

Human Capital

Theory and Evidence

Edited by

Joop Hartog and
Henriëtte Maassen van den Brink

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At a time when governments and policy-makers put so much emphasis on ‘the knowledge economy’ and the economic value of education, human capital theory has never been more important. However, research in this area is often very technical and therefore not easily accessible to those who wish to use it as a guide to policy formation. This book provides an interface between such research and its potential applications in government, education and business. Reporting on a major research initiative, new findings are presented in a non-technical way on three major themes: measuring the benefits from human capital, applications of the human capital model, and policy interventions. Aimed at academic researchers and professionals concerned with the problems and techniques of human capital theory, it will also be useful for graduate courses on the economics of education as a complement to standard textbooks.

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Human Capital

Advances in Theory and Evidence

edited by

JOOP HARTOG AND
HENRIËTTE MAASSEN VAN DEN BRINK



CAMBRIDGE
UNIVERSITY PRESS

CAMBRIDGE UNIVERSITY PRESS

Cambridge, New York, Melbourne, Madrid, Cape Town, Singapore, São Paulo

Cambridge University Press

The Edinburgh Building, Cambridge CB2 8RU, UK

Published in the United States of America by Cambridge University Press, New York

www.cambridge.org

Information on this title: www.cambridge.org/9780521873161

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First published in print format 2007

ISBN-13 978-0-511-28911-8 eBook (EBL)

ISBN-10 0-511-28911-1 eBook (EBL)

ISBN-13 978-0-521-87316-1 hardback

ISBN-10 0-521-87316-9 hardback

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Prologue

JOOP HARTOG AND HENRIËTTE
MAASSEN VAN DEN BRINK

HUMAN capital theory was born some four decades ago, under the strong and inspiring leadership of Theodore Schultz, Gary Becker and Jacob Mincer. It has been flourishing ever since, with many new theoretical and empirical developments. Human capital is now a familiar concept, used daily in public debates, and a favourite phrase of many politicians who want to stress the relevance of developing and disseminating new knowledge for maintaining high levels of welfare.

Research on human capital, both theoretical and empirical, is often very technical and therefore not easily accessible to those who want to use the insights in applied work, in developing government policies, human resource policies in organizations and in contributions to social debates. The same holds for students with different types of education. In many curricula, students should attain an understanding of concepts, issues and approaches without digging into all the technical details.

This book aims to be an interface between the technical research in the workshop and applications in government, education and business organizations. The book is written by staff of SCHOLAR (an acronym for Schooling, Labour Market and Economic Development), a research institute at the University of Amsterdam focusing on the economic relation between education and the labour market. SCHOLAR was founded in 1997 with a grant from the Dutch science foundation NWO. Its mission was to undertake original academic research on important issues in this area, and to disseminate the results to a wider audience than just academic specialists.

In this book, we highlight our research findings in a non-technical way, focusing on key results and implications for understanding the role of education in the labour market, and on policy implications. At a time when everybody talks about ‘the knowledge economy’ and the prime importance of education (including on-the-job training), these are obviously interesting issues. We present the results in thirteen

chapters, in a fixed framework: introduction, existing knowledge, new findings and implications. The brief summary of the literature in each chapter (plus references for further reading) adds the element of a reference book, but the focus is on an accessible account of new research findings. These features, we hope, will also make the book useful as course reading in the economics of education, complementary to a standard textbook.

The book is based on original research on human capital that has been undertaken because the questions and approaches were seen as relevant, interesting and promising. As such it is the fruit of a fairly recent research agenda. It covers all the core issues on which active research is going on at present.

A strong methodological undercurrent connects many contributions in this book. *It ain't what you think it is*. Empirical work is about measuring the strength of relationships and thereby testing theories that predict how variables are interrelated, thus being able to make sensible judgements about the effects of policy interventions. Recent empirical work in economics is drenched in the awareness that reliable estimates of the strength of relationships are not easily obtained. Selective instead of random observations, endogenous rather than exogenous explanatory variables and measurement errors all undermine the classical method of ordinary least squares to estimate coefficients in regression equations. With an economy full of agents that seek their best alternative in the myriad of choices they have to make, it is not easy to find samples where individuals have been randomly assigned to one situation or another. Increasingly, researchers are made responsible for the quality of the data they employ. Thus, they may make the special effort to create a dataset from deliberate random assignment of cases to alternatives, as in medical experiments where patients are randomly divided between the group that gets the new pill and the group that has the placebo. Or they look for datasets where nature has taken care of the assignment, as if a boat had sunk and the new pills had washed ashore on one island but not on the next. As a last resort they may restrict themselves to work with datasets that allow econometric correction, thereby remaining closest to the econometric tradition.

The impact of econometric methodology is prominent in many chapters of this book. It is a key issue in the chapters on measuring returns to education, on the effect of parental background, on

educational achievement and on the effects of policy interventions. The methodological innovations have substantial consequences. The methodological concerns have high policy relevance. If one really aims for true effects of policy interventions, rather than just demonstrating an activist attitude, one should be seriously interested in the reliable estimation of these effects. This would imply the desire to accompany policy interventions by investigating the impact right from the beginning and to design testing procedures in tandem with designing the policy intervention itself. And it would imply interest in and awareness of the methodological pitfalls, not necessarily in the full technical details, but certainly in the conceptual issues and their implications. The contributions in this book illustrate quite vividly what is at stake here.

The density of research varies strongly between issues. For some questions there are a large number of studies to base conclusions on; for other questions the field has just been opened up. Right from the invention of the human capital model there has been wide interest in estimating the rate of return to education, and this means that by now there are an enormous number of estimates. So we have a good picture of the crude, average return to an average year of education. New information can be presented and interpreted against the backdrop of all these earlier studies. Hence, in chapters 1 and 3, we can document the development of the private rate of return to education and training in the Netherlands over several decades in this perspective, in chapter 8 we can draw on these estimates to document variability of returns, as a background to assessing the risk of investment in schooling, and in chapter 4 the novel research findings on return to schooling accruing to entrepreneurs can be contrasted with the massive evidence on returns for employees. The same holds for our contributions to the issues of overeducation. In fact, in this case we use the amassed evidence for a meta-analysis to detect structure in the estimated returns to over- and undereducation. Our analyses of the impact of parental background on children's schooling (chapter 6) also stand in a long tradition of the nature–nurture discussion.

In some fields very little is known, and we contribute to ploughing new fields. New experimental evidence in chapter 8 shows that hold-up in firms is much less of a problem than it has been predicted to be. The role of risk in human capital issues (chapter 9) is empirically heavily under-researched. Incentive systems for secondary school teachers (chapter 12) have not frequently been studied. Non-monetary returns

to education (chapter 5) are routinely acknowledged but empirical evidence is not abundant. Chapter 5 explores the effects of education on health. What exactly in education affects health and how can we impart health benefits through education? Social returns to education (external effects) is the argument always invoked to justify policy interventions (chapter 2) without solid empirical foundation; in general we claim the social return is not much different from the private return.

The case for government intervention ultimately rests largely on cost-benefit analysis, quasi-experiments and equity arguments. (Quasi-)experiments and equity arguments are extensively and carefully analysed in chapters 10 and 13. The key innovation is the joint analysis of several types of taxes and subsidies, with the prime result that deadweight welfare losses that are always stressed in separate analyses of one kind of tax or subsidy can be reduced substantially by a balanced combination of tax–subsidy instruments. In particular, the conclusion that subsidies to education are an instrument to counter efficiency losses from equity-based income taxes puts a new perspective on an old debate.

Some questions remain open. Old fields need maintenance and upkeep, to fight the ever-returning weeds. We know a lot about crude average returns to education, very little about specific returns to specific types of programmes, schools or students. We have many studies on returns to training, yet little is known about the mechanism that produces the returns and how it varies with circumstances and specifications. The basic model of human capital is well developed, but we know little of investments under uncertainty. And just in case anyone doubts that there are still interesting questions waiting to be explored, each chapter concludes with a list of suggestions for further work.

Research is like an addiction. The more you have used it, the more you want. Human capital, its theory and applications remain a growth industry, as they have been for the last forty years.

PART I

Measuring the benefits from human capital

