4. THE ROLE OF SCHOOLING: SCREENING VERSUS HUMAN CAPITAL [1]

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There is at least one reason why it is important to discriminate between screening theory and human capital theory. The screening hypothesis implies that private returns to education do not reflect a productivity augmenting role of education, implying that social returns to education may be less than private returns or even negative. However, a test that discriminates between the human capital theory and the screening hypothesis is difficult to perform via the estimation of earnings functions, since the two hypotheses are observationally equivalent as they both imply a positive effect of education on earnings. Fortunately, there remains the possibility of testing predictions of the screening hypothesis. To the extent that appropriate data are available, PURE partners have tested some of these predictions. This chapter summarises the results.

A first prediction of the screening hypothesis is that self-employed employees would, in comparison to other employees, benefit from lower returns to education. Indeed, as self-employed, these individuals do not need a signal about their own productive capabilities. The country-specific results highlight a positive signalling value for women in Austria and West Germany, for men as well as for women in Greece, and for men only in Spain and the UK.

This approach raises two problems, however. First, individuals' employment status is not random and its determinants should be taken into account. This is why, for the UK, the endogeneity of self-employment has been controlled for using information on whether or not one's parents were self-employed and on housing equity. The results indicate that the value of education as a signal is rather low and, once its endogeneity is controlled for, the estimated values are not statistically significant neither for men nor for women.

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[1] This chapter reports on work in progress.

A second problem that arises is that when comparing employees and self-employed individuals, one is comparing two types of income that are different in nature. In particular, not only are the earnings of the self-employed more variable, but clearly, business owners have more earnings opportunities not directly dependent on their educational qualifications. As a means of avoiding this difficulty, we have restricted the French sample to those self-employed who are salaried of their own businesses. The results indicate that there is a positive and statistically significant signalling value for men, but not always for women.

The screening hypothesis also implies that some aspects of a person's educational record are very informative for employers. A possible test to discriminate between the human capital theory and the screening hypothesis may rely on two predictions of the latter: (i) that more rapid completion of a degree signals greater ability and should therefore lead to higher earnings, and (ii) that years spent in education without obtaining a degree should not increase earnings.

Using French data, we are able to divide actual years of schooling into effective years, repeated years, skipped years, inefficient routing years and drop-out years. The results indicate that for men as well as for women

- the returns to effective years of schooling – those that would have been observed had all years been successful for all individuals – are higher than the returns to actual years of schooling;

- there is a bonus return for completing a degree, since the returns to non-graduating years are lower than the returns to successful years of schooling, hence suggesting the existence of sheepskin effects;

- repeated years do not have a significantly negative effect on wages (except for men), nor do skipped years have a significantly positive effect on wages;

- inefficient routing years have no significant effect on wages.

Note that, if sheepskin effects are indeed at work, then the log-linear relationship so commonly assumed to exist between earnings and schooling is clearly doubtful. Indeed, one should then expect to observe non-linearities in the earnings–schooling profile for

the years of schooling that are typically required to obtain qualifications. This is also the approach that has been adopted for Ireland, Sweden and the UK.

For Ireland as well as for Sweden, significant non-linearities appear mainly for the highest level grades. The results obtained for the UK also strongly reject the linear hypothesis and highlight marked non-linearities in the relationship, especially between the age 18 and 21 and after 22 years of age.

A perhaps less parsimonious but interesting specification is that proposed by Park, which consists in crossing qualification levels with years of schooling. It has been replicated for Spain, Sweden and France. It is interesting since it clearly shows how the returns to degrees fall with the number of years spent at school to complete them.