



The intergenerational effects of parental schooling on the cognitive and non-cognitive development of children

Mary A. Silles*

Department of Economics, National University of Ireland, Galway, University Road, Galway, Ireland

ARTICLE INFO

Article history:

Received 30 May 2010

Received in revised form 3 September 2010

Accepted 10 September 2010

JEL classification:

I21

Keywords:

Education
Child development
Endogeneity bias

ABSTRACT

This article, using the National Child Development Study, estimates the causal relationship between parents' schooling and children's cognitive and non-cognitive development using the 1947 compulsory schooling legislation in Great Britain. The least squares estimates suggest strong correlations between parental education and these developmental indicators. However, the instrument variable estimates are not sufficiently precise to find that either parent's schooling has a beneficial effect on children's cognitive and non-cognitive development.

© 2010 Elsevier Ltd. All rights reserved.

1. Introduction

The intergenerational literature is guided by the position that present and future generations are connected by investments in human capital. The amount of resources allocated to children, the nature of these resources, and the timing of their distribution influence children's development. Attempts to understand the origin of intergenerational persistence often involve trying to distinguish the effects of genetic endowments that persist from one generation to the next from the effects of educational investments in children. The popular perception among policy makers seeking to increase equality of opportunity is that the public education system serves as one of the most effective policy tools in breaking the intergenerational link of economic privilege.

There are broadly two principal hypotheses which may explain why parents' and children's human capital are related. One explanation is based on the premise that more educated individuals are more knowledgeable by

virtue of their additional education, and therefore better placed to influence the human capital of their children. The main implication of this argument is that the public provision of schooling would equalize economic opportunities. An alternative hypothesis claims that the apparent contribution of parents' education to their children's human capital is a statistical artifact reflecting positive selection. In this interpretation parents' genetic characteristics determine their level of schooling and that of their children. Proponents of this view dismiss arguments that more equal access to schooling would achieve a more equal distribution of status: the public and private investments in education are not perfect substitutes. Distinguishing between these two hypotheses has important policy implications not only for evaluating the efficacy of education policies designed to promote equality of opportunity but also for understanding the fundamental causes of children's development.

In the recent literature a number of studies have employed data sets using variation within siblings, within fraternal and identical twins, and adoptees to address questions of inheritable persistence in estimating the effects of parents' schooling on the production of children's schooling (Behrman & Rosenzweig, 2002; Plug, 2004; Plug &

* Tel.: +353 91495636; fax: +353 91524130.

E-mail address: mary.silles@nuigalway.ie.

Vijverberg, 2003; Rosenzweig & Wolpin, 1994; Sacerdote, 2002). Across these studies, the magnitude and precision of the estimated affect of parental education varies, but most find that parental education has at least a small impact on children's schooling. Another series of studies uses instrumental variable strategies to obtain unbiased estimates of the effects of the schooling of parents on the schooling of their children. Chevalier (2003) using the 1973 compulsory education law in Great Britain to provide exogenous variation in parental education finds that mother's schooling has a positive effect on the probability of children's post-compulsory education but no significant effect of father's schooling. Oreopoulos, Page, and Stevens (2006) using US data and also exploiting historical changes in compulsory schooling legislation find that an increase in the educational attainment of either parent reduces the probability that a child repeats a grade and lowers the likelihood that 15–16 year olds will drop out of school. However, Black, Devereux, and Salvanes (2005) using Norwegian data and also multiple changes in compulsory schooling laws find little if any causal relationship between parental education and children's schooling decisions.

This article provides an important complement to this literature by attempting to measure the causal effect of parental education on the production of cognitive and non-cognitive abilities using longitudinal data from the British National Child Development Study (NCDS). The main objective in this article is to address the question: do more educated parents have more able children? The possibility that parents' education may influence the ability of their children is an obvious aspect of the process of the intergenerational transmission of human capital. The importance of using non-cognitive development stems from models of intergenerational persistence that emphasize the central role of family interactions and their significance in the basic structure of social interactions characteristic of different positions within the workplace (Blanden, Gregg, & Macmillan, 2007; Rumberger, 2010; Silles, 2010; Tramonte & Willms, 2010). In particular, Blanden et al. (2007) find that differences in non-cognitive development account for 10% of intergenerational persistence in the incomes of the NCDS families. To the degree that personality traits play a significant role in replicating the class structure from one generation to the next, it is important to examine parental schooling effects in the intergenerational transmission of non-cognitive development.

This article isolates the effect of parental education from human capital endowments that are intergenerational correlated by employing exogenous increases in schooling induced by the schooling reform of 1947 in Great Britain. This reform raised the minimum school leaving age from 14 to 15. This law change should provide a credible source of variation in parental education that is exogenous to biologically inherited intelligence and other factors that are correlated with parents' education and children's development. Previous studies that have used this law to examine the effects of education in other contexts found a statistically significant impact on labor market earnings for men (Devereux & Hart, 2010; Harmon & Walker, 1995; Oreopoulos, 2006) but not for women (Devereux & Hart, 2010). It was also found that there is at least a small impact

on self-reported measures of adult health for both men and women (Clark & Royer, 2010; Oreopoulos, 2006; Silles, 2009), but little evidence of a significant effect on multiple indicators of child health (Lindeboom, Llana-Nozal, & van der Klaauw, 2009). This is the first study to estimate the effects of this law in the context of the intergenerational effects of parental education on the cognitive and non-cognitive development of children. Despite highly statistically significant OLS estimates, the instrument variable estimates are not sufficiently precise to find that either parent's schooling has a beneficial effect on children's cognitive and non-cognitive development.

The balance of this paper is organized as follows. The next section explores some of the possible casual mechanisms by which parents' education might affect children's development. Sections 3 and 4 describe the education reform of 1947 and the data. Section 5 describes the econometric methodology, and Section 6 discusses the results. A final section presents some concluding remarks.

2. Background

In a recent contribution Heckman and Cunha (2007) formalize a life-cycle model of learning which may be articulated to provide some important insights into the intergenerational transmission of human capital. The essential feature of the model is that the time profile of investments in human capital is critical and inputs into the production of human capital at different stages in the life-cycle are not perfect substitutes. The intuition is derived from the fact that parental education is a complement to the initial endowment of children's abilities and children who have a larger stock of human capital have greater productivity in learning. An implication of this model is that early gaps in home-produced human capital will continue to grow over time in the formal system of schooling. This model offers a powerful explanation of how economic status from one generation to the next is transmitted in general and across the lifecycle in particular.

In anticipating the consequences of investments in schooling, the economic literature also examines the intergenerational connection through the constraints of financing investments in the human capital of children (Becker & Tomes, 1986; Plug & Vijverberg, 2003). Conventional wisdom in this strand of the literature suggests that capital market impediments are more likely to show up in lower human capital investments in the children of poorer families. The reason is that poor parents are more deterred by the effects of capital market imperfections from making wealth-maximizing investments in their children, human capital being poor collateral. Since investments in children's human capital become more difficult as the amount invested increases, their shadow cost of funds (the subjective discount rate) is raised and their children may accumulate human capital more slowly than otherwise similarly endowed richer children. Persistence in human capital is generated by the strength of the borrowing constraint and differences in the discount rate of time in the parents' generation would be transmitted to the next generation in the form of differences in human capital. Restuccia and Urrutia (2004), using data for the

Download English Version:

<https://daneshyari.com/en/article/354777>

Download Persian Version:

<https://daneshyari.com/article/354777>

[Daneshyari.com](https://daneshyari.com)