

# Changes in compulsory schooling: the impact on wages

**In 1947, the UK's minimum school leaving age was increased from 14 to 15.**

**Paul Devereux and Robert Hart use this reform to estimate the wage returns to an additional year of education.**

The 1944 Education Act announced that the UK's minimum school leaving age would be raised from 14 to 15 within three years, and the actual increase came into effect on 1 April 1947. The reform was accompanied by investment in more teachers, buildings and furniture to accommodate the rapidly increased student numbers and the pupil/teacher ratio remained quite stable. But while the higher minimum age provided an extra year of schooling, very few young people who were affected stayed in school until 16 to take national exams and acquire a credential.

## The 1947 increase in the minimum school leaving age raised men's wages but had no noticeable effect on women's wages

The effect of the reform was that individuals born before April 1933 faced a minimum school leaving age of 14 and individuals born from April 1933 onwards faced a minimum school leaving age of 15. This had a very large impact on school leaving behaviour: the fraction of young people leaving school before age 15 fell from over 60% for the 1932 cohort to about 10% for the 1934 cohort.

Figures 1 and 2 show the resulting effect on the average age at which people left school. Assuming that other factors that affect adult wages did not also systematically change for the 1933 cohort, we can identify the effects of schooling by comparing adult wages of individuals born just before 1933 to those born during or just after.

We use two datasets: the General Household Survey (GHS) and the New Earnings Survey Panel Dataset (NESPd). The GHS is a continuous national survey of people living in private households, conducted annually by the Office for National Statistics. It started in 1971 and has been carried out continuously since then, except for breaks in 1997-98 when the survey was reviewed and 1999-2000 when it was redeveloped.

We use the 1979-98 GHS surveys in our analysis. The schooling variable we use is the age at which the individual left school. This is appropriate for our purposes as we are

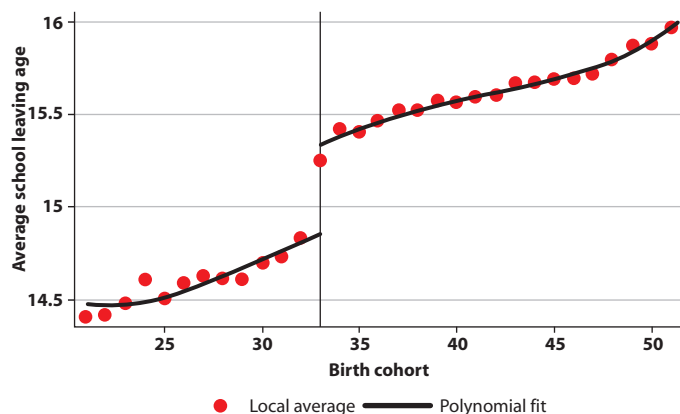
payroll records for relevant employees. The questions relate to a specific week in April. Since the same individuals are in the sample each year, the NESPD is a panel dataset and our extract runs from 1975 to 2001. Because National Insurance numbers are issued to all individuals who reach the minimum school leaving age, the sampling frame of the survey is a random sample of the labour force.

Employers are legally required to complete the survey questionnaire so the response rate is very high. Since the data are taken directly from the employer's payroll records, the earnings and hours information in the NESPD are considered to be very accurate. While the earnings data in the NESPD are probably superior to those in the GHS, the NESPD has no information on education. For this reason, we use both datasets in our analysis.

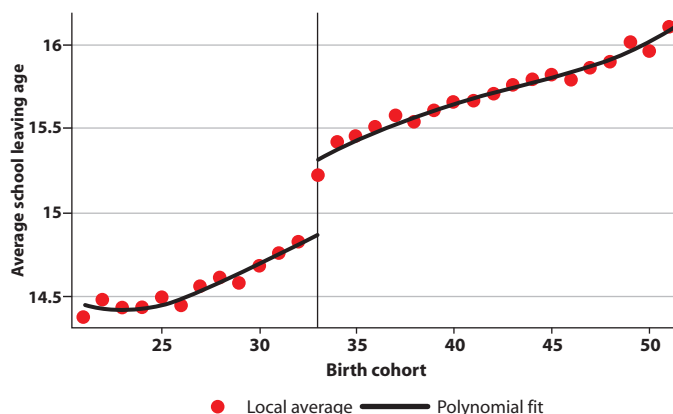
Figures 3 to 6 plot average hourly earnings for men and women (when aged between 28 and 64) by year of birth. For men, there is a clear break in the series in 1933. Quantitatively, the effect for men is that cohorts born in 1933 or later have hourly wages that are about 2% higher than previous cohorts. For women, it is equally clear that there is no break in the series in 1933. Reassuringly, the findings are similar in both datasets.

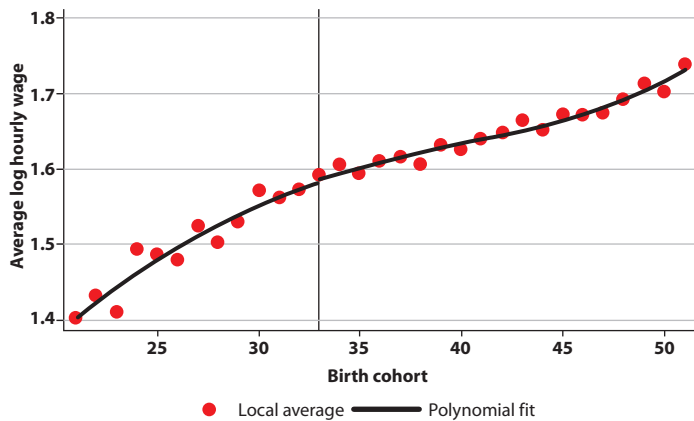
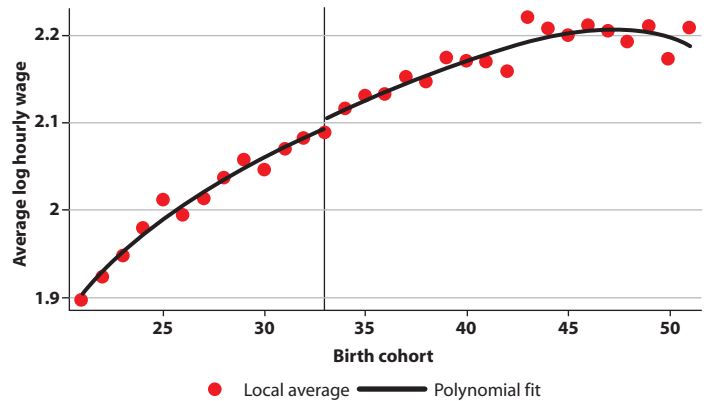
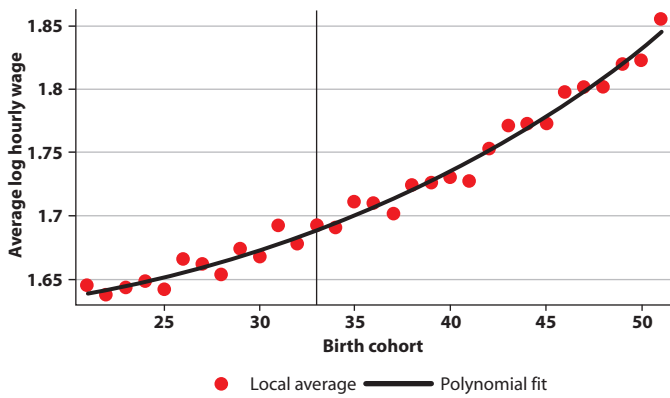
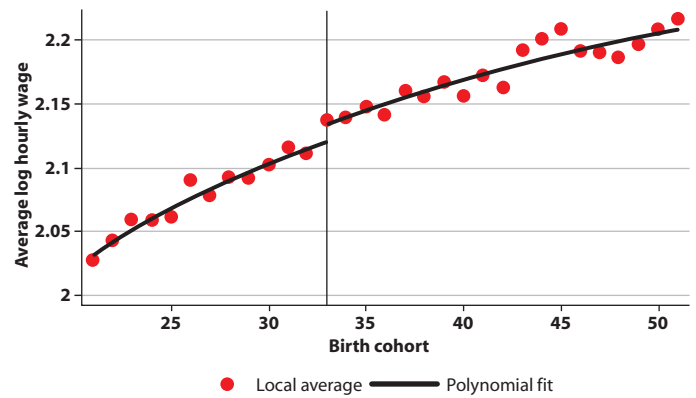
We can infer from these pictures that the change in the minimum school leaving age increased men's wages but had no noticeable effect on women's wages. But to calculate the implied return to an extra year of schooling,

**Figure 1: Average school leaving age by year of birth for women (GHS)**



**Figure 2: Average school leaving age by year of birth for men (GHS)**



**Figure 3: Average hourly wage by year of birth for women (GHS)****Figure 4: Average hourly wage by year of birth for men (GHS)****Figure 5: Average hourly wage by year of birth for women (NESPD)****Figure 6: Average hourly wage by year of birth for men (NESPD)**

we have to take account of both the increase in schooling caused by the reform and the accompanying increase in wages. When we do this, we find that the return to an additional year of schooling is about 5% for men and zero for women (using wage data from the GHS or the NESPD).

Our findings are generally consistent with recent evidence on the effect of compulsory schooling laws in Europe. For example, researchers have found that similar changes in France and Germany have had zero or low effects on wages. But it is still perhaps surprising that we find that women gained no benefit (at least in terms of wages) from the extra schooling received.

proportion of people who held qualifications such as O-levels. We have tested this empirically and find no evidence of any effect of the reform on the probability of holding an academic credential.

Using compulsory schooling law changes, researchers have generally found higher returns to schooling in the United States. One possible reason is heterogeneous returns to schooling. Very few people actually had to change their behaviour as a result of US changes in compulsory schooling.

The UK's 1947 change in the compulsory schooling law enables us to estimate the returns to extra schooling for men and

Our estimates may also help explain why half the UK population dropped out of school as early as they could. One simple explanation is that the returns to additional schooling were actually quite low for this group and it was rational to leave school early. While it is difficult to quantify the costs of an extra year of schooling, this story is certainly consistent with our results for women.

## The return to an additional year of schooling is about 5% for men and zero for women

A key element in determining the returns to compulsory schooling is the extent to which more restrictive laws result in increased qualifications. Because the 1947 reform only induced participation until age 15, it would not have been expected to increase the

women in a situation where about half the population leave school at the earliest possible age. Hence, the differing results between the United States and the UK could arise if the returns to schooling differ across the education distribution.

**This article summarises 'Forced to be Rich? Returns to Compulsory Schooling in Britain' by Paul Devereux and Robert Hart, published in the December 2010 issue of the *Economic Journal*. Devereux gratefully acknowledges financial support from the Irish Research Council for the Humanities and Social Sciences.**

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