Institute for Fiscal Studies

IFS Report Summary

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Executive summary

Key findings

1 The coronavirus pandemic has raised fresh concerns about the potential for a "lost generation"' of young adults who will end up bearing long-lasting scars from entering the labour market at an inopportune time.

2 Using administrative data from Denmark covering the period 1996-2018, we show that young adults who finished education when the not-in-education employment-or-training (NEET) rate was higher than normal experienced lower levels of employment even 8 years later. For example, those completing education age 18 when the NEET rate is 1 percentage point higher than average were 0.5% less likely to be in paid work by age 26.

3 We also find negative – though less persistent – impacts on earnings among those who are in paid work, with those completing education when NEET rates are higher than normal earning between 1.4% and 3.0% less at the start of their working lives.

4 We find that these scarring effects are greater and more persistent for young adults with parents from the lowest-income backgrounds, and especially so for young people from low-income backgrounds who leave school at younger ages.

3 Born under a bad sign: the consequences of completing education when unemployment is high

Since the outbreak of the COVID-19 pandemic, Denmark – like many advanced economies – has seen young adults disproportionately affected by job losses. Figures from the Danish Ministry of Employment show that 33% of the 353,348 newly unemployed between March and December 2020 were aged 18-29, despite that age group making up only around 20% of those employed at the end of 2019. While many lost jobs are likely to be restored (or replaced) once lockdowns ease and supressed economic activity resumes, there are increasing concerns that a "lost generation" of young adults will end up bearing long-lasting scars from entering the labour market at an inopportune time (e.g. von Wachter, 2020a).

Such concerns are supported by a body of economic research that finds entering a depressed labour market has a large negative impact on initial levels of earnings and employment that can take 10-15 years to fade. These 'scarring' effects are thought to occur for reasons as varied as the depreciation of skills (Pissarides, 1992), psychologically discouragement (Clark et al., 2003), and worse matches between workers and firms (Liu et al, 2016). In addition, there is evidence of adverse impacts on crime (Bell et al., 2017), substance misuse (Maclean, 2015; Cutler et al., 2015) and mortality (Maclean, 2013; Schwandt and von Wachter, 2020).

However, most evidence for these scarring effects comes from college graduates in the United States and Canada. Given that job losses associated with the ongoing pandemic have fallen most heavily on those working in sectors like hospitality and retail which disproportionately employ those with lower levels of education (Mattana et al., 2020), the extent and persistence of potential scarring effects may be very different for these workers.

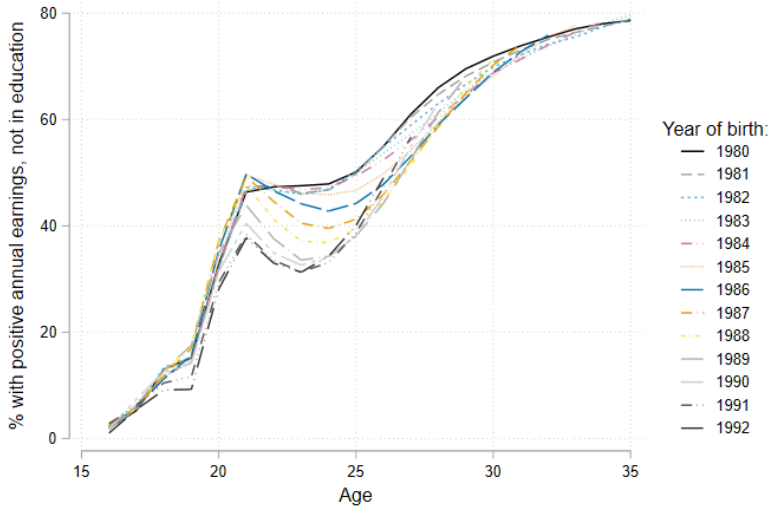
In addition, evidence on scarring effects from European countries – particularly those more similar to Denmark – is much more limited than that from the United States. While the more expansive welfare and education systems that operate in Denmark may serve to attenuate the impact of such shocks (Landersø and Heckman, 2016), evidence of the impact entering the labour market when employment opportunities are poor has on young Danes' subsequent prospects is needed.

This note summarises the findings of a new IFS working paper – Regan and Roantree (2021) – that aims to provide such evidence. We begin by using register data from Statistics Denmark to plot the employment rate and earnings by age for those born between 1980 and 1992. Figure 1a shows that those who turned 20 over the course of the Great Recession (born in the late 1980s and early 1990s) experienced lower rates of employment throughout their 20s than those born in the early 1980s. Similarly, Figure 1b shows that those from affected birth cohorts who were in work had lower earnings throughout their 20s, only converging to the levels of those born in the early 1980s after age 30. While this is suggestive of persistent scarring effects caused by the Great Recession, it does not fully separate out differences by age, time period and birth cohort

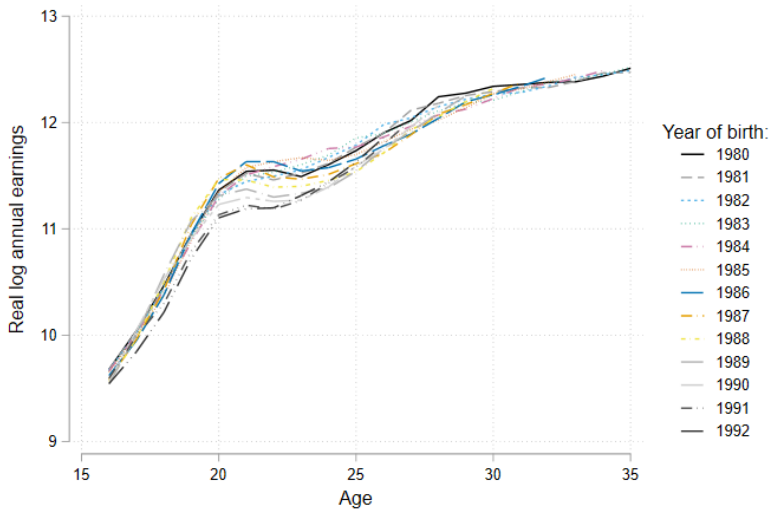
(Deaton and Paxson, 1994), nor does it concretely quantify the relationship between adverse conditions initially experienced in the labour market and subsequent outcomes.

Figure 1. Employment rates and earnings by age and birth cohort

A. Employment rate



B. Earnings



Note: Authors' calculations using register data from Statistics Denmark.

We exploit variation across municipalities in Denmark over time to estimate more robustly the impact weaker initial labour market conditions have on the later life prospects of young Danes. In essence, we compare a young person finishing education at e.g. age 21 in Copenhagen when labour market conditions are weak to an identical peer (based on observed traits) finishing education at age 21 in Copenhagen when labour market conditions are strong. As such, differences in unemployment rates *within* regions over time provides a key source of identifying variation.

Following the literature, our empirical approach involves estimating these effects using ordinary least squares regressions of initial labour market conditions at the time of completing education on outcomes of interest, controlling for potential differences in the composition of different birth cohorts in addition to age- and region-specific effects (von Wachter, 2020b). The outcomes we examine are subsequent employment and annual earnings from ages 19 to 26. These outcomes are measured using information from Statistics Denmark's register data for young adults born between 1980 and 1992, observed over the years 1996 to 2018.[1] We measure initial labour market conditions using the not in employment or education (NEET) rate for the municipality of residence at the age when an individual completed education.[2] We define an individual as having completed education in the first year they are not currently enrolled in a formal educational course at a Danish educational institution and thus do not appear in the Danish Education Register in a given year.

We first examine the effects of entering the labour market when economic conditions are weak on the probability of future employment. Figure 2a plots our estimates of the effect of completing education when the NEET rate is 1 percentage point higher than average on the probability of being employed at subsequent ages, estimated separately by the age education was completed at: 18, 19, 20 or 21, by when 75% of a birth cohort have – on average – completed education. These show that entering the labour market at such times is associated with a 0.6-2% reduction in the initial probability of being in paid work, with larger and more persistent effects for those completing education at earlier ages. For example, those completing education age 18 when the NEET rate is 1 percentage point higher than average are 2% less likely to be in work at age 19. This effect fades to 0.5% by age 26, while those completing education at age 21 see an initial reduction of 0.6% which our estimates suggest fades completely by age 26.

We find a similar of pattern of results for earnings. Figure 2b plots our estimates of the effect of completing education when the NEET rate is 1 percentage point higher than average on real annual log earnings at subsequent ages, again estimated separately by the age education was completed at. The initial adverse effect on earnings is largest for those completing education at age 18 (-3.0%) and smallest for those completing education at age 21 (-1.4%). Unlike employment, however, the estimated scarring effect fades entirely for both those who left education before and after age 20. Indeed, our estimates are slightly positive by age 26 for those completing education at ages 20 and 21. Given the persistence of adverse employment effects at this age for most of our

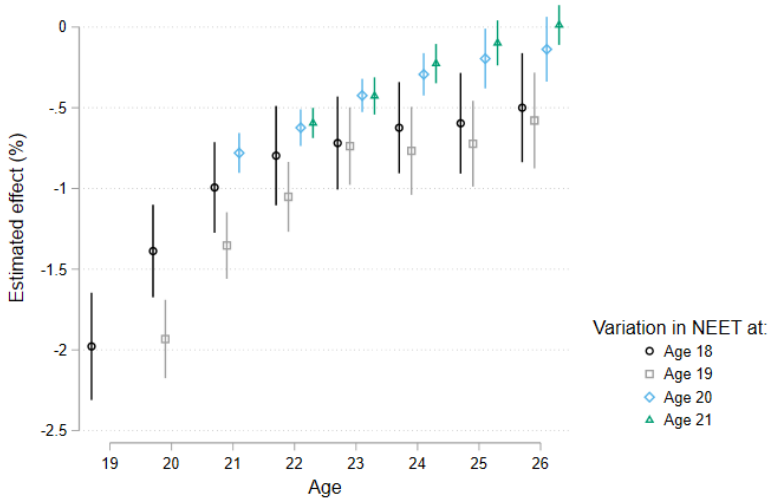
1 Information on individuals' earnings and employment are taken from the IND register, while information on criminal charges and hospitalisations are taken from the KRSI and LPR registers respectively. For further details of these registers, see http://www.dst.dk/extranet/forskningvariabellister/Oversigt%20over%20registre.html. We restrict our attention to those aged 19-26 as this is the latest age we observe our youngest cohort.

2 To account for the possibility that individuals may delay finishing education in response to weak labour market conditions, in Regan and Roantree (2021) we also estimate effects using labour market conditions at ages 18, 19, 20 and 21 regardless of when individuals actually completed education. Although less precisely estimated, the pattern of results is broadly similar to those in our baseline specification, particularly for those leaving school at ages 20 and 21 (the majority of young adults from the birth cohorts we have data on).

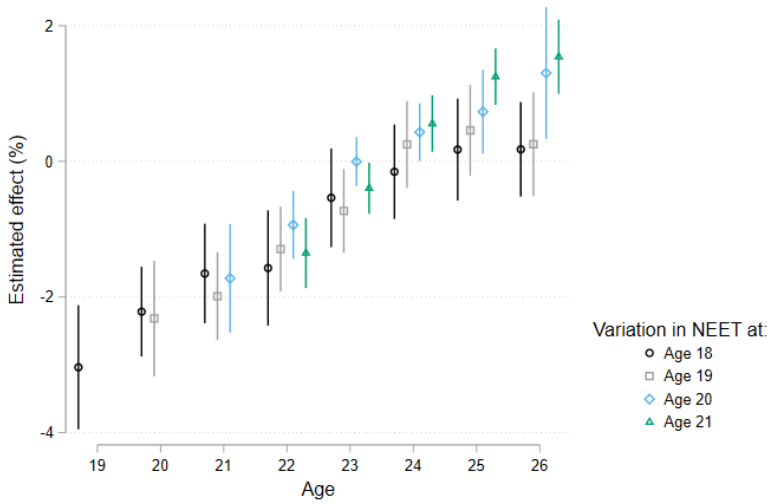
sample (see Figure 2a), this may in part be explained by selection. Such a situation could arise if the adverse employment effects are disproportionately experienced by lower-skilled young adults whose earnings would be lower than average if they were in work. As result, these estimates may understate the true effect of entering the labour market when economic conditions are poor on future earnings.

Figure 2. Estimated impact on the employment and earnings of young adults

A. Employment



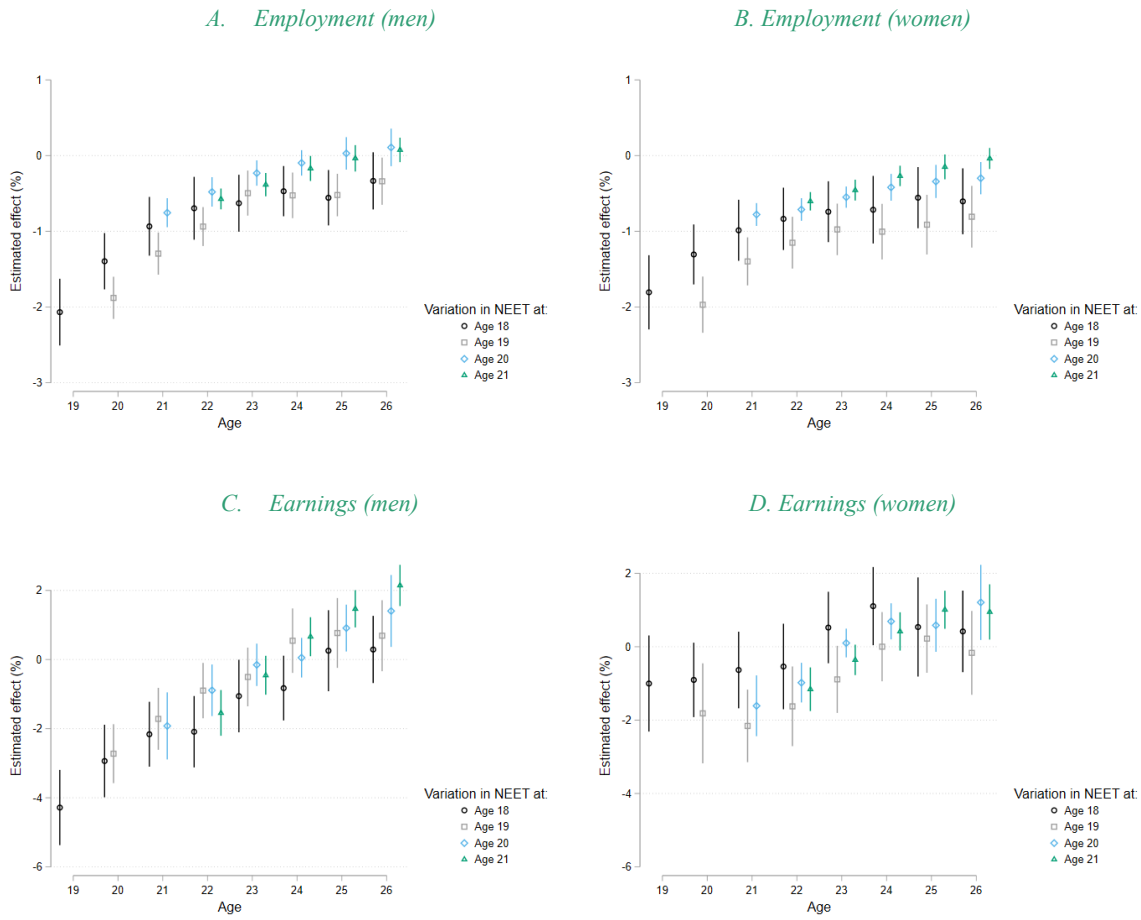
B. Earnings



Note: Authors' calculations using register data from Statistics Denmark. Bars show 95% confidence interval based on standard errors clustered at the municipality level.

The population coverage of our data also provides sufficient sample sizes to estimate scarring effects separately for men and women. Figure 3 contains our estimates for employment and earnings by sex. This shows that while men and women experience similar effects on employment from finishing education when the NEET rate is higher than normal (panels A and B), the initial impact on earnings is significantly larger for men who leave education at age 18 or 19 (panels C and D).

Figure 3. Estimated impact on the employment and earnings of young adults, by sex

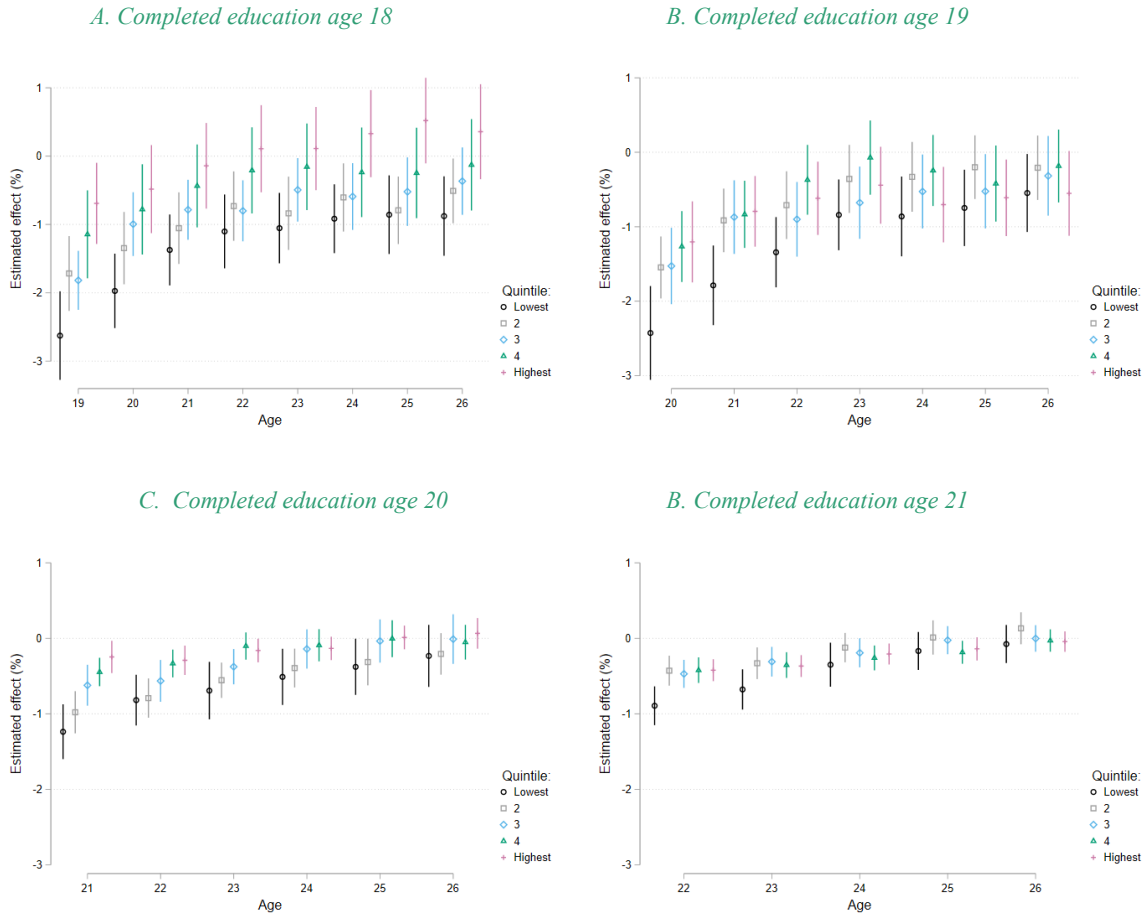


Note: Authors' calculations using register data from Statistics Denmark. Bars show 95% confidence interval based on standard errors clustered at the municipality level.

We also find large differences in the extent of scarring by family background. Our data cover the parents of individuals in our sample, allowing us to estimate effects separately by parental earnings. Individuals of a given birth cohort are divided into quintiles (fifths) on the basis of their parents' earnings rank when the child was 16. Panel A in Figure 4 shows that the estimated effect on subsequent employment from completing education aged 18 when the NEET rate is 1 per cent higher than average is both initially far larger and more persistent for those from the lowest-income backgrounds than the highest-income backgrounds. Indeed at 0.9%, the estimated central impact

at age 26 for early school leavers from the lowest-income households is greater than the initial impact for early school leavers from the highest-income households (0.7%).

Figure 4. Estimated impact on employment, by quintile of parental earnings



Note: Authors' calculations using register data from Statistics Denmark. Bars show 95% confidence interval based on standard errors clustered at the municipality level.

The same pattern holds for older school leavers, with the estimates suggesting much larger initial effects that are more persistent for those from lower-income backgrounds than higher-income backgrounds. This is true whether completing education aged 19 (panel B), 20 (panel C) or 21 (panel D). However, the gradient is steeper for those completing education aged 18 or 19, with differences in the estimates for the lowest- and highest-income group not statistically significant at most ages for older school leavers. We obtain similar patterns of results for earnings, with larger more persistent negative effects for those from lower-income backgrounds finishing education before age 20.

In summary, we find evidence of significant scarring effects in the Danish labour market for young adults who finish education when employment prospects are poor. For older school leavers, our estimates suggest smaller scarring effects that heal faster than similarly educated groups

elsewhere. For example, we estimate that the scarring effect on earnings for those completing education at ages 20 and 21 fade within 3 years, compared to 6-10 years for those with at least some college education in north America (Kahn, 2010; Oreopoulos et al., 2012; and Altonji et al., 2016) and Norway (Liu et al., 2016).

We find more persistent effects on employment for those with lower levels of education, as do Schwandt and von Wachter (2019) for the US and Cribb et al. (2017) for Britain. However, our key finding is that these effects are substantially larger and more persistent for young adults from lower-income backgrounds, a group for whom economic research suggests active labour market policies are typically least effective (Caliendo & Schmidl, 2016). Given this group are also more likely to work in sectors like hospitality and retail which have been disproportionately affected by the pandemic (Anderson et al., 2020), policymakers need to rise to the huge challenge in limiting the potential scarring effects of the ongoing crisis (von Wachter, 2020a).

Indeed, research suggests that the current set of active labour market policies deployed in most advanced economies are in general of mixed effectiveness (Card et al., 2018). Alongside the ROCKWOOL Foundation Interventions Unit, researchers at the IFS are working to evaluate the impact of a new programme – NExTWORK – that seeks to improve economic and educational outcomes for young adults by providing job placements through a network of companies. With more than 600 youth now enrolled, results from a randomised controlled trial will help shed light on how we can best limit ameliorate the consequences spells of economic inactivity have for young adults.

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