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Youth Unemployment in Southern Europe

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Abstract

The youth unemployment rate in Europe increased to very high levels after the great recession of 2008, reaching 23% in European Union and 45% in southern European countries. We examine the causes of the high youth unemployment rate which is consistently bigger than the overall unemployment rate. The empirical evidence shows that the youth unemployment rate depends crucially of the level of the overall unemployment rate and on the variation of the unemployment rate.

JEL Classification: E24, J64, J13
Keywords: Southern Europe, unemployment, youth unemployment.

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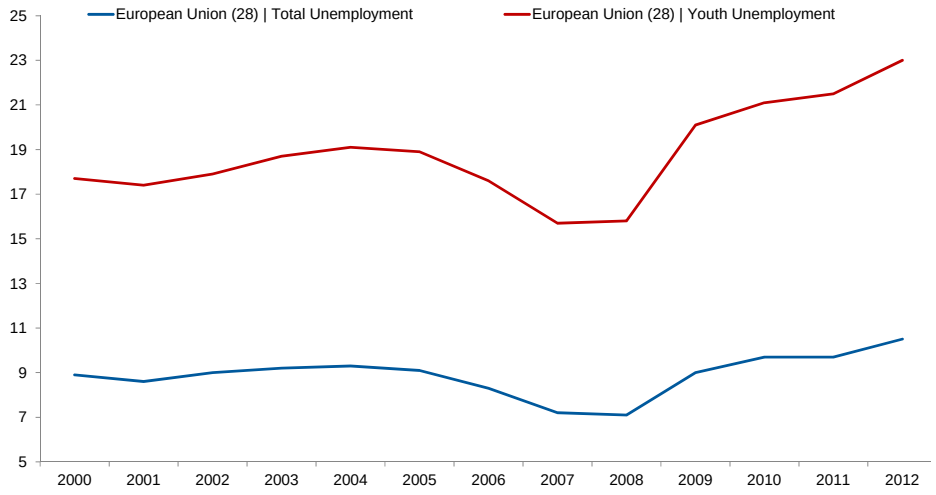
1. Introduction

Since the beginning of the world financial crisis and *great recession* of 2008 the unemployment rate increased substantially in the European Union, from 7,2% in 2007 to 10,5% in 2012. Young workers were particularly negatively affected. The youth unemployment rate (15 to 24 years old) experienced a very strong increase, reaching 23% in 2012 from 15,7% in 2007, before the great recession. In 2012, 5,6 million out of 24,4 million young European workers were unemployed.

Figure 1: Unemployment and Youth unemployment in the EU

(Percent)



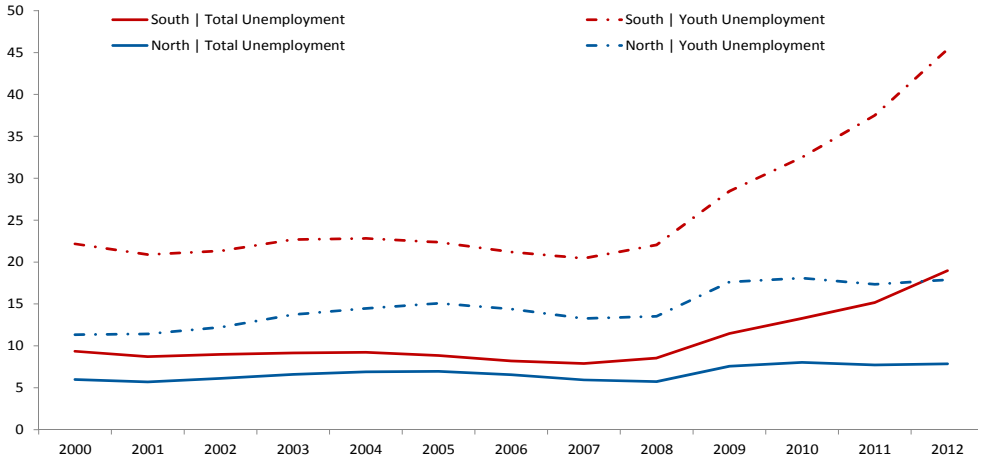
Source: Eurostat

The youth unemployment rate is consistently higher than the total unemployment rate. On average between 2000 and 2012 the youth unemployment rate in the EU was 18,8% while the total unemployment rate was 8,9%. This was true even before the great recession: between 2000 and 2007 the youth and total unemployment rates were on average 17,9% and 8,7%, respectively.

Within the European Union member states, the Southern European countries were among the most negatively affected. The average youth unemployment rate in the southern Europe (Italy, Greece, Spain and Portugal) reached 45,4% in 2012 while in the group of northern European countries (the remaining EU-15 countries not included in the south) the rate was 17,9%.

Figure 2: Unemployment and Youth unemployment in the EU

(Percent)



Source: Eurostat

EU South: Portugal, Spain, Greece and Italy; **EU North:** Other EU-15 countries (Luxembourg not included)

2.1. The economic and social impact of youth unemployment

The very high youth unemployment rate in Southern Europe is a very significant problem. The young generation is facing currently substantial economic and social difficulties. Equally important, a significant part of the young workers lack the opportunity to build their careers and improve their skills through on-job training. Empirical evidence shows that long periods of unemployment have a detrimental persistent effect on future employability and wages, even after controlling for individual worker characteristics, a phenomenon denoted by "scarring effects" (Greg and Tominey, 2005). The evidence suggests that these adverse effects of long term unemployment tend to be more pronounced in younger than in older workers (Ellwodd, 1984 and Mroz and Savage, 2006, Bell and Blanchflower, 2010). Burgesss et al. (2003) show that the negative effects of long term unemployment are more persistent for less educated young workers. Additionally, Kahn (2010) has shown that cohorts that graduate and enter the later market during a recession, when the unemployment is higher, suffer large negative and persistent effects on their wages. These cohorts end up with lower life-time earnings and performing lower level occupations.

Long term youth unemployment has also a negative psychological effect, being associated with a worse subjective well-being, and lower self-esteem and health (Blanchflower, 2010 and Bell and Blanchflower, 2010). There are also additional social costs in terms of payment of unemployment benefits, depreciation of the human capital and rising crime.

2.2. Explanations for the higher youth unemployment rate

We have seen that the youth unemployment rate was consistently higher than the overall unemployment rate even before the crisis. However, after the great recession of 2008, youth unemployment attained very high levels, particularly in the south of Europe. This raises the question of why the youth unemployment rate is currently so high? Is it because of the economic crisis or, alternatively there are other structural factors associated with the labor market that explain the especially high youth unemployment rate, like experience, education and skills, minimum wage or the employment protection legislation?

One potential determinant of the youth unemployment rate is the overall unemployment rate in the same period, which provides information about overall labor market conditions, that can be the result of either cyclical or structural factors. See for example Clarck and Summers (1982).

Different reasons may explain why the youth unemployment rate is consistently higher than the overall unemployment rate. A first obvious reason is that young workers are more likely to be in the period of entering in the labor market and hence more likely to be affect by frictional unemployment. Frictional unemployment is caused by the natural time period that takes to search for a new job, which happens even in a good economy. Another reason is that young workers may be less knowledgeable looking for a new job, having fewer contacts and less experience in searching for a new job. Firms may also prefer to hire workers with already some experience and be more likely to fire workers with less experience and fewer firm specific skills. On the supply side, young workers are likely to have fewer responsibilities, like children and mortgage payments, and moreover their parents may provide support while they are unemployed. Hence young workers may be less pressed to accept job offers. Additionally, young workers who are more likely to be entering the labor market tend to be the most affected in periods of economic crisis, when the unemployment rate increases and firms freeze hiring.

Some authors argue that a uniform minimum age may explain the higher youth unemployment. The argument is that young workers have a higher probability of being at the bottom of the

earnings distribution because they have less experience. Hence young workers would be more likely to be price out of the labor market by a higher uniform minimum wage. However, the empirical evidence on the effect of minimum wage on the youth employment is ambiguous. While Brown, Gilroy and Kohen (1982) estimate that an increase of minimum wage of 10% would decrease employment by 0,8 to 3 p.p., Card (1992) finds no evidence that a rise of federal minimum wage led to lower youth employment in the United States.

One additional potential explanation for the higher youth unemployment rate is that employment legislation may offer more protection for older workers than for young workers. This could eventually be explained by legislation that gives extra protection based on the number of years worked on a firm or legislation that protects especially regular employment contracts, which have a higher share of older workers. One additional factor that may contribute to a higher share of youth unemployment is the share of workers on temporary employment contracts, which have a higher share of young workers. This could be particularly important when the unemployment rate is high and the workers with temporary contracts are more likely to be dismissed.

In this paper we focus on the explanation of the youth unemployment rate and do not attempt to examine the causes of the overall unemployment rate, which can be potentially explained by both cyclical and structural factors.

We present evidence that the youth unemployment rate is mostly explained by the total population unemployment rate, while we do not find evidence that other factors, such as minimum wage or employment protection of regular contracts, have a statistically significant effect on the youth unemployment rate in the European Union.

3. Youth unemployment: empirical evidence

To estimate the determinants of the youth unemployment rate, we consider the total unemployment rate in the same period, which provides information about overall labor market conditions. We use Eurostat data between 2000 and 2012 for all EU countries for which there is available information.

We consider also the variation of the unemployment rate, compared with the previous year, as an additional potential explanation for the youth unemployment rate. This is based on the fact that young workers have a higher probability to be in the phase of entering the labor market. Hence, they are more likely to be affected not only by the level of the unemployment rate but also by variations in the unemployment rate, given that the hiring rate is strongly procyclical (Shimmer, 2004) and hence negatively correlated with variation of the unemployment rate.

We use the OECD indicators of employment protection legislation for regular and temporary contracts to evaluate the impact of employment protection on the youth unemployment.

We also examine the potential impact of minimum wage on youth unemployment rate. We use Eurostat data for each country and year and compute the ratio of the minimum wage over the average wage, to measure the relative size of the minimum wage.

The main model is as following:

$$Uy_{it} = \alpha + \beta_1 U_{it} + \beta_2 Dif(U_{it}) + \beta_3 EPLreg_{it} + \beta_4 EPLtemp_{it} + \beta_5 (\frac{Wmin}{Wav})_{it} + \mu_{it}$$

Where Uy_{it} is the youth unemployment rate in country i in year t, α is the intercept, U_{it} is the overall employment rate, $Dif(U_{it})$ is the difference between U_{it} and $U_{i,t-1}$, $EPLreg_{it}$ and

$EPLtemp_{it}$ are the OECD employment protection indicators for regular and temporary contracts, respectively, $(\frac{Wmin}{Wav})_{it}$ is the ratio of the minimum wage over the average wage and μ_{it} is the error term.

The error term μ_{it} is the sum of α_i, the country fixed effect, and e_{it} an idiosyncratic error. We assumed a fixed effects model, where the country fixed effect is allowed to be correlated with the regressors.

Table 1 presents the results for the within estimator with time fixed effects.

Table 1: Regressions Results | FE with Time Fixed Effects

	(1)	(2)	(3)	(4)	(5)
Ut	1.958 [0.037]***	1.910 [0.044]***	1.893 [0.055]***	1.893 [0.043]***	1.887 [0.051]***
ΔUt		0.234 [0.068]***	0.217 [0.068]***	0.294 [0.100]***	0.252 [0.077]***
$\mathbf{W}_{min}/\mathbf{W}_{av}$			0.054 [0.047]		0.105 [0.067]
EPL Reg				0.616 [0.715]	0.451 [0.765]
EPL Temp				0.478 [0.505]	1.242 [0.492]**
Const.	0.817 [0.503]	1.252 [0.557]**	-0.038 [1.592]	-1.146 [2.144]	-5.015 [3.024]
Observations	364	364	260	250	168
$\mathbf{R}^2$	0.952	0.954	0.961	0.962	0.976

Note: Standard errors in brackets. *, **, *** denote significance at the 10 percent, 5 percent, and 1 percent level, respectively.

The unemployment rate and the variation of the unemployment rate are shown to be statistically significant at 1%. The unemployment rate is estimated to have a strong impact on the youth unemployment rate. When the unemployment rate changes 1p.p., the youth unemployment rate is estimated to vary by around 1,9 p.p. This implies that the youth unemployment rate is a highly pro-cyclical variable.

Both the fixed effects estimators and the random effects estimator indicate that the youth unemployment rate depends not only on the level of the overall unemployment but also on its variation. When the overall unemployment rate increases 1 p.p., the youth unemployment rate is estimated to increase around 0,25 p.p., controlling for the level of unemployment rate. This result is possibly related with the fact that young workers have a higher probability of being in the phase of entering the labor market and hence being particularly affected by variations in the unemployment rate, when the number of hires is lower than the number of separations.

The minimum wage and the employment protection of regular workers do not have a statistically significant effect on the youth unemployment rate. The employment protection of temporary contracts is significant at 5%, but only in the model where we include the variable minimum wage.

If we apply the estimated model to the southern Europe, we can show that most of the increase in the youth unemployment in southern Europe is due to an increase in the total unemployment.

4. Conclusion

Youth unemployment reached very high levels in Europe after the great recession of 2008, especially in southern European countries. We examined the potential determinants of the youth unemployment rate, which is consistently higher than the overall unemployment rate. The empirical evidence shows that the youth unemployment rate depends crucially of the level of the overall unemployment rate and on the variation of the unemployment rate. We examine alternative explanations for the high youth unemployment rate, such as the minimum wage and employment legislation of protection of regular contracts, but we do not find statistically significant evidence of its impact.

These results suggest that there is no straightforward targeted way to tackle the youth unemployment rate and that the key factor to solve it is to decrease the overall unemployment rate. This does not imply that we should not have policies specifically directed to fight youth unemployment. Indeed, youth unemployment is consistently higher and young workers, especially with low education, suffer more persistent negative effects from long term unemployment. However, these results suggest that the youth unemployment should not be seen as an isolated problem and that instead it should be tackled in the context of a more general strategy to reduce the overall unemployment.

Further investigation is needed to understand better why the youth unemployment is persistently higher than the overall unemployment rate. Potential explanations could be frictional unemployment, experience in searching for a new job, contacts, supply side factors, or other structural reasons.

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Appendix: Data sources and Tables

Table 2: Data Sources

Descriptor	Source
Overall Unemployment Rate	Eurostat
Youth Unemployment Rate	Eurostat
Minimum Wage	Eurostat
Medium Wage	Eurostat
Employment Protection Legislation	OECD

Table 3: Regressions Results | RE, Time Effects

	(1)	(2)	(3)	(4)	(5)
U_t	1.959 [0.037]***	1.911 [0.043]***	1.891 [0.052]***	1.894 [0.041]***	1.882 [0.046]***
ΔU_t		0.234 [0.066]***	0.225 [0.068]***	0.299 [0.097]***	0.265 [0.074]***
W_{min}/W_{av}			0.040 [0.034]		0.089 [0.047]*
EPL Reg				0.430 [0.579]	0.091 [0.602]
EPL Temp				0.558 [0.461]	1.234 [0.388]***
Const.	0.815 [0.629]	1.241 [0.707]*	0.589 [1.424]	-1.115 [1.605]	-3.929 [1.921]**
Observations	364	364	260	250	168
R^2	0.952	0.954	0.961	0.962	0.976

Note: Standard errors in brackets. *, **, *** denote significance at the 10 percent, 5 percent, and 1 percent level, respectively.