

Youth Unemployment in the EU

Virginia Hernanz and Juan F. Jimeno Youth Unemployment in Europe: Recent Developments and Old Problems

INTRODUCTION

High and persistent unemployment has been a recurrent phenomenon in Europe since the early 1980s. Nowadays, despite some economic recovery from the Great Recession and the European debt crisis, it remains at levels well above those registered in the mid-2000s. Moreover, there are two new developments with potentially adverse consequences. One is the increasing divergence of unemployment rates across European countries (see Boeri and Jimeno 2016); the other is the higher likelihood of unemployment among youths, despite their declining weights in the population and in the labour force due to demographic trends. In fact, it is the concentration of unemployment among the younger population groups in some countries that explains a good deal of the increasing unemployment divergence in the EU.

Figure 1 displays the unemployment rates of three population groups, aged 15–24, 25–29 and over 30 years in the EU28, United States and G7 countries during the period 1981–2015. Over this period, the unemployment rate of the youngest (15–24) has been on average around 6 percentage points (pp) higher in the EU28 than in the United States or the G7 countries, while for the other young group (25–29) this difference was around 4–5 pp. Table 1 summarises these unemployment differences by displaying differences and ratios of unemployment rates of young and older people during the period 1981–2015, and distinguishing the years before and after the Great Recession.

As can be seen, for the whole EU, United States and G7 countries, there are no remarkable changes in these gaps and ratios. The fact that youth unemployment rates are always higher than the ones for the adult population and that they are more volatile during business cycle fluctuations has not apparently changed despite the continuous declining trends in the weights of young population groups in both total population and in the labour force (see Figures 2 and 3).

These observations raise three questions: (1) why is youth unemployment significantly higher and more volatile than adult unemployment?; (2) why is it that youth unemployment varies so much between Europe and the United States (and also across European countries, as shown below), both in absolute levels and in relative terms to adult unemployment rates?; and (3)

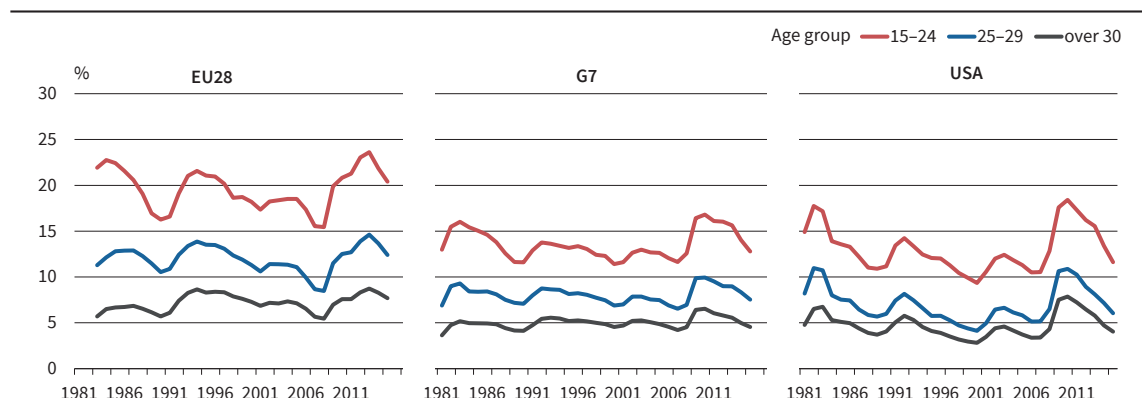


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Figure 1
Unemployment Rate
1981–2015



Source: OECD.

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Table 1
Unemployment Rates: Gaps and Ratios

	EU28			USA			G7		
	1981–2015	1981–2006	2007–2015	1981–2015	1981–2006	2007–2015	1981–2015	1981–2006	2007–2015
1524-over30	12.4	12.3	12.9	8.3	8.0	9.1	8.6	8.3	9.3
2529-over30	4.8	4.9	4.7	2.3	2.2	2.5	3.1	3.0	3.1
1524/over30	2.75	2.75	2.75	2.82	2.87	2.68	2.72	2.72	2.73
2529/over30	1.68	1.70	1.63	1.48	1.50	1.45	1.61	1.63	1.58

Note: '1524' = age group between 15 and 24 year old; '2529' = age group between 25 and 29 year old 'over30' = age group over 30 year old.

Source: OECD.

to what extent do demographic trends affect the relative labour market performance of different population groups?

This article documents recent developments in youth unemployment in European countries, and surveys recent papers on the likely determinants of youth unemployment. First, we demonstrate the evolution of youth unemployment during the period 1981–2015 in most European countries, and survey recent literature that document the relationships between youth unemployment and labour market institutions (minimum wages, dual EPL, coverage of collective bargaining, transition from school to work) and education policies affecting the transition from school to work. Secondly, we consider how demographic trends are shaping, if anything, the incidence of youth unemployment relative to other population groups.

YOUTH UNEMPLOYMENT IN EUROPEAN COUNTRIES: SOME FACTS

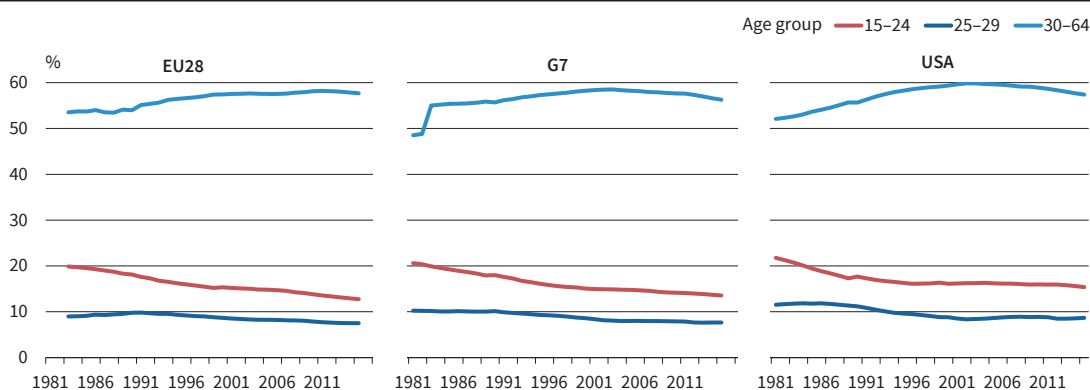
When analysing youth unemployment across European countries during the most recent decade, there are two main issues worth highlighting. One is that the Great Recession and the European debt crisis have had a significantly higher impact on youth unemployment rates. Figure 4 displays on the horizontal axis, the average difference between the unemployment rate of the young population groups (15–24 and 25–29) and the unemployment rate of the population over 30 years of

age during the period 1981–2006.¹ On the vertical axis of Figure 4, there is a change in this gap between the period 2007–2015 and 1981–2006. There is wide heterogeneity in both variables, but in most countries the gap widened during the recent period. Table 1 provides the average youth unemployment gap and ratio for the EU28, United States and G7 countries during the period 1981–2015. It shows that during the most recent period (2007–2015), the unemployment gap of youth aged 16–24 with respect to the population over 30 years of age increased. As for the ratios, they remained more or less constant, as the average unemployment rate of the adults also increased significantly during this period.

The second issue worth highlighting is the increasing concentration of youth unemployment in a set of countries. Boeri and Jimeno (2016) show that a main driver of European cross-country unemployment divergence during the most recent period is youth unemployment, that both the youth and the overall unemployment rates have a marked national dimension, rather than regional, and that the rise of unemployment and its increasing dispersion across socio-demographic groups are two interrelated phenomena, as shown by the positive correlation, both across countries and over time, of the standard deviation of the unemployment rate (defined over gender and 5-years age groups) and

¹ Not all the countries have data for the whole period 1981–2015. See Data Appendix below for sample periods across countries.

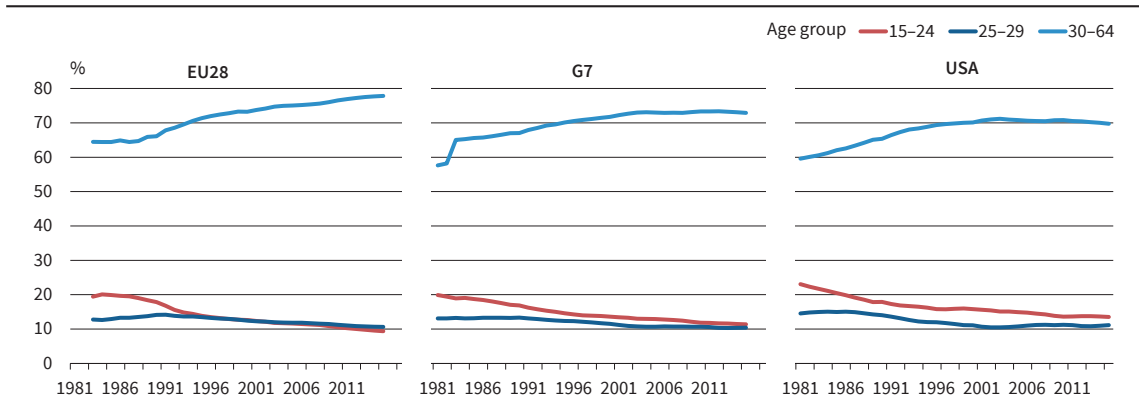
Figure 2
Population Weight
1981–2015



Source: OECD.

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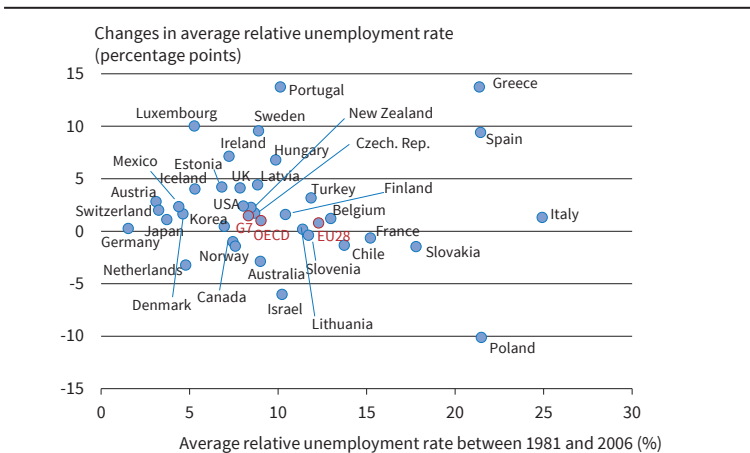
Figure 3
Labour Force Weight
1981–2015



Source: OECD.

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Figure 4
Average Relative Unemployment Rate 1981–2006 and Change between 2007–2015 and 1981–2006, 15–24 years of age

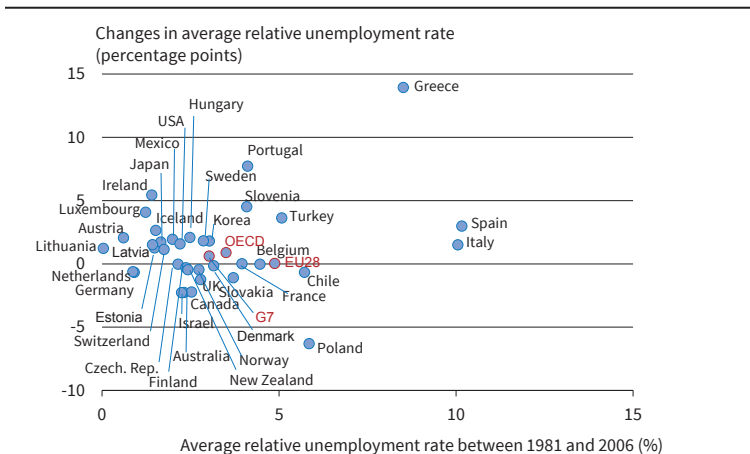


Note: The relative unemployment rate is the difference between the unemployment rate of each group and that of the population over 30 years of age.

Source: OECD.

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Average Relative Unemployment Rate 1981–2006 and Change between 2007–2015 and 1981–2006, 25–29 years of age



Note: The relative unemployment rate is the difference between the unemployment rate of each group and that of the population over 30 years of age.

Source: OECD.

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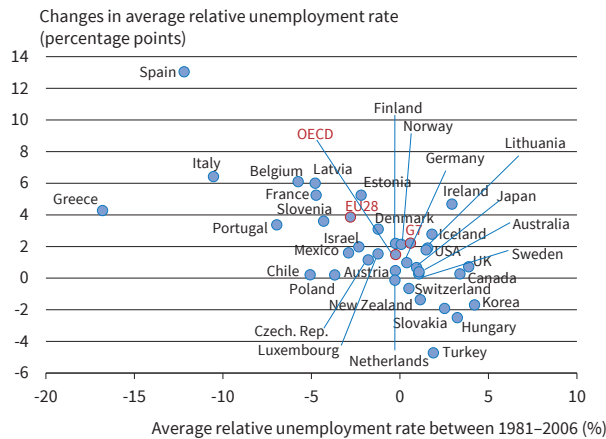
the aggregate unemployment rate.²

Finally, it is also worth noting that the gender gap in youth unemployment has significantly fallen, as the impact of the recent rise of unemployment was higher among males. Figure 5 shows that, for both youth aged 16–24 and those aged 25–29, the difference between the male and the female unemployment rate decreased by most in those countries where these gaps were higher (typically, Southern European countries).

In a nutshell, these facts suggest that the rise of youth unemployment since the start of the Great Recession was not atypical since in all countries during recessions it tends to increase in parallel with the unemployment rate of adult workers. There are however several new features that should be kept in mind. One is that in this period the youth unemployment gap (as measured by the absolute difference between the unemployment rates of youth aged 16–24 and 25–29 with respect to that of the population over 30 years of age) widened in most countries, and especially in Southern European countries. Another is that this

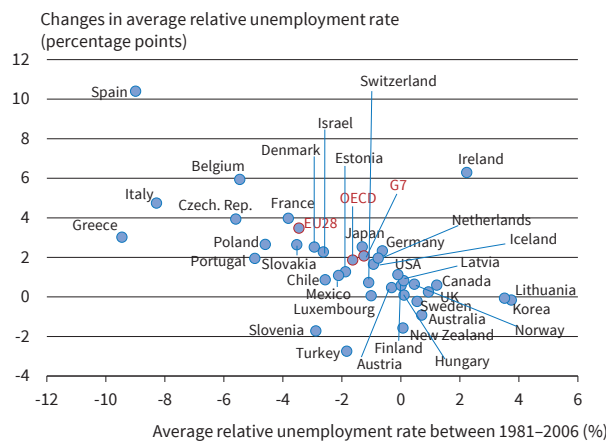
² The time series correlation between both variables is stronger in Eastern and Southern Europe, where unemployment differences across groups are also higher. The cross-country correlation has significantly increased since 2007.

Figure 5
Gender Gaps: Average Relative Unemployment Rate 1981–2006 and Change between 2007–2015 and 1981–2006, 15–24 years of age



Note: The relative unemployment rate is the difference between the unemployment rate of men and women for each population group.
 Source: OECD. © ifo Institute

Gender Gaps: Average Relative Unemployment Rate 1981–2006 and Change between 2007–2015 and 1981–2006, 25–29 years of age



Note: The relative unemployment rate is the difference between the unemployment rate of men and women for each population group.
 Source: OECD. © ifo Institute

increase took place at a time in which the gender gap in youth unemployment was decreasing. Overall, despite the normal increase of youth unemployment during recessions, there seem to be new trends regarding how unemployment is distributed across population groups.

THE DETERMINANTS OF YOUTH UNEMPLOYMENT

An Overview of the Theory

Theoretically, there are three reasons why youth unemployment is bound to be higher than adult unemployment. First, young workers are more exposed to frictional unemployment. At the beginning of the working life, as people are searching for a wider variety of jobs and these tend to be more unstable, the rates at which they change jobs are significantly higher, and, hence, the likelihood of unemployment due to job transitions is also higher. A second reason is that young people are

also transiting from school to work and the search for a first significant job may entail some time. Finally, there is the pathological component of youth unemployment due to the different impact of labour market institutions and policies (minimum wages, employment protection legislation, etc.) among population groups of different characteristics.

The fact that young people are overrepresented in unemployment is a standard prediction of the standard search and matching model. When entering into the labour force and workers are for the first time searching for good matches, labour market frictions (incomplete and asymmetric information, search costs, etc.) imply a lower transition into employment and higher job destruction, so that turnover is especially large among youngsters. Since during a recession there is a freeze in hires and a rise of separations, it is very likely that the rise of unemployment among the young population is larger than that for prime-age workers. In countries with dual Employment Protection Legislation (EPL, henceforth), i.e. with regular employment contracts providing sufficient job protection to insiders and temporary contracts less costly to cut for new entrants into jobs, as happens in Southern European countries, the differential rise in youth unemployment when a recession hits is even higher, as observed during the recent crisis.

ment when a recession hits is even higher, as observed during the recent crisis.

Apart from EPL, other labour market institutions are also behind the relatively high levels of youth unemployment and the higher increase of youth unemployment during recessions. Minimum wages are obviously more binding for low productivity workers during recessions. Hence, young workers with low educational attainments are less likely to find jobs during those periods. A similar effect arises from collective bargaining agreements that typically narrow the wage structure making it more costly to hire young, non-experienced workers in relative terms.

A Brief Survey of Recent Results on Youth Unemployment

In recent years, many researchers have extensively studied the great divergences in youth unemployment

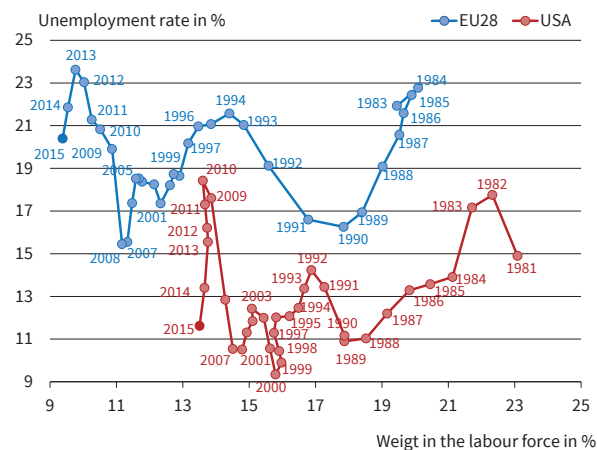
rates between countries and the reasons why youth unemployment rates tend to be higher than adult rates in many of them. Besides, as Scarpetta *et al.* (2010) point out, the current crisis is exacerbating a number of structural problems that affect this group, highlighting the urgency in the search for short-term solutions and structural reforms.

Blanchflower and Freeman (2000) and more recently OECD (2008) have confirmed that youth unemployment is more responsiveness to business-cycle conditions than adult unemployment and this high-response tends to decline steadily with age. Bell and Blanchflower (2011) have pointed out some labour demand and supply reasons that explain this greater sensitiveness: young people have less specific human capital, some of them lack experience and they suffer a higher worker turnover after improving their job matches.

Furthermore, Boeri and Jimeno (2016) show that divergence of unemployment both across countries and among population groups arises from a triple interaction among the magnitude and nature of macroeconomic shocks and labour markets institutions that conditioned the ways in which employers react to these shocks.

Dolado *et al.* (2015) also analyse the strong divergences across European youth unemployment by distinguishing different groups of countries according to their ability to deal with this problem. A first group made up of Austria, Germany and Switzerland. These countries have been quite successful in keeping youth unemployment low mostly because of their efficient use of vocational training and programmes targeted at disadvantaged youth. A second group includes France, Britain and Sweden. This group has been less successful, mainly due to employment protection and minimum wages, plus a partly dysfunctional education system. Cahuc *et al.* (2013) show their concerns about the possibility of a 'lost generation' arising in France due to the strong increase in youth unemployment. They compare the reasons why Germany tackles unemployment so well and France does not. They conclude that the dual apprenticeship system is a strong German asset with respect to smoothing school-to-work transitions. Furthermore, the absence of labour market segmentation and national statutory minimum wage has contri-

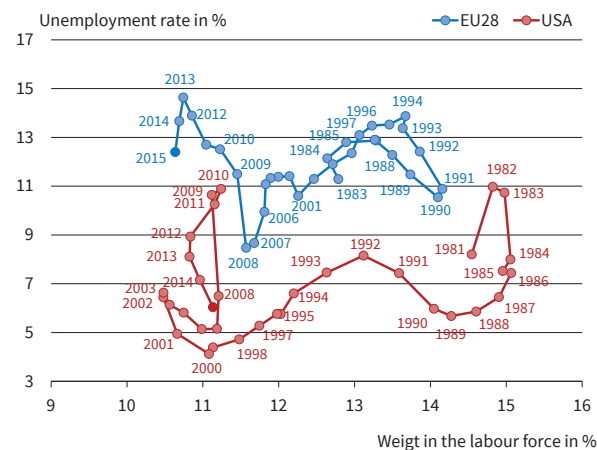
Figure 6a
Unemployment Rates and Weights in the Labour Force
15–24 years of age



Source: OECD.

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Unemployment Rates and Weights in the Labour Force
25–29 years of age



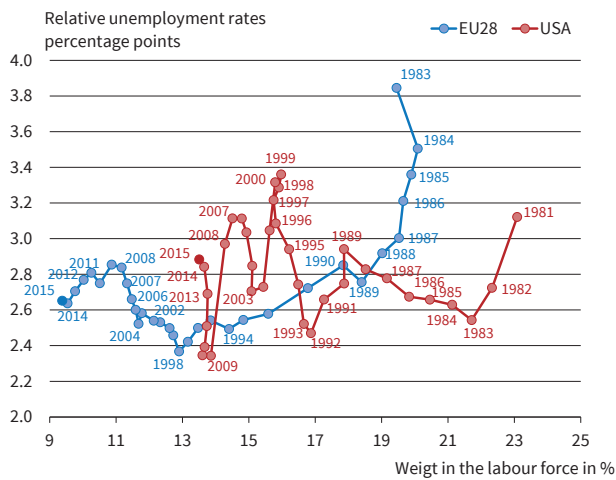
Source: OECD.

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buted to this better performance. Also the different approach of public employment service to youths has played an important role in their activation. However, unemployment rates in Sweden also exceed 20 percent and this fact has caused considerable concern among Swedish policymakers. Skans (2015) considers the seriousness of the situation less pessimistically in so far as the average duration of unemployment is short and to a large extent coincides with participation in education. A third group (Greece, Spain, Italy and Portugal) has been hit hardest by the crisis and has displayed the highest youth unemployment rates. Segmentation of the labour market, lack of aggregate demand and poor vocational training are among the main reasons for this surge. Also these countries have been more affected by sovereign debt crises or construction bubbles.

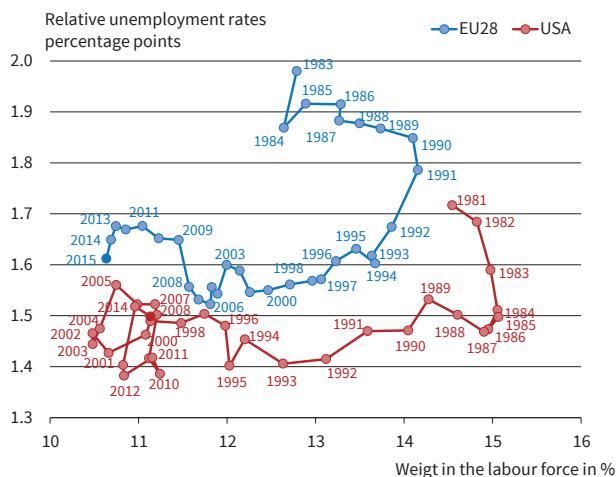
More specifically, for Italy, Leonardi and Pica (2015) identified three main reasons for the relative increase of youth unemployment during the crisis. First, the role of labour market institutions: fixed-term (FT) contracts are concentrated among the young and they experience a lower protection against potential dismissals.

Figure 6b
Relative Unemployment Rates and Weights in the Labour Force
 15–24 years of age



Note: The relative unemployment rate is the difference between the unemployment rate of men and women for each population group.
 Source: OECD. © ifo Institute

Relative Unemployment Rates and Weights in the Labour Force
 25–29 years of age



Note: The relative unemployment rate is the difference between the unemployment rate of men and women for each population group.
 Source: OECD. © ifo Institute

youths and rigidities in the labour market that disproportionately affect youth (Felgueroso and Jansen 2015) for several decades, now. In Spain the share of early school leavers is 23.6 percent, the Spanish system of vocational training is underdeveloped compared to the best-performing countries in Europe and some university studies offer relatively poor employment prospects. Besides, Spanish young people have also suffered a higher incidence of temporary employment and this is found (Dolado *et al.* 2013) to be one of the main determinants of both high worker turnover and the volatility of youth employment.

Youth unemployment tends to decline with age, but in Greece the greatest concern is for the age group 25–29 because numerically their unemployment is much larger than those aged 15–19 (Bell and Blanchflower 2015), and the participation rate of youngsters below 24 years of age is very small. Also in Greece youth unemployment was relatively high prior to the recession and the ratio youth/adult unemployment has even been trending even to decrease during the crisis.

DEMOGRAPHICS AND YOUTH UNEMPLOYMENT

Changes in youth unemployment rates are taking place simultaneously with a declining weight of the young population and new patterns in participation across

Second, Italian youth suffer a poor school-to-work transition as signalled by the high number of NEETs (“young people not in education, employment or training”), but college graduates have also experienced long periods of unemployment perhaps due to excess supply. Finally, the number of full-time students has increased with the crisis and the authors consider that this decline in the participation of the young could mechanically increase the measured youth unemployment rate.

Spain is another country where the youth unemployment rate reached its highest levels during the crisis, hitting an extremely high 55 percent. However, this greater incidence of unemployment among young people it is not a singular fact from this crisis, due to structural problems in the school-to-work-transitions of

population groups. Typically shift-share analysis is used to identify the change in aggregate unemployment rates due to compositional effects arising from changing weights of the several population groups into either the total population or the labour force. Results from this type of approach lead to the conclusion that in most countries population ageing is putting some brake on the rise of aggregate unemployment rates, since, as seen above, the highest rise of unemployment is taking place among youths whose weight in the total population and in the labour force is lowest. Moreover, when trends in aggregate unemployment rates are measured by common factors in worker flows of the different population groups, the impact of demographic-specific components on the aggregate unemployment rate is even higher than what a standard labour force

shift-share analysis is able to discover (Barnichon and Meesters 2016).

Another important issue regarding the relationship between unemployment and demographics is the extent to which changes in participation and population weights are related to changes in unemployment of specific population groups. On this, the conventional wisdom is against the lump-of-labour fallacy so that changing weights should not cause changes in relative unemployment rates across population groups. Another matter, however, is whether a recession has a different impact on the youth unemployment rate when the weight of young workers in the labour force is decreasing relative to the same impact when those weights are increasing.

We address this question in two steps. First, Figures 6a and 6b provide the evolution of the youth labour force weights and unemployment rates (absolute and relative) for the EU28 and the United States during the period 1981–2015. The reduction of the labour force weight of both the population aged 15–24 and the one aged 25–29 was roughly similar in both areas (about 10 percentage points and 5 percentage points, respectively) while the corresponding youth unemployment rates behave in a cyclical fashion that seems unrelated to the declining trend of the labour force weights. A similar finding arises when looking at relative unemployment rates, although in this case the recession of the early 1980s, when the weights of the young populations in the labour force were highest, was associated to largest gaps between youth unem-

ployment rates and those of the population over 30 years of age.

To investigate further the relationship between labour force weights and youth unemployment rates we run some panel data regressions for our sample of 39 countries during the period 1981–2015. We search for the statistical association between those two variables and for changes of this association during the most recent period starting with the Great Recession (2007 and after). Results are summarised in Table 2. Overall, there is not a statistically significant association between youth labour force weights and unemployment rates, either for the population aged 15–24 years or the one aged 25–29. If anything, we find that during the most recent period, for the youngest population, the association between the relative size of the population and its unemployment rate was negative, that is, the increase of the unemployment rate of this population group that took place during the most recent period was associated with a decline of the labour force weight. Hence, there seems to be very little room for explanations of youth unemployment based on demographic shifts and for policies that aim at improving the employment prospects of the young population by changing the relative weights of the different population groups in the labour force.

CONCLUDING REMARKS

The rise of youth unemployment in Europe during the recent crisis was abnormally large, especially in South-

Table 2

Youth Unemployment Rate and Labour Force Weight: Panel Data Regressions a. 15–24 years of age

	ur1524	ur1524	ur1524-urover30	ur1524-urover30
lf1524	-.199 (.185)	-.080 (.184)	0.014 (0.162)	.082 (.158)
lf1524*2007 and after	-	-.461 (.206)	-	-.251 (.117)
N	1,161	1,161	1,144	1,144
R-sq within	.18	.20	.19	.21
between	.09	.17	.01	.06
overall	.09	.12	.05	.07

Note: 'ur1524' = unemployment rate in the age group between 15 and 24 year old; 'urover30' = unemployment rate in the age group over 30 year old; 'lf1524' = labour force weight of the age group between 15 and 24 year old; robust standard errors in parenthesis.

Source: OECD; own calculation.

b. 25–29 years of age

	ur2529	ur2529	ur2529-urover30	ur2529-urover30
lf2529	.151 (.219)	.179 (.219)	.001 (.091)	.009 (.091)
lf2529*2007 and after	-	-.140 (.364)	-	-.043 (.134)
N	1,144		1,144	1,144
R-sq within	.16	.17	.18	.18
between	.11	.10	.02	.01
overall	.09	.09	.05	.05

Note: 'ur2529' = unemployment rate in the age group between 25 and 29 year old; 'urover30' = unemployment rate in the age group over 30 year old; 'lf2529' = labour force weight of the age group between 25 and 29 year old; robust standard errors in parenthesis.

Source: OECD; own calculation.

ern European countries. Is it sufficient to trust that an economic recovery will reduce unemployment of all the population groups to normal levels? If not, what kind of policy intervention is needed to improve the labour market prospects of the European unemployed youth?

In principle, estimates of Okun's law (that is the relationship between GDP growth and unemployment) suggest that positive shocks raising GDP tend to decrease youth unemployment in a similar fashion as for the unemployment of other population groups (van Ours 2015). If anything, the slope of the relationship between GDP growth and youth unemployment seems to have become steeper since 2007 (which is why during the last recession youth unemployment increased by more than expected). If so, future increases in economic activity should go hand-in-hand with higher reductions in youth unemployment.

There are, however, two reasons why high youth unemployment needs to be addressed with a specific approach. One is that unemployment during the early stage of the working career (and especially long-term youth unemployment) has a persistent negative effect on future labour outcomes. In the case of short-term youth unemployment, jumping from temporary to temporary jobs and not being able to capitalise on their human capital nor accumulate substantial working experience, the effect could be as large as for long-term unemployment. Thus, the so-called 'scarring' effects of unemployment could be especially large for this population group. The second reason is that depreciation of human capital takes place at particularly higher rates during the initial stages of the working career, and, again, this happens both for long-term unemployed youth and for young workers with very high transition rates among temporary jobs.

Under the conceptual framework and with the interpretation of the evidence presented above, there are two main policy interventions to be considered. One should be targeted to reduce the labour market frictions that make the search for a first significant job especially burdensome. This requires changes in the educational and vocational system to make the job matches of new entrants into the labour market more efficient. Thus, best practices in transitions from school to work need to be identified and implemented. However, this would not be sufficient if there are labour market institutions that preclude employment stability for young workers. Hence, a second policy intervention that is needed requires dismantling of entry barriers into employment and the establishment of in-work benefits, particularly for low-skilled young workers and eliminating dual EPL that is at the root of the excessively high and negative job turnover for youths. These types of interventions are somehow resisted by insiders in countries where they are most needed and, therefore, there is substantial scope for a European-wide initiative, as suggested by Boeri and Jimeno (2016).

DATA APPENDIX

The source of data is

OECD_Stat (<https://stats.oecd.org/>). Countries included in the sample and the corresponding sample periods are:

- Australia, Canada, Spain, Finland, Germany, Italy, Portugal, Japan, Korea, Netherlands, Norway, Sweden, USA, G7 (1981-2015)
- Belgium, Denmark, France, Greece, Luxembourg, Ireland, EU28 (1983-2015)
- Britain (1984-2015)
- Israel (1985-2015)
- New Zealand (1986-2015)
- Turkey (1988-2015)
- Iceland, Mexico, Switzerland (1991-2015)
- Estonia (1990-2015)
- Poland, Hungary (1992-2015)
- Czech Republic (1993-2015)
- Austria, Slovakia (1994-2015)
- Chile (1996-2015)
- Latvia, Lithuania, Slovenia (2000-2015)

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