

# An extra year or a hurdle cleared: what determines the returns to education?

**Will simply compelling young people to stay in school longer improve their labour market outcomes or do they also need to get better qualifications? CMPO researchers *Matt Dickson* and *Sarah Smith* investigate by looking at the UK's 1973 raising of the minimum school leaving age from 15 to 16.**

Estimates of the returns to education often combine two things. The estimated return picks up the effect of having received a higher level of education, which in principle should lead to people having greater skills and means they can command a higher wage. It can also pick up the effect of having a higher level of qualifications since people who stay in school longer typically have higher qualifications.

## Increasing years of education has the greatest impact on later life outcomes when combined with additional qualifications

Of course, qualifications in part reflect an individual's level of skill but they also play a separate 'signalling' role – letting employers know that someone is likely to be relatively more skilled. Two people both leaving school at the same age with the same skills may command different wages if one has qualifications.

Trying to unpick these two factors is important. Simply compelling people to stay in school longer – without also ensuring that they get higher qualifications – may have little effect on wages. This is relevant to the proposed increases in the minimum school leaving age. Since many qualifications are taken at age 18, making people stay in school to 17 will not have the expected positive effect on wages and participation if it is qualifications that matter.

### Mechanics

What we would like to know is both the effect of increasing education by one year and the effect of gaining some qualifications compared with none (conditional on the length of schooling). CMPO research has tried to shed light on this issue.

Calculating the economic returns to qualifications is hampered by the same problems as calculating the returns to a year of education – individuals who gain qualifications are likely to have other characteristics that improve their outcomes, distorting the causal link between qualifications and economic outcomes. To get round this, we exploit an institutional rule that affected when minimum age leavers could finish school.

Between the Education Acts of 1962 and 1996, individuals born between 1 September and 31 January could leave school at the start of the Easter holidays in the academic year that they reached the minimum leaving age.

Those born between 1 February and 31 August had to remain until the last week of May. Having to return after Easter made it more likely that these younger people within the year would stay and actually take exams at the end of that year – which are typically held in May and June. Those leaving at Easter were less likely to return and take the exams.

This should only be important in the period after the 1973 Raising of the School Leaving Age (RoSLA) from 15 to 16 because the higher leaving age brought students to the point where the end of year exams were the nationally recognised O-level and CSE exams. Before the RoSLA, minimum age leavers compelled to come back to school for a few weeks after Easter would not increase the probability of taking these national exams as they were still a whole year away.

If the only difference between these groups is that because of their birth dates, one group stays post-Easter and takes exams and gains some qualifications while the other group does not, we can use this variation in qualification holding to estimate the effect of qualifications on various outcomes.

The figure shows the Easter leaving rule in action, concentrating on those born in the six months around the 31 January cut-off point, to mitigate any effect of age within year on the probability of gaining a qualification. For birth cohorts affected by the 1973 RoSLA (those born from September 1957 onwards) among those leaving at age 16 or less, the younger men in the year have a significantly higher probability of attaining qualifications than the older men. As expected, before the RoSLA there is no statistical difference according to Easter leaving eligibility.

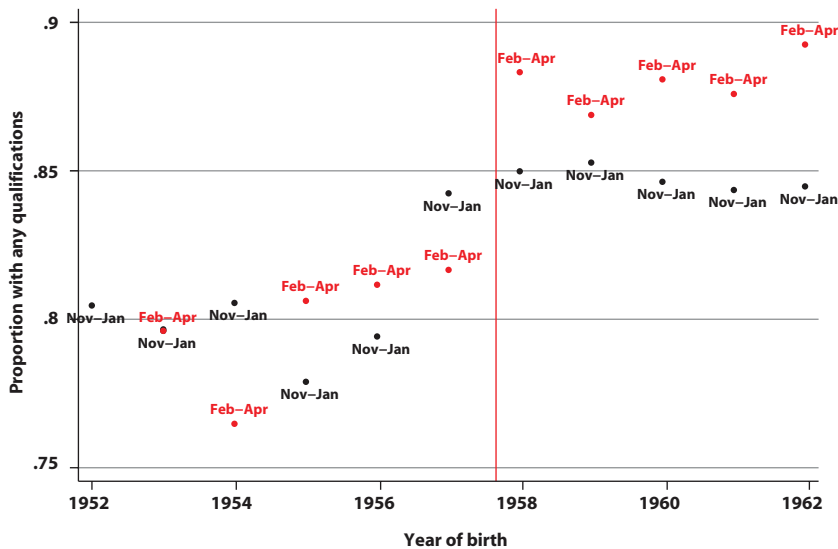
### Results

To look at the effect of the Easter leaving rule on qualifications and the effect of these qualifications on outcomes, it makes sense to narrow the focus to the cohorts immediately after the 1973 RoSLA as this is where the greatest effect should be. As the figure illustrates, following the RoSLA, the Easter leaving rule meant that those born from February onwards had a significantly higher probability of gaining any qualifications compared with others leaving at the minimum age who were older within the year and allowed to leave at Easter.

Compared with those born before 1 February, these later leavers also had higher wages by 0.2% and a 0.8 percentage point higher probability of both participating in the labour market and being in work.

The returns for these men at the margin of gaining qualifications are not observed in later wages though they are for participation and employment. The effect of remaining beyond Easter on the probability of gaining any qualifications is an increase of 2.7 percentage points. Given the 0.8 percentage point effect on participation and employment probabilities, this implies a

### Probability of men gaining a qualification by birth month and year



Quarterly Labour Force Survey 1992-2007

## Two people both leaving school at the same age with the same skills may command different wages if one has qualifications

return to qualifications of approximately 30 percentage points for participation and employment. This estimate captures the effect of qualifications on outcomes, for those induced to attain qualifications because they had to remain in school beyond Easter.

What about the effect of gaining a whole additional year of education for those cohorts born just before and just after the 1973 RoSLA? The results here suggest that among only those who left at 16 or earlier – that is, those for whom the change in minimum leaving age was binding – the additional year of education increased hourly earnings by around 5%, though the difference is not statistically significant.

Similarly, the additional year of education increased the probability of later participating in the labour market by two percentage points though again the difference with those who did not have the extra year is not quite significant. But those who gained the additional year were three percentage points more likely to be in

employment than those without and this is statistically significant.

We have seen that raising the school leaving age affected not just the number of years of schooling attained but also the probability of attaining qualifications. The figure illustrates both the Easter leaving rule effect and, comparing either side of the RoSLA, we can see the general upward shift in the probability of gaining qualifications that the RoSLA brought. The question is whether the effects of the extra year only really applied to those who also gained an additional qualification.

Concentrating on employment and participation, where the effect of qualifications is more significant, we look at whether the RoSLA effect on qualifications was different for those allowed to leave at Easter and those who had to stay longer.

Before the RoSLA, those born after 31 January who must remain longer in school before leaving at the minimum age had no difference in the probability of gaining

qualifications than those born before 31 January. But while among minimum age leavers, the RoSLA increased the probability of gaining qualifications by three percentage points for those born before 31 January, those born after increased their probability of gaining qualifications by five percentage points.

Comparing those in the five cohorts just before the RoSLA and the first five cohorts born after, the impact of gaining qualifications because of the RoSLA, coupled with the Easter leaving rule, is to raise the probability of being in work by 16 percentage points (though not a statistically significant effect) and raise the probability of participating in the labour market by 24 percentage points (which is a statistically significant effect).

It seems from these results that the raising of the school leaving age in 1973 worked through its effect on qualifications – and that this is being driven in the main by those born later in the year who were compelled to remain in school after Easter.

### Policy implications

Our results have implications for current policy in light of the Education and Skills Act 2008, which provides for an increase in the minimum age at which individuals can leave education – to 17 in 2013 and 18 by 2015. Increasing the years of education of young people seems to have the greatest impact on later economic outcomes where it is combined with the attainment of additional qualifications – rather than just being an additional year of schooling that is not recognised within the credentials system.

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