An abstract sculpture of a DNA double helix structure. It features two intertwined white ribbons that form the sugar-phosphate backbones. Between these ribbons are numerous white spheres representing nitrogenous bases. One sphere, located in the center of the helix, is a vibrant yellow, standing out from the rest. The sculpture is set against a plain, light-colored background.

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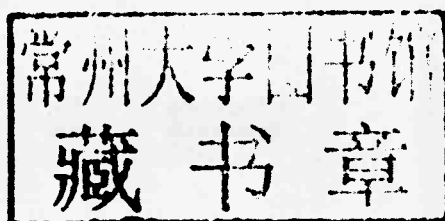
THE OXFORD HANDBOOK OF

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HUMAN CAPITAL

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*Edited by*  
ALAN BURTON-JONES  
*and*  
J.-C. SPENDER



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Great Clarendon Street, Oxford, OX2 6DP,  
United Kingdom

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First Edition published in 2011

First published in paperback 2012

Impression: 1

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British Library Cataloguing in Publication Data

Data available

Library of Congress Cataloguing in Publication Data

Data available

ISBN 978-0-19-953216-2

978-0-19-965589-2 (pbk.)

Printed in Great Britain

on acid-free paper by

Ashford Colour Press Ltd., Gosport, Hampshire

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THE OXFORD HANDBOOK OF

# HUMAN CAPITAL

## ACKNOWLEDGMENTS

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The inspiration for this handbook came from David Musson, Business and Management Editor at Oxford University Press, who in late 2006 suggested to us the need for a volume that might throw fresh light on the subject of human capital from an organizational perspective. For some years we had been individually researching knowledge-based theories of management and organization and exchanging ideas on issues associated with the growing importance of 'knowledge capital', so we were delighted to have the opportunity to cooperate on this project. We set about attracting leading scholars from around the world—more than forty distinguished academics from multiple disciplines finally contributing to the twenty-five chapters in the handbook. Despite operating as co-editors at long range from one another, the editorial process was remarkably smooth, with electronic communications overcoming the tyranny of distance.

Three and a half years later we are pleased to have an opportunity to express in a formal way our thanks to all those who have helped to bring this handbook to fruition. David Musson has been a constant source of advice, encouragement, and guidance throughout the project, and the members of his team at Oxford University Press, particularly Emma Lambert and Matthew Derbyshire, have provided invaluable technical and administrative support. Most of all we would like to thank all the authors who have contributed to this volume for their patience and cooperation in dealing with our queries and suggestions, and for the commitment they have shown to making this handbook a success.

## FOREWORD BY GARY S. BECKER

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The human capital 'revolution' began in the 1950s and early 1960s with the research of Theodore W. Schultz, Jacob Mincer, and myself. Schultz's most influential piece among many on human capital is his presidential address to the American Economic Association (Schultz, 1961). Mincer's pioneering study was his dissertation published in the *Journal of Political Economy* in 1958 (Mincer, 1958). He followed that up sixteen years later with his classic book *Schooling, Experience, and Earnings* (Mincer, 1974). Becker's most famous human capital studies are the various editions of his book *Human Capital* (Becker, 1964, 1975, 1993).

I do not use the word 'revolution' casually because the emphasis on investments in education, training, and other human capital radically changed the way economists and others interpreted many important economic, social, and policy issues. In this Foreword I discuss three of the most important fields affected by the human capital approach: the analysis of labor markets, explanations of the determinants of economic growth, and evaluations of the benefits from improved health and of the determinants of longer life and a better quality of life. I take each up in turn.

When I started my NBER research on human capital in 1957, my goals were modest. I had noticed from my study of discrimination against minorities in American labor markets that earnings of both white and black males rose significantly with their years of schooling. The main goal of my human capital study was to calculate rates of return on investments in education for different groups, after costs of education were netted out of the earnings benefits.

As my research progressed I began to realize that the human capital approach provided an entirely new way of looking at labor markets. Instead of assuming that differences in earnings mainly reflected whether workers held 'good' or 'bad' jobs, the human capital approach assumed that earnings mainly measure how much workers had invested in their skills and knowledge. According to this view, earnings would rise with the amount invested in education and training. On this interpretation, good jobs are mainly jobs held by workers who have invested a lot in their human capital.

This approach provided a broad range of implications about workers, including determinants of layoffs and quits, inequality in earnings, the effect of job experience on earnings—the so-called age–experience–earnings profiles—and on many other important characteristics of labor markets. Most importantly, the theory rather

directly leads to methods that link implications of the theory to empirical evidence through earnings regressions, and in many other directions.

For example, Becker and Chiswick (1966) ran the first empirical regressions that related log of earnings to years of schooling for different age groups. They showed, ‘under various simplifying assumptions’, that the coefficient on years of schooling would equal the rate of return on investment in education. (Mincer, 1958, makes the unrealistic assumption that the present value of earnings is the same for all schooling groups when future earnings are discounted by the market interest rate.) However, Mincer (1974) made the major extension of the Becker–Chiswick approach by adding years of job experience to the right-hand side regressors, where job experience was measured by age minus years of schooling minus six years. This greatly improved the fit of log wage earnings regression, although it did not much change the coefficient on years of schooling.

Prior to Schultz’s work on human capital, the emphasis in the economic development literature was on the accumulation of physical capital, as in the basic neo-classical growth model. Schultz helped shift some of the attention to investments in skills and knowledge because he demonstrated in various ways that these seemed crucial to economic development. He even argued that investment in human capital was more important than investment in physical capital (see Schultz, 1960). Many subsequent empirical and theoretical studies have built on Schultz’s analysis, such as empirical studies of the factors behind economic growth (see for example, Mankiew *et al.*, 1992), and incorporations of human capital accumulation into models of economic growth (see for example, Lucas, 1988).

Health as human capital received its major push from the pioneering doctoral dissertation by Michael Grossman (see Grossman, 1972, for an article based on his dissertation). Grossman interpreted both the growth and decline of the quality and quantity of life as due to investments and disinvestments in human capital that improved health. Death occurred when health human capital fell below a certain level.

A related literature on human capital and health emphasizes the statistical value of life. This literature refers to how much individuals are willing to pay to increase their probability of surviving different ages (see for example, Rosen, 1988). A recent and important paper in that tradition (Murphy and Topel, 2003) estimates how much the population of the United States would be willing to pay for various reductions in the probabilities of dying from cancer, heart diseases, and other major ailments. They estimate that Americans would be willing to pay in the many trillions of dollars for even moderate reductions in these probabilities. I bring various strands of this literature together, and I also estimate the human capital cost of a major worldwide flu pandemic, in my Hicks lecture ‘Health as Human Capital’ (2007).

In the first several decades, human capital analysis was mainly concentrated at two universities: Chicago and Columbia. Since then it has spread to most universities and think tanks in the world, into other fields, such as sociology and political science, and



among politicians and public officials. Politicians feel insecure unless they frequently mention the importance of investing in the human capital of their constituents. I certainly had not anticipated anything close to the eventual impact of the early research on investing in education, training, and other forms of human capital.

Human capital has remained a vital area of research for half a century because it has turned out to be so relevant in many different aspects of life. The research agenda has grown and expanded 'in my judgment' because, from the very early research on human capital, a close dialog developed between theory and empirical analysis. New theoretical developments generally stressed their empirical implications, and many of these implications have been tested with empirical and experimental data. Similarly, new empirical results have usually led to further theoretical insights, as in research that relates new empirical measures of the education levels of a labor force to issues like economic development, and studies of why women in richer countries are now considerably more likely than men to receive university degrees. Fields tend to become sterile when theorists refer mainly to the work of other theorists, with little attention to the empirical side, and when empiricists proceed with little concern for how their results relate to different theories.

The twenty-first century is clearly placing much greater emphasis than ever before on the importance of knowledge and information to the development of both countries and individuals. For example, the Internet provides access to a breadth of information that was unthinkable prior to its development, and growing knowledge of the role of different genes in affecting propensities to be vulnerable to different diseases makes personalized medicine a possibility rather than a pipe-dream. This means that it is more important than ever for both individuals and for nations to acquire knowledge, skills, and the experience to know how to acquire additional information. To me, this is the main explanation for the worldwide boom in higher education not only in the rich countries but also in developing and quite poor nations.

Therefore, I am optimistic that the vitality of human capital research will continue, and that its scope will expand further beyond the original emphasis on earnings into the effects of early childhood on the capacity to benefit from investments in human capital, the role of human capital in the sorting of men and women into different marriages, household production, and consumption decisions, such as habits and addictions, organizational structure, voting and political decisions, volunteer and other social activities, and other aspects of human behavior.

The chapters in the present volume provide an excellent example of the vibrant research that is currently taking place on human capital. These chapters discuss interactions between human capital and social capital, various links between human capital, entrepreneurship, and the theory of the firm, matching human capital of different individuals to different organizations, the growing role of human capital as globalization increases, and many other exciting topics. Readers should greatly benefit from studying and reflecting on the chapters that follow.



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