E C O N O M I C S B U L L E T I N

Unemployment scarring in high unemployment regions

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Abstract

This paper investigates the effect of individual unemployment experiences on re−employment wages. The empirical analysis is carried out on a panel of Italian individuals. The main result is that while in the northern regions the effect is similar to the one estimated for the UK, in the southern area of the country the impact is not significant. We link this result to the particular socio−economic environment in which the unemployment spells are experienced. We argue that this might be due to the fact that in a high unemployment environment individual unemployment experiences are perceived as "normal" and do not necessarily signal poor quality of the worker. This might have effects in inducing the hysteresis of unemployment, and reducing the downward pressure of unemployment on wages at the macro level.

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1. Introduction

The effect of unemployment experience on subsequent pay and employment opportunities is a topic of great and unceasing interest in labor economics. Recent studies witness the existing attention to unemployment scarring and represent notable empirical advances on the investigation of this issue.[1]

The original idea is that prolonged spells of unemployment involve loss of skill, decrease future pay, lower the probability of finding a new job, and increase the chance of entering an unstable, low paid occupation. The existing evidence suggests that these effects are relevant and call for appropriate policy actions in order to avoid the costs of unemployment . At the same time, empirical evidence points out that the consequences of unemployment experience are higher for prime age, male, skilled individuals and may be exacerbated in a more flexible institutional framework. It appears, for example, that in the US the loss in term of wages and employment opportunities is larger than in European countries (Gregory and Jukes, 2001). However, in Europe it is not the experience but the duration of unemployment that really implies a penalty.

In this paper we present evidence on the extent of unemployment scarring in Italy. We argue that this effect is lower in those regions where the experience of unemployment is considered part of the typical individual's labor market history and unemployment spells are not necessarily perceived as a signal of low productivity. Also, the depressing effect of individual unemployment spells on wages tends to be lower if the labor force is less trained and there is a limited loss of specific human capital. We argue that the socio-economic environment and the institutional set-up, including the wage bargaining mechanism, are key variables in shaping the effects of the unemployment experience on individual's employment and wage prospects. This is not to understate the cost of unemployment but to underline that the characterization of appropriate employment policies should be related to "the diversity of harms done by unemployment [...] rather than simply at adding to the number of people who could be counted as being employed". (Sen, 1997, p. 22). The reduced impact of unemployment on wages at micro-level might explain the small sensitivity of wages to unemployment observed in aggregate regional estimates and the difficulty of estimating a Phillips curve and finding a NAIRU for Italian southern regions (Brunello *et al.*, 2000). As pointed out in leading papers in the field,(Blanchard and Summers, 1988) the social behavior associated to high rates of unemployment may be one of the causes of unemployment persistence and hysteresis.

The paper is organized as follows: Section 2 contains a brief review of the theoretical explanations of unemployment scarring, Section 3 resumes the Italian experience. Section 4 contains the empirical results, and Section 5 concludes.

2. Theoretical explanations of unemployment scarring

The theoretical literature identifies various sources of scarring. Human capital theory sees unemployment associated to the permanent loss of firm-specific human capital and as a source of deterioration of general skill (Pissarides, 1992). The theory of signals also offers an explanation of why unemployment may induce lower wages in future occupations (Belzil, 1995). If productivity is imperfectly observable the employer may take a past history of unemployment

[1] See, for example, a recent issue of the Economic Journal (November 2001) dedicated to this topic.

as a signal for lower productivity. An opposite result may arise if we consider job matching theories. Unemployment spells may involve the placement of workers into jobs characterized by high productivity and pay (Altonji and Sakoto, 1987; Mortensen, 1988; Topel, 1991).

Although some of the empirical implications of these theories may be different, they all predict that the effects of unemployment spells are larger for more skilled, high educated and trained workers. These individuals are likely to suffer from larger human capital deterioration. At the same time, the stigma effect in an imperfect information environment might be more relevant for skilled individuals. Also, the quality of the match could influence substantially the wage prospects of the employed in highly specialized activities. Another relevant issue concerns the socio–economic setting where the unemployment experience is undertaken. According to the mentioned theories, the lack of information on the real worker's productivity may cause a huge impact of the individual's past unemployment history on subsequent pay and employment probabilities. However, the more widespread the status of unemployment, the less informative (and stigmatizing) it is in order to detect the real worker's characteristics. As a consequence, joblessness is perceived as less costly where the rate of unemployment is very high.

The institutional framework and, in particular, the bargaining mechanism may influence the effect of unemployment on wages. In the presence of full coverage of union negotiations, the wage structure may be rigid and the wage losses after unemployment spells reduced.

3. The Italian experience

It is well known that the geographical mismatch is in Italy extremely high. Figure 1 describes the rate of unemployment in four Italian geographical areas and makes it clear that unemployment is mainly a disease of the South.

There exists also evidence of significant divergence of regional unemployment rates in recent years (Brunello *et al.*, 2001a).

The Northern and Southern areas of the country differ not only in terms of labor market conditions but, in general, the Southern regions present the characteristics of a less developed area with respect to industrial composition and regional GDP growth (Brunello *et al*., 2001a). We also know that the informal economy is widely diffused in the South of the country and that it represents an escape route to tax payments, bargained tariff wages, and hiring and firing legal restrictions. The wage bargaining mechanism in Italy is based on a two-stage wage setting. The first stage of the bargaining takes place at industry level and leads to minimum tariff wages which apply to all workers in the industry. Second stage firm level bargaining may also occur involving wage drift settelements. It has been shown that the second stage of the bargaining is more widespread in the big companies localized in the North of the country (Corneo and Lucifora, 1997); this fact adds some flexibility to wage setting in this geographical area. Hence, in this respect even institutional aspects may differ in the two areas.

4. Empirical Results

The data are derived from the Bank of Italy Survey of Italian Households Income and Wealth (SHIW) for the years 1993 and 1995. The most recent available data from the same survey (1998) do not include variables that are essential for the present analysis.

We first select a panel of individuals that participated to both the waves of the survey. The

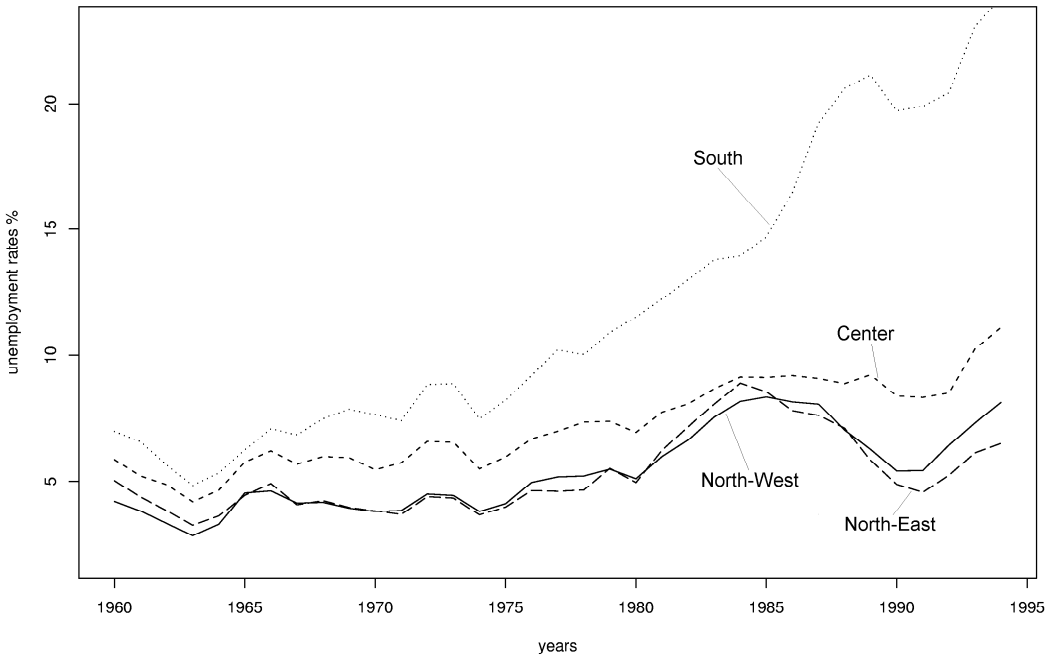

Figure 1: Unemployment rates in four Italian macro-regions.

Table 1: independent variables

Name	Description	Name	Description
age	age	notmarr	not married
exper	age - age at first job	div_wid	divorced / widow(er)
exper2	exper^2	csize2	20,000-40,000 inh. town
tenure	age - age at present job	csize3	40,000-500,000 inh. town
tenure2	tenure^2	csize4	$>$500.000 inh. town
lom ... sar	regional dummies	educ2	middle school
qual2	office worker	educ3	prof. secondary school dip.
qual4	junior manager / cadre	educ4	high school
qual5	manager / senior official	educ5	university degree
sect2	industry (excl. constr.)	sick	days of sickness in the year
sect3	building and construction	mainjob	main job
sect4	trade	fsize2	firm size: 20-49 employees
sect5	transport & communic.	fsize3	50-99 employees
sect6	credit & insurance	fsize4	100-499 employees
sect7	real estate & renting services	fsize5	≥ 500 employees
sect8	domestic services	u_south	un. experience * south
fampos2	spouse / partner	u_north	un. experience * north
fampos3	son / daughter	Constant	constant term
fampos4	other relative		

number of individuals is further restricted on the basis of apparent inconsistencies among the answers given by he same individuals in the two waves. Since we want to estimate the effect on wages of a significant unemployment spell, we then consider only those individuals that were employed in the private sector in 1993 and did not have important unemployment experiences up to that date. We do not consider individuals working in the public sector, given that civil servants' wages are much less flexible than those of private employees. Finally, we consider the same individuals in 1995, having also information about their unemployment experiences in the period 1993-1995. The final panel is constituted of 1112 individuals observed over the 1993 and the 1995 survey waves.

The crucial variable is a dummy that signals if the individual experienced an unemployment spell of *at least* six months.[2] The wage variable is an estimate of the real (log-)hourly wage at 1995 prices: this is obtained by considering the annual wage, the number of months worked, and the average number of hours per week. The implicit national accounts households' consumption deflator (ESA 1995, at 1995 prices) is used to obtain constant-prices estimates for the 1993 wages.

In order to estimate the effect of unemployment experiences on re-employment wages, we

[2] The survey question reads as follows: "Has (name of the family component) ever lost a job at any time in his/her life and remained unemployed for at least 6 consecutive months? (N.B. not when a first-job seeker)". Unfortunately, the data included in SHIW do not contain information about the exact individual unemployment spells duration and the precise dating of unemployment experiences. Since we select people that were employed in 1993 and did answer "no" to a similar question at that date, we consider the answer to be referred to the period 1993-1995.

Table 2: Estimated coefficients

Variable	Coefficient (t-prob)	Variable	Coefficient (t-prob)
age	0.0054 (0.006)	notmarr	-0.1226 (0.001)
exper	0.0132 (0.000)	div_wid	-0.1066 (0.026)
exper2	-0.0003 (0.000)	csize2	0.0527 (0.028)
tenure	0.0006 (0.811)	csize3	0.0265 (0.216)
tenure2	1.5e-5 (0.806)	csize4	0.0296 (0.363)
lom ... sar	...	educ2	0.0846 (0.001)
qual2	0.1386 (0.000)	educ3	0.1913 (0.000)
qual4	0.2636 (0.000)	educ4	0.1833 (0.000)
qual5	0.4820 (0.000)	educ5	0.2676 (0.000)
sect2	-0.0094 (0.823)	sick	0.0011 (0.009)
sect3	0.0075 (0.873)	mainjob	-0.1422 (0.383)
sect4	-0.0807 (0.069)	fsize2	0.0620 (0.004)
sect5	0.0559 (0.273)	fsize3	0.1064 (0.000)
sect6	0.1061 (0.036)	fsize4	0.1249 (0.000)
sect7	-0.0726 (0.165)	fsize5	0.1374 (0.000)
sect8	-0.0991 (0.061)	u_south	**-0.0346 (0.448)**
fampos2	-0.0951 (0.000)	u_north	**-0.0861 (0.020)**
fampos3	-0.1195 (0.002)	Constant	2.095 (0.000)
fampos4	-0.0081 (0.896)		

use a feasible GLS (within/between) panel estimator,[3] which leads to the results listed in table 2. A concise description of the independent variables used in the analysis is reported in table 1. Note that, since we consider the regional dimension as being crucial, we interact the individual unemployment experience with North/South area dummies.

The results show that work experience is significantly associated to wage in a standard fashion. Also higher qualifications and education levels are attached to higher earnings. The outcome relative to firm size confirms preceding empirical evidence, the wage increasing monotonically with firm size.

The novel result, relevant for our main aim, is that individual unemployment experiences tend to be scarring only in the northern regions, where aggregate unemployment is relatively low. The coefficient attached to previous individual unemployment spells of at least six months (-0.09) is significant in the northern regions, and is not far from similar estimates for the UK (see e.g. Arulampalam, 2001 and Gregory and Jukes, 2001). On the contrary, personal unemployment experiences do not appear to be significantly associated with wages in the Southern regions (where the coefficient is much lower in absolute value, -0.03).

In previous research we have already shown the smaller sensitivity of wages to unemployment in the southern regions, both in the short and in the long run (see e.g. Brunello *et al.*, 2000, 2001a, 2001b). In those papers we have interpreted this evidence in terms of different "intra-national" institutions (as opposed to the conventional national institutions explanations), with particular reference to local differences in the wage bargaining process. We think that an additional explanation might emerge from this paper: indeed, we show that, *ceteris paribus*,

[3] We leave the treatment of potential selection problems to later extensions to the present version of the paper.

individual unemployment experience may be less important in determining wages in a social environment characterized by high unemployment rates and in the presence of a less developed productive structure. This interpretation is not far from ideas already present in Blanchard and Summers (1988) that linked the absence of a natural rate of unemployment and the presence of hysteresis also to the social behaviors that originate in the presence of diffuse unemployment experiences.

5. Conclusions

This paper investigates the effect of individual unemployment experiences on re-employment wages. The empirical analysis is carried out on a panel of Italian individuals. The main result is that while in the northern regions the effect is similar to the one estimated for the UK, in the southern area of the country the impact is not significant. We link this result to the particular socio-economic environment in which the unemployment spells are experienced. We argue that this might be due to the fact that in a high unemployment environment individual unemployment experiences are perceived as "normal" and do not necessarily signal poor quality of the worker. This might have effects in inducing the hysteresis of unemployment, and reducing the downward pressure of unemployment on wages at the macro level.

6. References

Altonji, J.G, and Sakoto, R.A. (1987): "Do Wages Rise with Job Seniority?", *Review of Economic Studies*, 54, 437-459.

Arulampalam, W. (2001): "Is Unemployment Really Scarring? Effects of Unemployment Experiences on Wages", *Economic Journal*, 111, F585-F606.

Belzil, C. (1995): "Unemployment Duration Stigma and Re-employment Earnings", *Canadian Journal of Economics*, 28, 568-585.

Blanchard, O., and Summers, L. (1988): "Beyond the Natural Rate Hypothesis", *American Economic Review*, 78, 182-187.

Brunello, G., Lupi, C., and Ordine, P. (2000): "Regional Disparities and the Italian NAIRU", *Oxford Economic Papers*, 52, 146-177.

Brunello, G., Lupi, C., and Ordine, P. (2001a): "Widening Differences in Italian Regional Unemployment", *Labour Economics*, 8, 103-129.

Brunello, G., Lupi, C., Ordine, P., and Parisi, M.L. (2001b): "Beyond National Institutions: Labor Taxes and Regional Unemployment in Italy", CESifo working paper No. 414.

Corneo, G., and Lucifora, C. (1997): "Wage Formation Under Union Threat Effects: Theory and Empirical Evidence", *Labour Economics*, 4, 245-264.

Gregory, M., and Jukes, R. (2001): "Unemployment and Subsequent Earnings: Estimating Scaring Among British Men 1984-94", *Economic Journal*, 111, F607-F625.

Mortensen, D. (1988): "Wages, Separations and Job Tenure: On-the-job Specific Training or Matching?", *Journal of Labor Economics*, 6, 445-471.

Pissarides, C. (1992): "Loss of Skill During Unemployment and the Persistence of Unemployment Shocks", *Quarterly Journal of Economics*, 107, 1371-1391.

Sen, A. (1997): "The Penalties of Unemployment", Temi di discussione Banca d'Italia n. 307.

Topel, R. (1991): ”Specific Capital, Mobility and Wages: Wages Rise with Job Seniority”, *Journal of Political Economy*, 99, 145-176.