International Differences in the Business Practices and Productivity of Firms
International Differences in the Business Practices and Productivity of Firms

Edited by Richard B. Freeman and Kathryn L. Shaw

The University of Chicago Press

Chicago and London
Richard B. Freeman is the Herbert Ascherman Professor of Economics at Harvard University and program director of labor studies at the National Bureau of Economic Research. Kathryn L. Shaw is the Ernest C. Arbuckle Professor of Economics at Stanford University Graduate School of Business and a research associate of the National Bureau of Economic Research.
National Bureau of Economic Research

Officers

John S. Clarkeson, chairman
Kathleen B. Cooper, vice-chairman
James M. Poterba, president and chief executive officer
Robert Mednick, treasurer

Kelly Horak, controller and assistant corporate secretary
Alterra Milone, corporate secretary
Gerardine Johnson, assistant corporate secretary

Directors at Large

Peter C. Aldrich
Elizabeth E. Bailey
Richard B. Berner
John H. Biggs
John S. Clarkeson
Don R. Conlan
Kathleen B. Cooper
Charles H. Dallara
George C. Eads

Jessica P. Einhorn
Mohamed El-Erian
Jacob A. Frenkel
Judith M. Gueron
Robert S. Hamada
Karen N. Horn
John Lipsky
Laurence H. Meyer
Michael H. Moskow

Alicia H. Munnell
Rudolph A. Oswald
Robert T. Parry
James M. Poterba
John S. Reed
Marina v. N. Whitman
Martin B. Zimmerman

Directors by University Appointment

George Akerlof, California, Berkeley
Jagdish Bhagwati, Columbia
Glen G. Cain, Wisconsin
Ray C. Fair, Yale
Franklin Fisher, Massachusetts Institute of Technology
Mark Grinblatt, California, Los Angeles
Saul H. Hymans, Michigan
Marjorie B. McElroy, Duke

Joel Mokyr, Northwestern
Andrew Postlewaite, Pennsylvania
Uwe E. Reinhardt, Princeton
Nathan Rosenberg, Stanford
Craig Swan, Minnesota
David B. Yoffie, Harvard
Arnold Zellner (Director Emeritus), Chicago

Directors by Appointment of Other Organizations

Jean-Paul Chavas, Agricultural and Applied Economics Association
Gail D. Fosler, The Conference Board
Martin Gruber, American Finance Association
Timothy W. Guinnane, Economic History Association
Arthur B. Kennickell, American Statistical Association
Thea Lee, American Federation of Labor and Congress of Industrial Organizations

William W. Lewis, Committee for Economic Development
Robert Mednick, American Institute of Certified Public Accountants
Angelo Melino, Canadian Economics Association
Harvey Rosenblum, National Association for Business Economics
John J. Siegfried, American Economic Association

Directors Emeriti

Andrew Brimmer
Carl F. Christ
George Hatsopoulos
Lawrence R. Klein

Franklin A. Lindsay
Paul W. McCracken
Peter G. Peterson
Richard N. Rosett

Eli Shapiro
Arnold Zellner
Relation of the Directors to the  
Work and Publications of the  
National Bureau of Economic Research

1. The object of the NBER is to ascertain and present to the economics profession, and to the public more generally, important economic facts and their interpretation in a scientific manner without policy recommendations. The Board of Directors is charged with the responsibility of ensuring that the work of the NBER is carried on in strict conformity with this object.

2. The President shall establish an internal review process to ensure that book manuscripts proposed for publication DO NOT contain policy recommendations. This shall apply both to the proceedings of conferences and to manuscripts by a single author or by one or more co-authors but shall not apply to authors of comments at NBER conferences who are not NBER affiliates.

3. No book manuscript reporting research shall be published by the NBER until the President has sent to each member of the Board a notice that a manuscript is recommended for publication and that in the President’s opinion it is suitable for publication in accordance with the above principles of the NBER. Such notification will include a table of contents and an abstract or summary of the manuscript’s content, a list of contributors if applicable, and a response form for use by Directors who desire a copy of the manuscript for review. Each manuscript shall contain a summary drawing attention to the nature and treatment of the problem studied and the main conclusions reached.

4. No volume shall be published until forty-five days have elapsed from the above notification of intention to publish it. During this period a copy shall be sent to any Director requesting it, and if any Director objects to publication on the grounds that the manuscript contains policy recommendations, the objection will be presented to the author(s) or editor(s). In case of dispute, all members of the Board shall be notified, and the President shall appoint an ad hoc committee of the Board to decide the matter; thirty days additional shall be granted for this purpose.

5. The President shall present annually to the Board a report describing the internal manuscript review process, any objections made by Directors before publication or by anyone after publication, any disputes about such matters, and how they were handled.

6. Publications of the NBER issued for informational purposes concerning the work of the Bureau, or issued to inform the public of the activities at the Bureau, including but not limited to the NBER Digest and Reporter, shall be consistent with the object stated in paragraph 1. They shall contain a specific disclaimer noting that they have not passed through the review procedures required in this resolution. The Executive Committee of the Board is charged with the review of all such publications from time to time.

7. NBER working papers and manuscripts distributed on the Bureau’s web site are not deemed to be publications for the purpose of this resolution, but they shall be consistent with the object stated in paragraph 1. Working papers shall contain a specific disclaimer noting that they have not passed through the review procedures required in this resolution. The NBER’s web site shall contain a similar disclaimer. The President shall establish an internal review process to ensure that the working papers and the web site do not contain policy recommendations, and shall report annually to the Board on this process and any concerns raised in connection with it.

8. Unless otherwise determined by the Board or exempted by the terms of paragraphs 6 and 7, a copy of this resolution shall be printed in each NBER publication as described in paragraph 2 above.
<table>
<thead>
<tr>
<th>Contents</th>
</tr>
</thead>
</table>

| Acknowledgments                     | ix         |
| Introduction                        | 1          |
| Richard B. Freeman and Kathryn L. Shaw |

I. CROS-FIRM STUDIES

   Nick Bloom, Tobias Kretschmer, and John Van Reenen

2. International Differences in the Adoption and Impact of New Information Technologies and New HR Practices: The Valve-Making Industry in the United States and United Kingdom 55
   Ann Bartel, Casey Ichniowski, Kathryn L. Shaw, and Ricardo Correa

3. The Guy at the Controls: Labor Quality and Power Plant Efficiency 79
   James B. Bushnell and Catherine Wolfram

II. WITHIN-FIRM STUDIES

4. Labor Practices and Outcomes across Countries: Analysis of a Single Multinational Firm 105
   Richard B. Freeman, Douglas Kruse, and Joseph Blasi
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Within-firm Labor Productivity across Countries: A Case Study</td>
<td>Francine Lafontaine and Jagadeesh Sivadasan</td>
<td>137</td>
</tr>
<tr>
<td>6</td>
<td>Productivity Differences in an International Pharmaceutical Firm</td>
<td>Tor Eriksson and Niels Westergaard-Nielsen</td>
<td>173</td>
</tr>
<tr>
<td>7</td>
<td>Measuring the Productivity of Software Development in a Globally Distributed Company</td>
<td>Alec Levenson</td>
<td>193</td>
</tr>
<tr>
<td>8</td>
<td>International Differences in Lean Production, Productivity, and Employee Attitudes</td>
<td>Susan Helper and Morris M. Kleiner</td>
<td>231</td>
</tr>
</tbody>
</table>

Contributors 263
Author Index 265
Subject Index 269
This book is derived from the grant entitled “Understanding Productivity Differences Between the U.S. and Europe by Combining Cross Country Industry Analysis with In-Depth Field Studies of Firms,” from the Sloan Foundation to the NBER. We deeply appreciate the enthusiasm and vision that Gail Pesyna and Ralph Gomery of the Sloan Foundation had in encouraging economists to go “inside firms” to study how management and workers actually behave. Their support and enthusiasm has helped catalyze a flourishing of the “pin factory” research approach embodied in the book, in which researchers seek company data to analyze behavior and performance.

We also thank the researchers and conference attendees for persisting through many conferences and many revisions in their work, and through the lengthy research process. The tasks of interviewing at work sites, finding data, and modeling outcomes are time consuming, but ultimately revealing and rewarding.