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Declining Youth Unemployment in Europe: The Effect of the Business Cycle or the European Youth Guarantee?

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Mikkel Barslund and Daniel Gros

Declining Youth Unemployment in Europe: The Effect of the Business Cycle or the European Youth Guarantee?

INTRODUCTION

In 2012, youth unemployment took centre stage as a European policy issue. It was on the agenda of successive European Councils. The German minister of labour made a pledge to the Spanish Government of allocating apprenticeships for qualified young Spaniards. The Commission unveiled a host of ideas intended to combat youth unemployment. The outcome was a number of policy initiatives to fight youth unemployment, with the adoption of the Youth Guarantee as the central piece of European legislation. The Youth Guarantee committed member states to offer, within four months of becoming unemployed or finished education, either employment, apprenticeship/traineeship or further education. In addition the Youth Employment Initiative made available around 3 billion euros of funding from the Commission to support young people living in regions with youth unemployment higher than 25 percent with the 'young' defined as the 15–24 year olds. Most notably; the core of the Youth Guarantee access to a 'quality job or training within 4 months of finishing education' only applied to this age group (European Commission 2012).

The background leading up to the policy initiative is well-known: sharp declines in employment in many member states in the wake of the financial and sovereign debt crises in Europe took headline youth unemployment numbers to what was widely reported as 'alarming' or 'catastrophic'. Speeches and not least the media reported on a 'lost generation', 'scarred' by unemployment. Indeed, official statistics reported that Spain had a youth unemployment rate higher than 50 percent. For Greece, the number was 66 percent at the time. Portugal, Italy, Slovakia and Ireland also had youth unemployment rates above 30 percent in 2012.

At the time, we were critical of the singular focus on youth unemployment in the public debate (Barslund and Gros 2013). Public spending is always about trade-offs; there is never a shortage of good causes to which funds can be allocated. Hence, a decision to spend money on 'unemployment alleviation' carries an implicit trade-off. When spending is restricted to a particular group the trade-off is explicitly with other age groups. We saw no such considerations in the public discourse. Furthermore, it was clear that expectations created at the time were running well above what we

believed the Commission could deliver in a severely demand-constrained economy. In fact, as we argue below, while youth unemployment carries costs, as does unemployment at all ages, for the individual and the society, in most countries youth unemployment is not a large stand-alone societal problem. Rather, *general unemployment* is the problem. Focussing only on the young and the adverse effects of unemployment hitting one particular cohort in a situation with very high overall unemployment rates seems to be a very partial framework for analysis.

In this article, we first take a fresh look at youth unemployment and how it measures up against overall unemployment. We then discuss the scarring hypothesis, and argue that the literature is far from clear on the crucial question of whether being unemployed when young carries a larger scar than for older workers. In fact, we argue that there is little reason that jobs for youth should be prioritised over jobs for adults, say, an unemployed 35 year old with dependent family.

YOUTH UNEMPLOYMENT IN PERSPECTIVE¹

It is well known to labour market experts that the youth unemployment rate is not well suited to describe the labour market situation of the young. Labour market activity rates among the group of 15–24 year olds – the age group most commonly referred to as youth – are in general low, and vary enormously with age as well as across countries. It is also very heterogeneous. The group of 15–19 year olds are mostly students, with very low labour market participation rates even before the crisis – in particular in countries hit hardest by the economic crisis. This is mostly a good thing as the majority pursue further secondary or tertiary education. In the 20–24 year old age group activity rates are higher, though many in this age group are still in tertiary or post-secondary non-tertiary education. For those having finished their education and looking for jobs, unemployment is troublesome, but in many countries students often start working already during and alongside their studies, thus boosting labour market participation. For these reasons, and because activity rates for youth varies substantially among countries, it is instructive to look at unemployment ratios, i.e. unemployment to total population for the youngest age groups to get a clearer picture of youth unemployment (Figure 1). It is in the peripheral euro area countries, like Greece, Spain, Italy and Portugal that youth unemployment is highest, with double digit unemployment ratios (even in France). However, there are many other countries with much more moderate rates. Germany stands out as having the lowest youth unemployment, whether measured by the rate or the ratio.

The unemployment ratio tells us how many of a certain cohort are unemployed, whereas the unemployment rate answers the question of how many of those



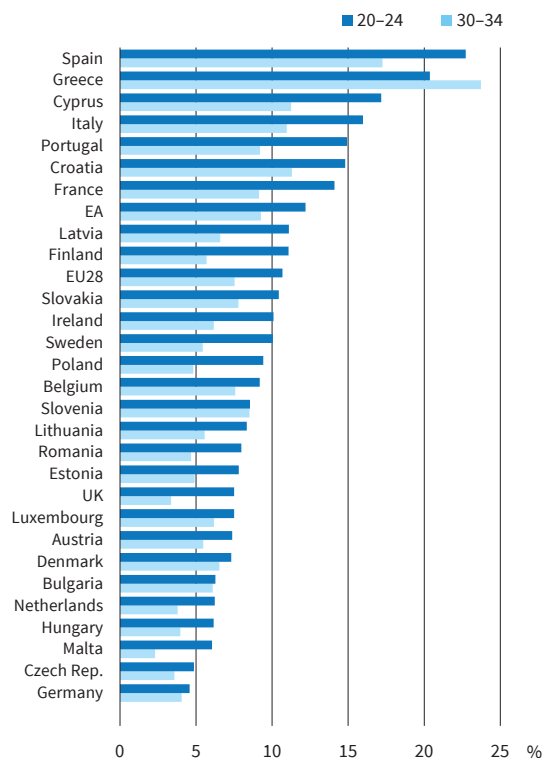
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¹ We use youth to denote the age group of 15–24 year olds, as is common practice.

Figure 1
Unemployment Ratios for Age Groups 20–24 and 30–34
2016



Source: Eurostat.

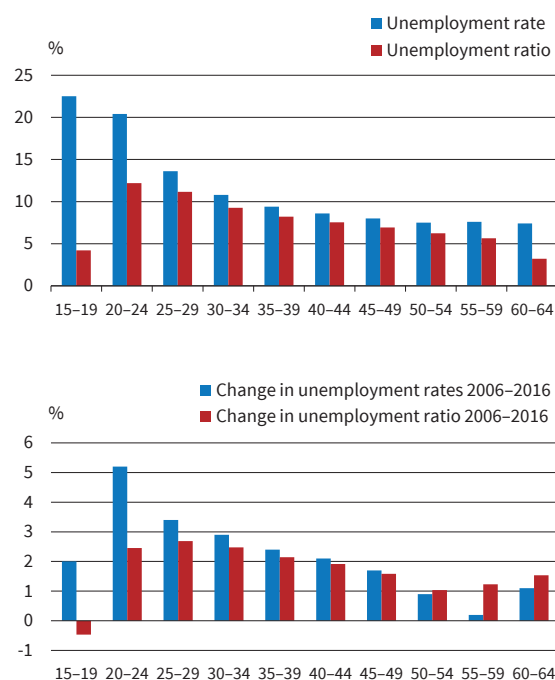
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of a certain cohort who participate in the labour market are unemployed. The ratio shows the overall incidence of those who are frustrated because they cannot find a job, whereas the rate shows the incidence of the job seekers among a potentially much smaller group. It is thus only to be expected that the unemployment rate is often much higher than the unemployment ratio, but the higher number is most often used in political discourse because it is much more useful to support calls for policy action.

Figure 1 also illustrates that if one looks at the ratio, high unemployment is not limited to the young age groups. In most countries the unemployment ratio of the 30–34 year olds, i.e. those ten years older than the typical youth cohort (those 15–24), is only somewhat lower than the ratio for the younger. In fact, in Greece, a larger share of the population of 30–34 year olds are currently unemployed than is the case for the 20–24 year olds.

If we consider changes in the unemployment rates for different cohorts over the period 2006–2016 in the euro area as a whole, rates have increased the most for the age group of 20–24 and 25–29 year olds. The first graph of Figure 2 shows the level of the unemployment rate and ratio in 2016. It is apparent that the difference between the two measures is largest at both ends of the age scale because both the young and the elderly (above 55 years) have low participation rates. The second graph of Figure 2 shows the change over the ten year period 2006–2016. The 15–19 years cohort illustrates

Figure 2
Unemployment Rates and Ratios for Different Age Groups
in Euro Area, 2016



Source: Eurostat.

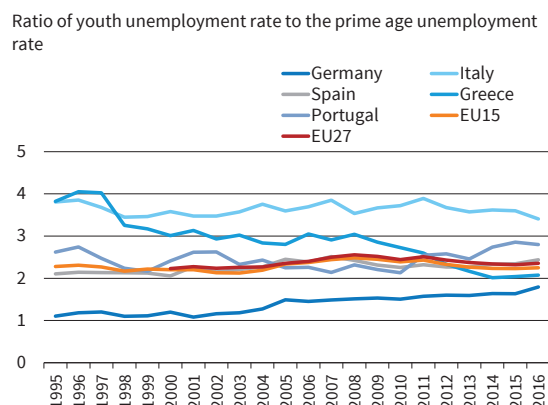
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tes how the unemployment rate can be misleading since for this age group enrolment rate in education have increased, thus leading to a reduced number of job seekers, which translates into a lower ratio, but the registered unemployment rate shot up because fewer in this age group are working as well. For the 20–24 year olds the difference between rate and ratio is also large, but, as for the other cohorts, the two point in the same direction. It is still clear that the unemployment ratio has increased the most for the 25–29 year olds and there are only minor differences in the increase among cohorts aged between 30 and 39.

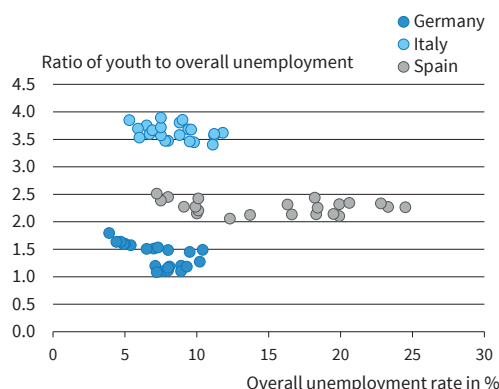
That unemployment ratios and unemployment rates of the young cohort aged between 15 and 24 are higher than among prime age workers is not surprising; even if hiring and firing rates were equal across cohorts, the cohort of 15–24 year old has a steady stream of ‘unemployed’ entering from the education system. Moreover, a general decrease in economic activity will affect young people active in the labour market more than older cohorts. Young people are more likely to have entered the labour market recently and – if employed – be on fixed term contracts. They might thus be easiest to fire. In addition, the unemployment rate of young cohorts depends relatively more on the general level of new hiring than on the number of lay-offs than for older cohorts (see Casado *et al.* (2015), for a detailed decomposition of worker flows between employment and unemployment).

Thus, while youth unemployment is higher than average unemployment, the ratio of the two has

Figure 3
Youth Unemployment Rates Relative to the Rate of Prime Age Individuals (25–54 y/o)



Association between prime age unemployment rate and ratio of youth unemployment rate to prime age unemployment rate (1995–2016)



Source: Eurostat.

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remained relatively stable for most countries over the past two decades (Figure 3, first graph). The only clear change has been a reduction in the differences across member states. Furthermore, there is barely any correlation between the overall employment rate and the ratio (Figure 3, second graph). In the case of Spain, the ratio between the youth unemployment rate and the unemployment rate of the prime age labour force has been constant at around 2.5 whether the employment rate was 10 or 20 percent. The factor 2.5 implies that if the overall unemployment rate goes from 10 to 20 the youth unemployment rate would go from 25 to 50 percent. The absolute increase would thus be much larger, in both directions: as overall unemployment comes down, youth unemployment falls by more.

The scatter plots in the second graph of Figure 3 for the three countries most affected by the crisis suggest that the ratio of youth to overall unemployment actually decreases slightly as overall unemployment goes up. But there are too few observations to decide whether this is a general phenomenon.

If the ratio of youth to overall unemployment is larger than one and roughly constant, one would expect that any increase in the overall unemployment rate should be associated with an even larger increase in youth unemployment – and *vice versa*. It should there-

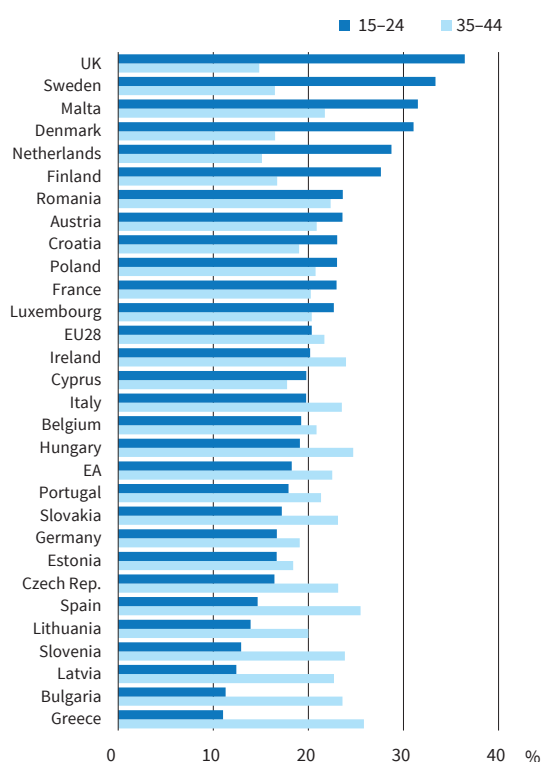
fore come as no surprise that youth unemployment rates shot up during the great recession and that it has come down more rapidly than overall unemployment in countries affected the worst by the crisis.

Unemployment ratios and (for older cohorts) rates are instructive to compare the situation across cohorts when the population size of each cohort differs. However, from a public policy perspective what matters is the absolute magnitude of unemployment and the part the younger cohorts play in the overall phenomenon. Looking at the level of unemployment in absolute terms paints a somewhat different picture. In countries with the largest youth unemployment rates, the number of young people unemployed constitutes less than 20 percent of the total number of unemployed people (Figure 4). In Greece and Spain, the unemployed aged 35–44 make up a substantially large share of total unemployment. Given that individuals in this age group are more likely to have dependents (potentially both young and old), and, for this same reason, this age group is also less mobile, this seems like a larger societal problem. On the other hand, Britain and Sweden are countries with a large share of the young in total employment.

It is also of interest to see how different cohorts have fared across the 10-year period from 2006 to 2016 in terms of absolute changes in employment and unemployment.² Looking first at changes in employment

² We rely on Eurostat 5-year age categories as a data source. We therefore start in 2006 in order to follow the cohorts.

Figure 4
Cohort's Share of Total Unemployment 25–64 Year Old
2016



Source: Eurostat.

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among the four 5-year age cohorts in 2006, there is little evidence that younger cohorts fared worse (see Figure 5, first graph). In the case of Italy and Greece the youngest cohort shown, those aged 25–29 years in 2006 are not reliable because of relatively smaller labour market participation rates for this age group. In Spain, 25–29 year olds' participation rates almost match those of the total prime age labour force.

Looking at employment numbers it does not make much sense to include the cohort of 20–24 year olds. As noted above their labour market participation is very low, thus observing them 10 years later will reveal higher employment even in the deepest recession. This fact works in our favour when looking at the change in the number of unemployed people (Figure 5, second graph). Looking at the 20–24 year olds in 2006 gives a relatively small absolute number of unemployed (due to low participation rates). Hence, the change in the number of unemployed is an upper bound for the change that would have been had this cohort been equally active on the labour market as older cohorts. The same applies for the 25–29 year olds in Italy and Greece. Again, looking across cohorts within countries it is not clear that the youngest cohort has been more affected by the crisis in absolute terms.

Part of the pattern observed in Figure 5 (second graph) is due to some out-mobility of predominantly young people. This is in particular the case of Greece and to a much smaller extent Spain and Italy. However, looking at the period 2006–2011 before mobility picked

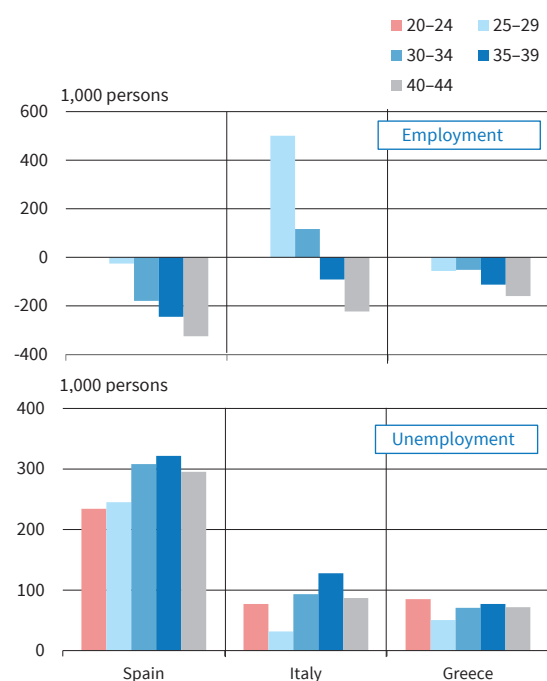
up (Barslund and Busse, 2013), reveals roughly the same pattern.

Finally, it is of interest to look at youth unemployment at the regional level because the youth employment initiative is targeted explicitly at regions. Figure 4 highlighted that some countries with lower youth unemployment rates have a larger share of young unemployed in total employment. The funds coming from the youth employment initiative were restricted to NUTS2 regions with youth unemployment rates in excess of 25 percent. With this rule, some regions where the share of youth in total unemployment was high would not qualify.

Figure 6 shows, at NUTS2 level, the combinations of youth unemployment rates and share of youth in total unemployment in 2012. It is apparent that the relationship between the two is rather weak. The cut-off line of 25 percent youth unemployment rate leaves out many regions where the youth actually constitute a large part of the overall unemployment problem. The average share of youth in total unemployment in regions with a youth unemployment rate of less than 25 percent is around 28 percent, whereas in regions with a rate above this threshold the young's share in total unemployment is 22 percent.

The main message is that regions with high youth unemployment in general have many unemployed people. Furthermore, some regions where the share of unemployment is high, are not covered by the youth initiative. Some of these regions also have sizeable populations of young unemployed.

Figure 5
Changes in Employment and Unemployment for Different Cohorts, 2006–2016



Note: Cohorts denoted by their age in 2006.
Source: Eurostat.

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LOST GENERATIONS? OR IS UNEMPLOYMENT WORSE FOR THE YOUNG?

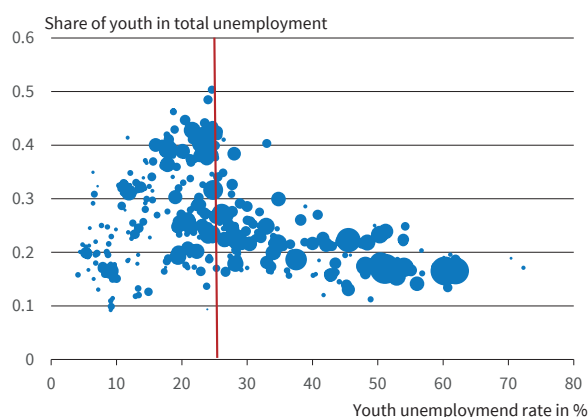
The fear of the young becoming a lost generation – permanently ‘scarred’ by early experiences of unemployment – is a persuasive argument in favour of promoting policy measures that target youth unemployment specifically. If the first labour market experience is crucial for subsequent labour market participation and earnings, there might be a case for policies promoting youth employment, though in a depressed economy this may be at the expense of employment of other age groups, even if the group of young unemployed only constitutes a small majority of the unemployed. This could be the case if, for example, the period immediately after graduation is sufficiently decisive for the rest of one's career.

The notion of ‘scars’ from unemployment comes from a large body of academic literature that looks into the short and long-term effects of unemployment spells on subsequent labour market outcomes, in particular, on labour market participation rates and earnings (Ellwood 1982).

The main question this literature is concerned with is assessing the counterfactual of what would, on average, have happened with subsequent earnings and labour market participation had a given individual not been unemployed for some period at an earlier stage.

Figure 6

Youth Unemployment and Share of Young Unemployed in Total Unemployment (NUTS2), 2012



Note: The size of point indicates relative total number of unemployment.
Source: Eurostat.

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This is not an easy task as not only are individual traits correlated with early employment also associated with later labour success, but there is most likely a lot of heterogeneity in causal effects across those exact traits (e.g. skill levels, personality, non-cognitive skills). Hence, the literature on this question is quite extensive.

The vast majority of studies in this literature, however, only consider the youngest cohort. There is no clear consensus as to the effect of future earnings or subsequent increase in the probability of unemployment, which in all likelihood also depends on institutions related to the labour market and welfare state.³ It is clear, however, that unemployment is associated with worse future outcomes on the labour market. We do not find agreement on the initial size and duration of these negative effects.

While nobody would be against helping unemployed youth, a key point of relevance for public policy, and indeed underlining the focus only on the young cohorts, is to what extent scarring is worse for younger than older cohorts, i.e. the relative effect rather than the precise magnitude. Unfortunately, there are few studies in the literature that look at the effect for different cohorts, but rather only at the impact on one cohort (which, in the majority of cases; is a young one). When age is investigated as part of the research question, the effects are worse for older (prime age) cohorts. In their review of studies based mostly on US data, Couch and Placzek (2010) only find articles where scarring increases with age and none where the opposite is the case (when this is investigated together). This fact is corroborated in their own application (see also Couch *et al.* 2009).

As for the magnitude of scarring, the survey of studies based on US data includes one study where

scarring leads to a wage penalty of 8–13 percent after six years (with higher initial wage drops); other studies show larger scarring effects and a few show no permanent scars at all, since the initial effect on wages disappears after six years. Generally, results span the range from no long-term effect to wage penalties of up to 30–40 percent six years (or longer) after being unemployed. Studies based on data from continental Europe tend to show smaller effects of scarring than those based on US data (Couch 2001; Gaini *et al.* 2012).

In two much cited papers Arulampalam and co-authors (Arulampalam 2001; Arulampalam *et al.* 2000) investigate respectively the immediate scarring effect on wages upon re-employment, and the related scarring effect stemming from the fact that if you are unemployed now you are more likely to be unemployed in the future. Both papers find that the estimated scarring effect is higher for older people than for younger individuals. A similar qualitative conclusion is reached by Gregory and Jukes (2001). As is the case for the Arulampalam papers their data are from Britain. Gangl (2006) uses data from 11 continental European countries and find that scarring effects are larger for older workers. There are also studies on the scarring of youngsters that were raised by unemployed parents (Hilger 2016; Oreopolous *et al.* 2008). The literature finds modest to non-negligible second order effects on offspring.

There is one important qualifier to note in relation to the findings in the literature. Due to publication bias, the average impact of scarring is likely to be smaller than that which can be inferred from published studies. It is difficult to get a study published which does not find a scarring effect, thus it is likely that studies that failed to find scarring or had smaller insignificant results remain unpublished.

Evidence from Macro Data

The variability in the outcomes of micro studies of the scarring effect makes it difficult to assess the longer term macro effects. Evidence of wage scars, i.e. to what extent and duration a spell of unemployment lowers an individual's wage, are difficult to examine from the macro side. But potential scars on labour market participation and employment rates can be examined from aggregated data at the level of cohorts. One way to approach this is to look at past episodes of (large changes) in youth unemployment and investigate the impact on later employment and labour market participation. We provide two short examples in which one

³ It is impossible to do a review that does justice to the literature. We cite papers so as to get an indication of the variability of outcomes for published studies.

cannot find any scarring effect at the aggregate level: one looking at employment, the other at labour force participation.

A first test of the ‘lost generation’ hypothesis can be gleaned from the deep recession of the 1990s. Specifically, we identified (large) increases in the unemployment rate of the age group of 20–24 year olds in the three 5-year periods, 1986–1991, 1991–1996, 1996–2001, among EU15 countries (where data is available). Two countries, Denmark and Finland, had large increases to the youth unemployment rate from 1986 to 1991, and ten countries had increases in the youth unemployment rate from 1991 to 1996. None of the countries examined saw an increase in youth unemployment from 1996 to 2001.

We focus on these periods because we can match changes in youth unemployment rates between successive 5-year cohorts to changes in employment rates between those same cohorts in the period from 2006 to 2011. That is, for changes in the youth unemployment rate between 1991 and 1996, the comparison is between employment rates of the 35–39 year olds in 2011 (the cohort exposed to the increase in youth unemployment while young) and employment rates of the 35–39 year olds in 2006 (exposed to lower levels of unemployment rates). The period for comparison, 2006–2011, is of course imperfect because in that year Europe was still in recession and hence one would expect lower employment rates for the ‘treated’ cohort, just for business cycle reasons. We adjust for this using an estimated employment to output elasticity from ECB (2016) together with the difference in the output gap between 2006 and 2011 to obtain the impact of the recession on employment. We then relate the adjusted difference in employment rates between the cohorts and ask whether there is any link to the differences in

unemployment rates of these cohorts 15 years earlier. Table 1 presents the basic data.

Comparing employment rates of the cohort of 35–39 year olds in 2011 and 2006, we would expect to observe that the countries with the highest increase in unemployment in the 1990s show lower than ‘normal’ (given the post financial crisis recession) employment rates in 2011. However, we find that the cohort which experienced high unemployment in the 1990s did not end up having lower employment rates 15 years later. Two of the peripheral countries subject to financial tensions (Italy and Spain) show only ‘normal’ employment and the only real exception is Portugal, where employment was lower (for the cohort in question) than one would expect. Another example is provided by Finland and Sweden both of which had double digit increases in the youth unemployment rate between 1991 and 1996, but the cohorts which were young in 1996 had only higher employment rates when aged 35–39 than one would expect given the business cycle conditions of these countries.

The second example of a lack of a lost generation effect concentrates on labour market participation rates and the last recession. Given the magnitude of the recession, one should be able to find the lost generation effect among the 25–29 year olds in the aggregate data. For example, one would expect to find that the labour force participation rates of those who were young when the recession first hit would be lower subsequently because those experiencing a long unemployment spell would lose skills and give up looking for a job. One way to approach this is to look at the cross country correlation between the changes in youth unemployment rate (20–24 year olds) from 2001 to 2011 and the change in labour market participation rates of 25–29 year olds between 2006 and 2016. Figure 7 shows

Table 1

Change in Youth Unemployment and Employment Rates, Selected Cohorts

Country	Δ youth unemployment rate 1991–1996 (% pct.)	Δ employment rate, 35–39 y/o (2006–2011) (% pct.)	Δ output gap (2006–2011) (% pct.)	Adjusted Δ employment rate (business cycle neutral, 2006–2011) (% pct.)
Belgium	7	0.6	– 1.3	1.5
Finland	11.1	0.3	– 1.6	1.4
France	8.3	0.4	– 2.6	2.2
Germany	4.3	2.8	0.8	2.2
Greece	4.6	– 5.3	– 14.9	5.1
Italy	2.4	– 2.3	– 3.2	– 0.1
Luxembourg	5.4	0.6	– 3.5	3.1
Netherlands	0.4	– 0.1	– 1.4	0.9
Portugal	7	– 3.8	– 1.1	– 3.0
Spain	9.3	– 6.1	– 8.7	0.0
Sweden	14.1	0.3	– 2.7	2.2

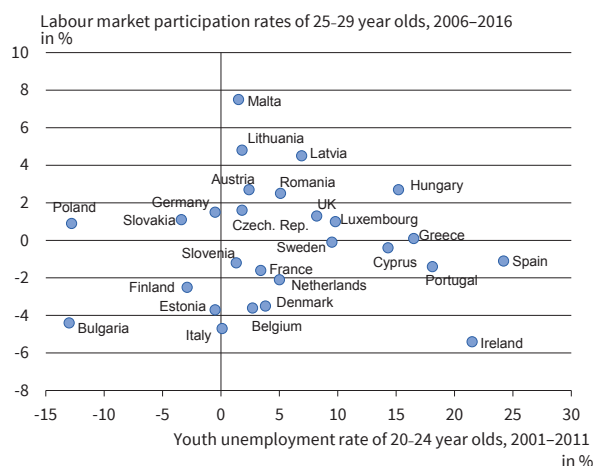
Country	Δ youth unemployment rate 1985–1991 (% pct.)	Δ employment rate, 40–44 y/o (2006–2011) (% pct.)	Δ output gap (2006–2011) (% pct.)	Adjusted Δ employment rate (business cycle neutral, 2006–2011) (% pct.)
Denmark	5.4	– 0.3	– 7.2	4.7
Finland	3.6	– 0.4	– 1.6	0.7

Note: Employment in 2011 is adjusted by applying an employment-GDP elasticity of 0.7 (ECB 2016). This implies an adjusted change in employment rates between 2006 and 2011 (column 4).

Sources: OECD Labour Market Statistics; Ameco database.

Figure 7

Changes in Youth Unemployment vs. Changes in Labour Market Participation Rates in the EU27



Source: Eurostat.

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a scatter plot of this ‘difference-in-differences’ approach for EU27 countries. There is a large variation in the difference with which the 20–24 year old cohorts were exposed to youth unemployment between 2001 and 2011, and an almost equally large variation in changes in outcomes. However, the correlation between the two is practically zero.

CONCLUSION

For EU27 as a whole; youth unemployment peaked at 23.5 percent in 2013. Since then youth unemployment rates have fallen, in line with economic growth, in almost every country across the Union. On average, youth unemployment has fallen by 5 percentage points so that it now stands at 18.8 percent, with France as a prominent outlier to this trend. How much of this fall – if any – that can be attributed to the Youth Guarantee and how much to the recovery of the economy awaits detailed assessment in each member state. The official assessments are likely to find that the Youth Guarantee has been very effective. We do not propose a detailed evaluation of its impact, which would have to take into account national characteristics, such as implementation capacity, structure of youth unemployment and labour market institutions. We would argue that a priori evidence of the impact of the Youth Guarantee scheme should be found in a decline in youth unemployment relative to overall unemployment. That is, the Youth Guarantee should be considered a success if the incidence of youth unemployment has declined by more than one would expect given the decline of the overall unemployment rate due to the recovery of the business cycle and the historical relationship between the two. The ratio youth to overall unemployment should thus be the key variable to consider. However, this ratio has not changed significantly over the last years; for example, for Spain it was 2.3 in 2012 and 2.4 in 2016.

A spell of unemployment is always a disruptive event, at any age. At 18.6 percent, the youth unemployment rate in the EU27 remains a major policy concern that warrants full attention, but so is the unemployment of older workers, even if the unemployment rate among older (or rather not young ones) workers, at 8.6 percent is only about one half. The public debate and policy initiatives have focused one-sidedly on youth unemployment. We do not find this partial approach overly convincing. In fact, one can argue that the young in many instances are in better shape to react to unemployment, either by relo-

cating if possible, or going back to education, options which may be harder to choose for older individuals, especially those with dependents. Thus, even if scarring is worse for young people, something we do detect in the literature, the case for targeting youth unemployment is not clear-cut. The economic literature has focused on partial effects whereas policy makers must trade off the impact on different groups when designing policy. We provide evidence from macroeconomic, aggregate data which suggest that there has been no lost generation effect. Labour force participation rates have actually increased in the aggregate and there is little evidence that the very headline high youth unemployment rates have led to a lost generation.

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