Introduction

This course combines economic theory and econometric literature to examine issues in education. Topics include: the basic theory of investment in education (human capital theory); the empirical problem of disentangling the return to education from the return to innate ability; the association between education and the individual earnings and reasons why that relationship has changed over time; on-the-job training; whether the return to education reflects skills learned or whether it is a signal; the role of early childhood education; whether smaller classes raise achievement; intergenerational mobility of education; school choice, school competition and school performance; private versus social returns to schooling. The base reading material is Borjas (2007), Labour Economics, chapter on human capital (Chapter 7), and chapter on the wage structure and increased returns to education (Chapter 8), and part on statistical discrimination from the chapter on labour market discrimination (Chapter 10). Different topics covered in class are accompanied with relevant recent articles (approximately two compulsory reading articles per lecture). The bulk of reading literature comes from the US, but where possible, references to the European articles are given as well. Topics are also discussed in relation to their policy implications.

Class Schedule and Location

Mon 10-12h (Raum 1, Sedanstraße 6)
Mon 14-18h (HS 2004, KG II)
Tue 8-14h (Sitzungssaal, Wilhelmstraße 26)
Wed 8-14h (Sitzungssaal, Wilhelmstraße 26)
Thur 8:30-10h (HS 1015, KG I)
Thur 14-16h (Sitzungssaal, Wilhelmstraße 26)
Fri 8:30-10h (HS 2004, KG II)
Fri 14-18h (HS 1015, KG I)

Exam

Monday, 19 January 2009, 14-16h
Course outline and literature

* Recommended reading, not required!!

1 Defining the Education Problem

**Human capital theory. The basic economic perspective on education. The schooling model.** The basic approach of economists to education is the one in which education is viewed as an investment made by the individual (you deciding to go to college), society (provision of public schools) or both (you deciding to go to a state university). From an individual’s perspective, evaluating the investment is similar to evaluating whether one should invest in an office building or a new printer for an office.


2 Post-School Human Capital Investment

**On-the-job training. General and specific training. Age-earnings profile.** Many workers increase their human capital stock after completing their education through on-the-job trainings (OJT) programmes. OJT is an important component of a worker’s human capital stock, making up at least half of a worker’s human capital.

3 Earnings Function

Estimating the returns to education. The identification problem. Think about a regression model that estimates the impact of an additional year of schooling on earnings. We know that on average, students who graduate from high school have higher grades, test scores, etc. than students who drop out. Similarly, students who go to college typically have higher grades, test scores, etc. than students whose education stops with a high school diploma. Question: Why might this "sorting" cause us to question our regression estimate of the effect on earnings of an additional year of education?

3.1 Mincer’s Regression

Mincer’s log-earnings function that relates the log of individual earnings or wages to observed measures of schooling and potential work experience; with a specification that is linear in years of schooling and quadratic in experience. Becker (1975), Griliches (1977) and Rosen (1977) have questioned the interpretation of the regression coefficients of schooling and experience in the Mincer earning equation.


3.2 Instrumental Variables Approach

In the return to schooling literature, researchers often use the IV approach to solve for the identification problem. This approach exploits natural variation in data caused by exogenous influences on the schooling decision. Some examples include studies among persons who attend college because they live close to college (Card, 1993); persons who attend college because tuition is low (Kane & Rouse, 1995); persons obliged to stay in school longer because they face more restrictive compulsory school leaving age laws (Angrist & Krueger, 1991; Acemoglu & Angrist, 2001); investment in infrastructure as an instrument for schooling (Duflo, 2001), etc.

3.3 Twins Setup

Previous discussion suggests that the ability bias would disappear if we could compare the earnings of two workers who have the same ability but who have different levels of schooling and earnings. These two persons would face the same wage-schooling locus, and the wage gap between the two workers would provide a valid estimate of the return to schooling. The comparison of the earnings of identical twins provides a natural experiment that seems to satisfy these restrictions.


4 Schooling as a Signal

If the return to education is real, does it reflect skills learned or is it a signal? If the estimated return to education is accurate, why does it exist? Does, say, the earnings value of a college diploma reflect what is learned in the college? Or, alternatively, do the employers see the diploma as a signal that the student was smart enough to get into college in the first place?


5 Early Childhood Education

**Early childhood education: How important?** Society or the individual can invest in education at different points in the individual’s life: Early childhood, primary school, on-the-job training and so on. Investments at different points in the life cycle may give very different rates of return. We examine the proposition that much of cognitive functioning is well established by the time the child is age four or five with the implication that the rate of return to educational investments in primary school is much lower, that is, it is not where we should be putting our greatest efforts.


5.1 Policy Application: The Case for Early Childhood Interventions

Coping with the Accident of Birth: The Case for Early Childhood Interventions. The early childhood and adolescent years intervention programmes in the U.S. that proved to be effective in reducing criminal activity, promoting social skills of young adults, and integrating disadvantaged children into the mainstream society. Early intervention programmes in the U.S., like the Perry Pre-School Programme (PPP), the Syracuse Programme (SP) or the Head Start Programme (HSP), have shown to be successful. Evaluation of these programmes have been given by, for example Schweinhart et al. (1993), Donohue and Siegelman (1998), Lally et al. (1988), and Garces et al. (2002).


6 Class Size

Do smaller classes raise achievement? Reducing class size is one of the most discussed ways to raise student achievement. Exactly how is this reform supposed to raise student achievement? What kind of evidence do we need to know whether this reform works? Can we get the evidence from “natural experiments” that occur out in the world? Alternatively, do we need to conduct controlled experiments that we evaluate? If so, how should the experiment/evaluation be structured?

6.1 Peer Effects


7 Increased Returns to Education

*Why has the rate of return to education increased?* We now know from wage data that labour market demand has shifted heavily toward more educated labour. To what extent do these shifts reflect changes in technology? In international trade? In institutional factors like unions, minimum wage, and CEO perceptions of “appropriate behaviour”?


8 Intergenerational Mobility

The investments that parents make in their children’s human capital help create the link between the skills of parents and the skills of their children. High-income parents will typically invest more in their children, creating a positive correlation between the socio-economic outcomes experienced by the parents and the outcomes experienced by the children. This link or *social mobility* is at the heart of many heated policy discussions.


9 School Competition, School Choice, and School Performance

A second frequently discussed educational reform is educational choice including school vouchers. With a few exceptions, natural experiments involving school choice are hard to come by. The question, then, is how we should set up and evaluate demonstration experiments. The issue becomes more complex because many parties to this debate have strong pro- or anti-choice views and structure their analyses to support their opinions.

10 Social Returns to Schooling

The different policy recommendations made by the human capital model and the signaling model suggest that the private rate of return to schooling, as measured by the increase in a worker’s earnings resulting from an additional year of schooling, may differ substantially from the social rate of return to schooling, as measured by the increase in national income resulting from the same year of education.


10.1 Education and Crime


10.2 Education and Health


10.3 The Impact of Education on Civic Engagement and Attitudes in Democracy