trade Union Members are twice as likely
to be sacked as members

From GMB - Britain's General Union' website

Last year unions won a record 330 million
compensation for their members through legal action.
It's at times like this that members
appreciate the value of their union card.

from TUC -British Trade Union Confederation webpage

Aside of the closed shop case, benefits bargained by Unions (higher wages, most favorable conditions in the work place, etc.) are a public good, available to all workers, regardless of their membership status. While the benefit provided by Unions is non excludable, the individual cost of joining is often considered positive (workers pay a membership fee, possibly face an hostile treatment of the employer, spend time to participate to Union activities such as internal election or other organizational events). Yet, union membership rate, even if decreasing, is still high. In Europe, for instance, closed shops are exceptional and often unconstitutional, Union membership rate is as high as 25%. Therefore the private value of Union Membership has to lie in other excludable services Unions might provide to their members. In this paper I focus on the role of Unions in providing employment security to their members, by increasing expected individual severance payments, and therefore reducing firing probability. By using British data I estimate the impact of union membership on a worker's firing probability, and on the severance pay received upon dismissal.

The idea of Union as a provider of employment protection is not new in economic literature. In Checchi and Lucifora [14] Union Members have a generic higher employment probability. In Jones[28] and Booth[6] the probability of being fired is exogenously lower for an Union Member than for an nonmember, generating a positive private value of Union Membership. Burda[7] and Grossman[24], build models in

which a negative relationship between unemployment risk and union membership is generated in equilibrium. The relation of causality is reverse. Here workers with low probability of lay-off are more willing to join Union, because less likely to be affected ny the downsizing caused by an higher wage.

In virtually all previous literature, the extent to which unions can effectively protect its members from dismissal is always related to the internal organization of the firm, and not to the structure of labor legislation. According to this approach, excluding the case of a *Ghent System* (where unions directly administrate Unemployment Insurance benefits)[1], EPL might act as a "substitute institution" for unions. That is, a stricter EPL has a negative (if any) effect on union density. The relevance of the role of trade unions as a provider of employment protection has been tested. For instance, Checchi and Lucifora[14] find a negative correlation between union Density and the strictness of EPL. In all empirical work, a general index (namely the index provided by OECD) has been used as representative of the strictness of EPL. In reality the legislation in European Countries concerning admissibility of layoff and the magnitude of severance pay is highly complex and subject to discretionary interpretations. Dismissal conflicts between employer and employee are therefore likely to rise, leaving room for unions to act as an enforcement institution. Disputes are often settled through private agreement or legal proceeding. Not only do unions represent the employee in private bargaining procedures or in front of courts, but they often bear the monetary cost of legal actions. Colonna [15] argues that given the complexity of Employment Protection Legislation Trade Unions are able to enforce higher firing cost for their members (by providing legal support or even legal representation), reducing therefore their probability of being dismissed.

A small but growing empirical literature is concerned about the relevance and the outcome of labor disputes. Galdon et Guell[22] study dismissal conflicts in four European countries. They find that the real cost of dismissal has little to do with the traditional strictness of EPL, but it is strictly related to the incidence and outcome of dismissal conflicts. Goerke and Pannenberg[23] reach similar conclusions by analyzing the German system. They find a large heterogeneity in the outcome of dismissal conflicts, revealing "a substantial amount of bargaining in the shadow of employment protection law in Germany". Ichino et al [26], using Italian data, show that in case of firing litigation, judges decisions are strongly biased by the tightness of the labor market, revealing again the large ambiguity determined by the law and the consequent relevance of enforcement mechanisms. By studying dismissal disputes in Ireland and UK, Barnard [2] find that workers are significantly more likely to win a case if legally represented. The inadequacy of traditional EPL indexes for use as indicators of real

[1]Ghent system is very rare in OECD countries. See Holmlund and Lundborg[25] for details and Garibaldi[5] for an analysis of the role of unions in a Ghent system

firing restrictions has been also denounced by Bertola and al.[4], who insist on the relevance of labor disputes in shaping the real rigidities of the labor markets.

In the next section the institutional setting of the British Labor Market. In section 2 BHPS Data will be discussed. In section 3 I will use respectively three different methods (probit, propensity score, and non-linear LATE) to estimate the effect of Union Membership on dismissal probability. Conclusions will be drawn in section 4.

1 UK Institutional Background

Employment Protection Legislation is a complex and heterogenous set of rules and procedures required by the law both at the hiring and firing stage. According to the common law, any contract may be terminated by either party with due notice. Nevertheless dismissed workers are compensated with a statuary severance payment, regardless of the motivation of the dismissal. Dismissed employees are entitled to a severance pay of half a week per year for employment between 18 and 21 year old; 1 week per year (ages 22 to 40) and 1.5 weeks per year (ages 41 to 64). The overall severance pay can not exceed to 30 weeks and 220 per week. However additional week of notice per year of service with 2 years tenure: half a week per year up to a maximum of 12 weeks. of service (ages 18-21); 1 week per year (ages 22 to 40); 1.5 weeks per year (ages 41 to 64), limited to 30 weeks and 220 per week (as of April 1998). However, the common law has been restricted by legislation aimed at preventing unfair dismissal. A dismissal is considered *fair* only if i)related to the employees ability, qualifications or conduct; ii) the employee was redundant (the employer has ceased or intends to cease that business or the requirement of a particular task have ceased).

Therefore a worker can sue employers in labor courts, claiming the dismissal to be in someway "wrongful" and asking for an additional compensation. Compensation can be reinstatement of additional payment up to 56,800, at employer's discretion (compensation is unlimited in case of sex, race or disability discrimination). Dismissal conflicts are dealt in the employment tribunal. The employee has the initial evidentiary burden of proving a dismissal has taken place, then the burden of the proof shifts to the employer. Dismissal conflict are likely to arise in UK. Galdon [22] show that, in the UK, almost one out of three cases of dismissal are brought to court.

The employee can choose a legal representative. In UK more than 50% of employee are represented directly by the legal of the trade union

Both parties often find it convenient to reach a mutual agreement with the employee in order to save the legal cost of a trial. According to a government study, 40% of severance pay exceed legal minima. Ambiguity of the legislation and the consequent discretion left to judges, together with the significant size of monetary

compensation at stake, make the firing cost really heterogenous.

Thus, one might expect union members o be more likely to obtain an higher severance pay upon dismissal. At this point it should be clear why, *Ceteris paribus*, an employer might prefer to fire a non-union member over a union member.

2 Data

3 Unions and Firing Probability

I want to estimate the effect of Union Membership *(M=1)* on the probability of the firing event *(F=1)*. Let's denote with $i = 1, ..., N$ the $i-th$ observation in our sample, with X_i a set of covariates and with $P_M(X_i) = Pr(F(i) = 1|M, X_i)$ the probability of being fired. The final objective of the paper is to consistently some average of treatment effects $TE(X_i) = E(P_1(X_i) - P_0(X_i))$. In the following three section I will use (and discuss) three different methods. First I'll use a simple latent variable model. Possible bias might arise from non-random selection. A first way to tackle the issue is represented by the *propensity score* approach. By comparing *similar* workers, this method (performed in section 3.2) neutralizes the bias generated by the correlation between union membership and observable characteristics. Nevertheless the estimation is still biased by potential correlation between union membership and unobservable characteristics. In Section 3.3 a non liner LATE approach is followed.

3.1 Latent Variable Model

We define a latent variable Y_i as a linear function of covariates and union membership status.

$$Y_i = \beta X_i + \gamma M_i - \epsilon_i \tag{1}$$

$$F_i = 1 \ \textit{if} \ Y_i > 0 \tag{2}$$

where ϵ_i is a zero-mean unobservable component. I assume that ϵ is i.i.d and I denote with $H(\cdot)$ the relative density function. Therefore:

$$Pr(F(i) = 1|M, X_i) = H(\beta X_i + \gamma M_i) \tag{3}$$

$$TE(X_i) = H(\beta X_i + \gamma) - H(\beta X_i) \tag{4}$$

The correspondent maximum likelihood (ML) estimator will maximize

$$Log\mathfrak{L}(F, M, X|\gamma, \beta) = \sum \log H(\beta X_i + \gamma M_i) + (1 - F_i) \log H(\beta X_i \gamma M_i) \tag{5}$$

It is possible to prove that ML estimations of $H(\beta X + \gamma M)$ are unbiased in and only if

Assumption 1.1 $\epsilon \perp X, M$ (6)

In Table 1 I report estimates under both Logit and Probit distributional assumption.

Table 1: **Estimation method 1**

	Probit	*Logit*
Age	-0.0001	-0.0001
Female	-0.0119	-0.0121
Higher Education	-0.0089	-0.0092
Secondary school	-0.0091	-0.0087
White Collar	-0.0176	-0.0183
Intermediate	0.0062	0.0059
Non Private	0.0166	0.0145
Tenure	-0.0041	-0.0048

To ease comparability, I report in both cases marginal effects. In both cases, union membership is estimated to reduce firing probability by less than 2%. Job occupation, education and tenure are other relevant variables. Such strategy yields inconsistent estimates if M_i is not randomly assigned, that is if M_i is correlated with ϵ_i. Theory predicts ambiguous sign for such correlation. On the one hand, theories of Unions as providers of employment security would suggest a negative correlation between M and ϵ. When the risk of dismissal is high (low ϵ), the worker will be more likely to buy employment protection through union membership. Thus, simple ML estimates would underestimates the marginal effect of union membership. On the other hand, if union membership yields a long-term benefit, (such as wage premium, higher probability of promotion, etc.) then the worker will be less likely to join Union when the event of dismissal is more probable. In this case the effect of union membership on dismissal probability would be overestimated. I will use three different method to estimate the bias generated by self-selection

3.2 Propensity Score

A first way to reduce the above mentioned bias is the *Propensity score matching*. The Propensity Score approach builds on the idea that the bias is reduced if one compares *ex-ante similar* individuals. In our case, we should *match* workers that share similar characteristics but union membership. Rosenbaum and Rubin[33] show that, under a key assumption, it is possible to *match* workers on a single variable, the *propensity score*. This would reduce the dimensionality of the problem, allowing for a feasible solution algorithm. Keeping the same notation introduced in the previous section, a model for union membership is introduced.

$$W_i = \alpha X_i - \eta_i \tag{7}$$

$$M_i = 1 \text{ if } W_i > 0 \tag{8}$$

where η is i.i.d. distributed with density function $G(\cdot)$. The propensity score is defined as the ex ante probability of joining union $q(X) = Pr(M = 1|X) = G(\alpha X)$. In this framework Assumption 1.1 can be reformulated as $\epsilon \perp X, \eta$. Membership decisions and firing decision need to be completely independent. By using a *propensity score* approach, Assumption 1.1 can now be relaxed:

$$\textbf{\textit{Assumption 2.1}}\ \epsilon \perp \eta|X \tag{9}$$

It is now required that final outcome (firing) is independent of membership status, once we control for observable variables. In other terms while Assumption 1.1 required union membership to be completely independent of potential outcome, Assumption 2.1 allows final outcome to affect union membership, but only through observable characteristics. Assumption 2.1 is known as Conditional Independence Assumption[2]. Rosenbaum and Rubin[33] show that if Assumption 2.1 hold then $\epsilon \perp \eta|p$. The last result allow the econometrician to obtain an unbiased estimator only by controlling for q.

The estimation algorithm consists of two steps. First, the propensity score $q(X) = Prob(M = 1|X)$ is calculated for each observation using standard discrete response model. Then $q(X)$is used to choose comparison observations. Observing exactly the same q for two observation is basically impossible, therefore we need to compare observation *close enough* [3].

For the first step a simple Probit will be used, and results are reported in Table 5.

[2]Its more general formulation would be $\epsilon \perp M|X$

[3]Different definitions of distance can therefore be used, generating different matching technologies: Nearest Neighbor Matching, Radius Matching, Kernel Matching and Stratification Matching.

Table 2: **Estimation method 2:First stage probit**

			Education		
Age	-0.0000	(0.0005)***	Higher Education	0.0517	(0.0141)
Female	0.0036	(0.0010)**	Secondary school	0.0144	(0.0010)
Industrial Sector			*Firm size*		
Agriculture	-	-	1-2	-	-
Energy	0.5830	(0.0767)	3-9	0.1481	(0.0408)
Minerals & Chemicals	0.4130	(0.0971)	10-24	0.2072	(0.0414)
Metal & vehicles	0.2642	(0.0969)	25-49	0.2485	(0.0429)
Other manufacturing industries	0.3768	(0.0954)	50-99	0.3409	(0.0439)
Construction	0.2078	(0.1019)	100-199	0.3356	(0.0443)
Hotels	0.2056	(0.0886)	200-499	0.4352	(0.0416)
Transport & Communication	0.5184	(0.0848)	500-999	0.4426	(0.0439)
Banking & Finance	0.3441	(0.0949)	>1000	0.4541	(0.0418)
Other services	0.2842	(0.0849)			
Occupation					
White Collar	-0.0869	(0.0140)	Non Private	0.3804	(0.0189)
Intermediate	-0.0147	(0.0128)	Tenure	0.0124	(0.0008)

Not surprisingly, Union Membership is more concentrated in large firms and in the Public Sector. From an individual perspective, seniority increases probability of membership. Remarkably while occupation in white collar jobs reduce propensity to join Unions, high education increases it. The propensity score ranges from 0.000001 to 0.982312 for non- members,and from 0.000002 to 0.991232 for members. Average are respectively 0.22 and 0.29. The common supports goes therefore from 0.000002 to 0.982312, covering 99.99% of observations. Then the whole sample is stratified, that is divided into *balanced*[4] sub-blocks, according to the attached propensity score, and then comparing outcome variable within each block. Formally let's define $\{Q_j\}_{j=1}^n$ a partition of the unit interval such that $Q_j = [q_{j-1}, q_j]$ with $q_0 = 0 < q_1 < ... < q_n = 1$. I first estimate the treatment effect in each block by:

$$\widehat{\delta}(j) = \frac{\sum_{M_i=1, q\in Q_j} F_i}{N_j(1)} - \frac{\sum_{M_i=0, q\in Q_j} F_i}{N_j(0)} \tag{10}$$

where $N_i j(1)$ and $N_j(0)$ are the number of members and non members in the block j. Now ATE can be correctly estimated by $\widehat{ATE} = \frac{\sum \widehat{\delta}(i) N_i}{\sum N_j}$ where N_j is the number of observations in block j. Indeed

$$\begin{aligned} E\widehat{\delta}(j) &= E(F|p,1) - E(F|p,0) \\ &= H(\beta X + \gamma + E(\epsilon|p) - H(\beta X + E(\epsilon|p) \\ E(TE_i|p(X_i) = p & \end{aligned} \tag{11}$$

and therefore

$$E(\widehat{ATE}) = E_X(TE_i|p(X_i))$$

Results are summarized in Table 3.

[4]Consistency requires that within each block propensity score and covariates are distributed independently of M

Table 3: **Propensity Score Analysis**

	Firing probability Non members	Firing probability Members	TE score	Average Propensity
1st Decile	0.0354	0.0071	0.0283	0.5564
2nd Decile	0.0386	0.0087	0.299	0.4602
3rd Decile	0.0422	0.0100	0.0280	0.3851
4th Decile	0.0475	0.0133	0.0342	0.3225
5th Decile	0.0512	0.0110	0.0402	0.2767
6th Decile	0.0591	0.0331	0.0255	0.2394
7th Decile	0.0639	0.0463	0.0176	0.2066
8th Decile	0.0641	0.0328	0.0213	0.1744
9th Decile	0.0643	0.0474	0.0169	0.1422
10thst Decile	0.0733	0.0619	0.0114	0.1058
ATE	0.02153		ATT	0.0297

Table 4: **Non linear LATE-LS**

Age	-0.0002
Female	-0.0115
Higher Education	-0.0086
Secondary school	-0.0099
White Collar	-0.0171
Intermediate	0.0059
Non Private	0.0188
Tenure	0.0041
ATE	-0.0349

Estimated ATE amount to 2.1%. As discussed above, the fact that *propensity score* estimations are higher that ML estimations is probably driven by a negative correlation between membership and firing probability. In particular more tenured workers are more likely to join union, and less likely to be fired. We can also notice that an high *propensity score* increases firing probability for both union members and not members, with the effect being more significant for the first. This implies that union membership tends to be higher in jobs where firing probability is higher. The ATT can be estimated with a weighted sum of single block treatment effect $\sum \widehat{\delta}(i) w_i$ where $w_i = \frac{N_i(1)}{\sum N_i(1)}$. The weights are higher for blocks with higher average propensity score, that is for blocks with more union members. The aforementioned positive correlation between treatment effect and propensity score raises ATT above ATE, up to 2.9%.

3.3 Non Linear LATE

While *propensity score* estimation control for *selection* on observable, it doesn't control for potential correlation between unobservable and union membership. Instrumental variable techniques can tackle this problem. Nevertheless, non-linearity of the model predict an heterogenous treatment effect. Angrist and Imbens[27] show that in

a model with heterogenous effects, IV coefficient capture the effect for only a subset of the whole population. In particular it correctly estimates the average treatment effect for those whose union membership decision is affected by the selected instruments. The econometric model used in the previous section needs to be modified to allow for instruments.

$$Y_i = \beta X_i + \gamma M_i - \epsilon_i \tag{12}$$
$$F_i = 1 \ if \ Y_i > 0 \tag{13}$$

$$W_i = \alpha X_i + \pi Z - \eta_i \tag{14}$$
$$M_i = 1 \ if \ W_i > 0 \tag{15}$$

where Z is a binary instrumental variable. The following assumptions need to hold:

- **Assumption 3.1** $\epsilon \perp Z|X$
- **Assumption 3.2** $\pi \neq 0$

The first assumption requires Z not affecting the final outcome but by membership status. The second assumption requires instruments to homogenously affect union membership decision. Without loss of generality I assume $\pi = 0$. Again $q(X,Z) = Pr(M = 1|Z,X)$ denotes the ex-ante union membership probability. It's easy to see that

$$\begin{aligned} E(F|q,X) &= q(X,Z)(E(F|M=1,X)) + (1-q(X,Z))E(F|M=0,X) \\ &= E(F|M=0,X) + q\left[E(F|M=1,X) - E((F|M=0,X)\right] \\ &= \mu(X) + q\lambda(X) \end{aligned} \tag{16}$$

Two possible approaches will be followed. In the first $\mu(X)$ and $\lambda(X)$ will be performed by Maximum likelyhood. As shown in Newey and Powell (1989), and Darolles et al. (2000),ML estimators are consistent but subject to the specification of both H. Thus the estimated $ATE = E(\lambda(X))$ is not robust. On the other hand, one can estimate a simplified equation.

$$F = \mu(X) + \lambda q + e \tag{17}$$

where $E(e|X,q) = 0$. Such strategy is more robust, yet yields weighted treatment effect. It can be shown (see Angrist et al[1]) that:

$$\widehat{\lambda} = E(\lambda(X)\omega(X)) \tag{18}$$

where $\omega(X) = \frac{V(q(X,Z))|X)}{E(V(q(X,Z))|X)}$. Weights are higher for those workers where Z "explains" more union membership status.

3.3.1 Choice of Instrumental Variable

As discussed above three properties are required to an instrument Z. First, it need to distributed independently of the outcome variable (conditional on observed characteristics). Second, it needs to affect final outcome only through union membership status or observed characteristics. Finally it has to impact union membership status. BHPS data contain information on political views of respondent. In particular surveyed individuals are asked: *"Which Political Party do you support or do you feel closer to?"* where the option "None" is included. I use both variable and their interaction as instruments. Basic statistics are reported in Table 43. We are here assuming that i) no systematic political discrimination is at work in the UK, ii) political views are not systematically correlated with unobservable characteristics (such as productivity, laziness, ability to find a better job) that *per se* might affect firm's decision to fire a worker.

3.3.2 Results

In the first step $q(X, Z)$ are estimated with a standard Probit Model. Results are reported in table 5.

Table 5: **Non linear LATE-Stage 1**

Age	-0.0000	Higher Education	0.0774		
Female	0.0179	Secondary school	0.0316		
Industrial Sector		*Firm size*		Z	
Agriculture	-	1-2	-	Conservative	-0.0543
Energy	0.611	3-9	0.1640	Labour	0.0099
Minerals & Chemicals	0.2423	10-24	0.2382	Dem /Lib/SDP	0.0065
Metal & vehicles	0.2987	25-49	0.3130Other	0.0294	
Other manufacturing industries	0.3991	50-99	0.3927		
Construction	0.1876	100-199	0.4101	Strongly Support	
Hotels	0.1812	200-499	0.4614	X Labor	0.0654
Transport & Communication	0.4664	500-999	0.4792	Strongly Support	
Banking & Finance	0.3011	>1000	0.4581	X Conservative	-0.0012
Other services	0.2672				
Occupation					
White Collar	-0.0607	Non Private	0.3822		
Intermediate	-0.0087	Tenure	0.0141		

Table 6: **Non-Linear LATE-ML**

Age	-0.0002
Female	-0.0099
Higher Education	-0.0092
Secondary school	-0.0102
White Collar	-0.0152
Intermediate	0.0047
Non Private	0.0212
Tenure	0.0065

Workers who strongly support Labor Party are more likely to join Unions. The sign of the other covariate stay unchanged, but their impact is smaller.

Maximum likelihood estimates are then estimated. Estimated average Treatment effect is $-3,75\%$. IV estimates are therefore higher than PS estimates. This suggests that workers more likely to be fired are also more likely to join a trade union. Formally it implies that $E(\epsilon\eta) > 0$. Also notice that treatment effect increases with both age and tenure. Also less educated workers and workers in low-skilled occupations benefit more from union membership. Estimation of the reduced model in (16) hold similar results. As discussed above, LS estimates are a weighted average of heterogenous effect. In particular the estimate weighs more workers whose membership status is more dependent on individual political view. The treatment effect for workers whose union membership status decision is taken regardless of their political view is less considered. Estimates can therefore be strongly biased. Suppose that in a given job trade union provide a private employment protection so strong that all workers decide to join union, regardless of their political view. The treatment effect in this sector wouldn't counted. The same would occur for jobs where employment protection is so low that no worker would join union, regardless of their political view. In Table 6 I report the average weight for different subset of the population. Estimated ATE weighs more i)young workers, ii)workers in the private sector, iii)Medium-low skilled workers. Weights appeared to be homogenous across tenure and educational level.

Table 7: **Treatment Effect**

Age		*Educational Level*	
18-30	-0.0291	Higher Education	-0.0126
30-45	-0.0312	Secondary school	-0.0323
45	-0.0354	Elementary school	-0.0311
Sector		*Tenure*	
Private	-0.0392	1-10 years	-0.0278
Non Private	-0.0302	10 years	-0.0411
Occupation			
	White Collar	-0.0252	
	Intermediate	-0.0247	
	Blue Collar	-0.0401	
ATE		-0.0375	

Table 8: **Non linear LATE-LS**

Age	-0.0002
Female	-0.0115
Higher Education	-0.0086
Secondary school	-0.0099
White Collar	-0.0171
Intermediate	0.0059
Non Private	0.0188
Tenure	0.0041
ATE	-0.0349

Table 9: **Non linear LATE: weights**

Age		*Educational Level*	
18-30	0.4512	Higher Education	0.3253
30-45	0.3322	Secondary school	0.3421
45	0.2166	Elementary school	0.3326
Sector		*Tenure*	
Private	0.7212	1-10 years	0.5671
Non Private	0.2788	10 years	0.4329
Occupation			
White Collar	0.1136		
Intermediate	0.4140		
Blue Collar	0.4724		

4 Severance pay

5 Conclusions

Economic theory has been trying to solve the free riding problem associated with the value of a voluntary union membership. This builds on the idea that union provide a monetary excludable good, namely private employment protection through enforcement of higher firing cost. I use British Panel Data to estimate the effect of union membership on firing probability and severance pay received by dismissed workers.stimates are performed following an IV approach *à* la Angrist and Imbens [27], using political opinions as an instrument. I find that firing probability is reduced by haly by union membership. Moreover, upon dismissal, union members can expect an higher severance pay (2.7 month of wage versus .9 month of wage for non members). A more detailed analysis of the results show that workers with higher *ex-ante* firing probability are those who are more likely to join unions, suggesting that, at least partially, workers join Unions in order to receive Employment Protection[5].

[5]According to the general wisdom workers in less productive occupation are more likely to join unions because in favor of higher wage compression. This study shed a different light on the correlation between union membership and individual characteristics. Workers in less productive occu-

The findings of this study can be significant in different areas. A recent debate of Political Economy attempts to understand the determinants of the adoption of given Labor Market Policies [32]. It is generally assumed (see for example Woll[34]) that Unions can bargain with the government for the adoption of a Labor public policies. Our results would suggest that Unions would lobby for the the adoption of a legislation aimed to decrease the value of Unemployment (low unemployment benefit) and to protect workers (high firing cost). Such union policy is not only coherent with our hypothesis that union's objective is to maximize the number of its members, but above all it is consistent with empirical evidence. Comparing countries with high Union Power (such as Italy or Scandinavian Countries) and country with limited Union Power (such as Spain or Us) we notice that while the former focus on Employment protection Legislation, the latter prefer to adopt policies aimed to increase Unemployed welfare. This mechanism could possibly generate multiple equilibria. Some countries might for some reason find themselves in a situation where Unions are powerful, and by lobbying for strong employment protection, they can self reinforce their size and power. Some other, ceteris paribus, can start from a situation where Unions are relatively weak, and their low bargaining power with the government will generate a loose employment protection legislation, that will prevent Unions to grow.

It's worth stressing that this paper suggests that trade unions' objective might not be simple wage maximization, as generally assumed (see for example Oswald[31], Farber[19] or Manning[30]) . In general the most recent labor literature focused on the role of union in the wage dynamics[8],[17], technology adoption[29], growth[20] unemployment (Bentolita and Bertola[3], low labor mobility (Elias[18], wage compression (Card[9],[10],[11],[12] [13], DiNardo et al,[16],Freeman[21]) and so on. A better understanding of union membership determinants, and therefore of Union objective is therefore necessary.

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