

This PDF is a selection from a published volume from the National Bureau of Economic Research

Volume Title: American Universities in a Global Market

Volume Author/Editor: Charles T. Clotfelter, editor

Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-11044-3; 978-0-226-11044-8

Volume URL: <http://www.nber.org/books/clot08-1>

Conference Date: October 2-4, 2008

Publication Date: May 2010

Chapter Title: Front matter, preface acknowledgments, table of contents

Chapter Author: Charles T. Clotfelter

Chapter URL: <http://www.nber.org/chapters/c12680>

Chapter pages in book: (cover - xii)

**CHARLES T. CLOTFELTER** is the Z. Smith Reynolds Professor of Public Policy, professor of economics and law, and director of the Center for the Study of Philanthropy and Voluntarism at Duke University. He is a research associate of the National Bureau of Economic Research and the former director of the NBER Working Group on Higher Education.

AN NBER CONFERENCE REPORT

For information on books of related interest or for a catalog of new publications, please write:

Marketing Department  
The University of Chicago Press  
1427 East 60th Street  
Chicago, IL 60637-2954  
U.S.A.  
[www.press.uchicago.edu](http://www.press.uchicago.edu)

**BOOKS OF RELATED INTEREST**

*Science and Engineering Careers in the United States: An Analysis of Markets and Employment*

Edited by Richard B. Freeman and Daniel L. Goroff

This volume provides new information on the economics of the postgraduate science and engineering job market, addressing such topics as the factors that determine the supply of PhDs, the career paths they follow after graduation, and the creation and use of knowledge as it is reflected by the number of papers and patents produced. A distinguished team of contributors also explores the tensions between industry and academe in recruiting graduates, the influx of foreign-born doctorates, and the success of female doctorates.

AN NBER CONFERENCE REPORT

*China's Growing Role in World Trade*

Edited by Robert C. Feenstra and Shang-Jin Wei

Bringing together an expert group of contributors, this book undertakes an empirical investigation of the effects of China's new status as a major player in world trade. The essays collected here provide detailed analyses of the microstructure of trade, the macroeconomic implications, sector-level issues, and foreign direct investment. This volume's careful examination of micro data in light of established economic theories clarifies a number of misconceptions, overturns some conventional wisdom, and documents data patterns that enhance our understanding of issues related to China's trade.

AN NBER CONFERENCE REPORT

*International Differences in Entrepreneurship*

Edited by Josh Lerner and Antoinette Schoar

*International Differences in Entrepreneurship* explains how a country's institutional differences, cultural considerations, and personal characteristics can affect the role that entrepreneurs play in its economy. In addition, contributors consider how features of individual economies, such as market regulation, government subsidies for banks, and support for entrepreneurial culture affect the industry, and the impact that entrepreneurs have on growth in developing nations.

AN NBER CONFERENCE REPORT

**THE UNIVERSITY OF CHICAGO PRESS**  
[www.press.uchicago.edu](http://www.press.uchicago.edu)

ISBN-13: 978-0-226-11044-8

ISBN-10: 0-226-11044-3



9 0000

EDITED BY  
CHARLES T. CLOTFELTER



National  
Bureau of  
Economic  
Research

AMERICAN UNIVERSITIES  
IN A GLOBAL MARKET



National  
Bureau of  
Economic  
Research

Chicago



## AMERICAN UNIVERSITIES IN A GLOBAL MARKET

Edited by **Charles T. Clotfelter**



## AMERICAN UNIVERSITIES IN A GLOBAL MARKET

EDITED BY  
**CHARLES T. CLOTFELTER**

In recent years, America's position of leadership in the world has been challenged in many ways. One significant shift is that the country's position as the preeminent global leader in higher education, particularly in the fields of science and technology, has come into question. *American Universities in a Global Market* addresses the variety of issues crucial to understanding this change. The volume examines the various factors that contributed to America's success in higher education, including openness to people and ideas, generous governmental support, and a tradition of decentralized friendly competition. It also explores the advantages of holding a dominant position in this marketplace and examines the current state of American higher education in a comparative context, placing particular emphasis on how market forces affect universities. The book also discusses the differences in quality among students and institutions around the world and sheds light on the singular aspects of American higher education.

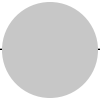
---

# **American Universities in a Global Market**



---

**A National Bureau  
of Economic Research  
Conference Report**



---

# **American Universities in a Global Market**

---

Edited by

**Charles T. Clotfelter**

**The University of Chicago Press**

Chicago and London

---

CHARLES T. CLOTFELTER is the Z. Smith Reynolds Professor of Public Policy, professor of economics and law, and director of the Center for the Study of Philanthropy and Voluntarism at Duke University. He is a research associate of the National Bureau of Economic Research.

---

The University of Chicago Press, Chicago 60637  
The University of Chicago Press, Ltd., London  
© 2010 by the National Bureau of Economic Research  
All rights reserved. Published 2010  
Printed in the United States of America

19 18 17 16 15 14 13 12 11 10 1 2 3 4 5  
ISBN-13: 978-0-226-11044-8 (cloth)  
ISBN-10: 0-226-11044-3 (cloth)

Library of Congress Cataloging-in-Publication Data

American universities in a global market / edited by Charles T. Clotfelter.

p. cm.—(National Bureau of Economic Research conference report)

Includes bibliographical references and index.

ISBN-13: 978-0-226-11044-8 (alk. paper)

ISBN-10: 0-226-11044-3 (alk. paper)

1. Education, Higher—United States. 2. Education and globalization. 3. Universities and colleges—United States. 4. Competition, International. I. Clotfelter, Charles T. II. Series: National Bureau of Economic Research conference report.

LA227.4.A517 2010

338.73—dc22

2009043758

© The paper used in this publication meets the minimum requirements of the American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials, ANSI Z39.48-1992.

---

## 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*

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

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.



---

# Contents

---

Preface and Acknowledgments	ix
<b>Introduction</b>	1
Charles T. Clotfelter	
I. STORM CLOUDS FOR AMERICAN HIGHER EDUCATION?	
<b>1. Is the United States Losing Its Preeminence         in Higher Education?</b>	33
James D. Adams	
<b>2. To Be or Not to Be: Major Choices in         Budding Scientists</b>	69
Eric Bettinger	
II. UNIVERSITIES AS FIRMS IN A GLOBAL MARKET	
<b>3. Coming to America: Where Do International         Doctorate Students Study and How Do US         Universities Respond?</b>	101
John Bound and Sarah Turner	
<b>4. The Economics of University Science and         the Role of Foreign Graduate Students and         Postdoctoral Scholars</b>	129
Grant C. Black and Paula E. Stephan	
<b>5. Universities as Firms: The Case of         US Overseas Programs</b>	163
E. Han Kim and Min Zhu	

## III. EMULATION AND COMPETITION ABROAD

- |                                                                                                                                 |     |
|---------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>6. The Structure of European Higher Education in the Wake of the Bologna Reforms</b>                                         | 205 |
| Ofer Malamud                                                                                                                    |     |
| <b>7. The Americanization of European Higher Education and Research</b>                                                         | 231 |
| Lex Borghans and Frank Cörvers                                                                                                  |     |
| <b>8. Higher Education in China: Complement or Competition to US Universities?</b>                                              | 269 |
| Haizheng Li                                                                                                                     |     |
| <b>9. Indian Higher Education</b>                                                                                               | 305 |
| Devesh Kapur                                                                                                                    |     |
| <b>10. From Brain Drain to Brain Competition: Changing Opportunities and the Career Patterns of US-Trained Korean Academics</b> | 335 |
| Sunwoong Kim                                                                                                                    |     |

## IV. LOOKING AHEAD

- |                                                                                       |     |
|---------------------------------------------------------------------------------------|-----|
| <b>11. What Does Global Expansion of Higher Education Mean for the United States?</b> | 373 |
| Richard B. Freeman                                                                    |     |
| Contributors                                                                          | 405 |
| Author Index                                                                          | 407 |
| Subject Index                                                                         | 411 |

---

# Preface and Acknowledgments

Charles T. Clotfelter

---

It was the best of times, it seemed, for American universities, especially those at the highest echelons of world rankings. Through at least the last several decades of the twentieth century and into the first years of the twenty-first, the top US research universities enjoyed a collective international reputation unmatched by universities in any other country or region. Paradoxically, these American institutions held their exalted position at the same time the country's elementary and secondary schools were receiving considerably less praise. The nation's K–12 schools, buffeted at home by criticisms and exposed abroad to unflattering comparisons in international tests of science and mathematics, were increasingly viewed as America's educational Achilles' heel. American universities, at any rate, appeared to have no rivals and few worries.

But in the new century that brought with it a horrendous demonstration of terrorism and threats to American geopolitical ascendancy, there arose as well a newly articulated anxiety about the country's ability to compete in the global economy; in particular, its ability to produce the innovations and educated workforce necessary to remain economically competitive. Not since the Soviet *Sputnik* touched off a paroxysm of self-doubt in the 1950s had alarm over the inadequacy of American research and training in science and technology reached such a crescendo. In his 2005 book, *The World is Flat*, Thomas Friedman argued that the consequence of a shrinking American advantage in education could very well be the loss of American world lead-

Charles T. Clotfelter is the Z. Smith Reynolds Professor of Public Policy, professor of economics and law, director of the Center for the Study of Philanthropy and Voluntarism at Duke University, and a research associate of the National Bureau of Economic Research.

ership in high-tech industries.<sup>1</sup> Then in 2007 a prestigious committee of the National Academy of Sciences weighed in with its own call to arms, *Rising Above the Gathering Storm*, which emphatically echoed the alarm raised by Friedman.<sup>2</sup> It argued that, through decades of neglect, the United States had fallen behind in science and engineering, leaving the country in a weakened position to compete in knowledge-intensive industries. It issued an urgent call for boosting the number of college students who major in science and engineering. At the same time, some observers saw the continued dominance of American research universities as vulnerable, as the dramatic advances occurring in communication such as the Internet were diminishing the importance of physical proximity and thus lessening the advantage of established institutions.

I found these issues to be compelling in part because of my own interest and research in the economics of higher education. Another reason was an opportunity I had in 2002 to get a firsthand look at higher education in China, when I took part in a conference jointly sponsored by the National Bureau of Economic Research (NBER) and the China Center for Economic Research in Beijing. These things led me to consider organizing a conference to examine US research universities through a global lens, one that would ask how the changing market for research and advanced training in the world would affect American universities and their continued prominence. I proposed the idea to Martin Feldstein, then president of the NBER, in 2005. Over the next two years, I discussed the project with dozens of experts in an effort to identify important questions and knowledgeable scholars who could undertake new research to address them. From the first, and at many points along the way, I turned to two long-standing members of the NBER higher education study group, Ronald Ehrenberg and Paula Stephan, for advice. Their counsel and support has been invaluable to me. Others from whom I received helpful suggestions include William Bowen, Michael Bradley, Richard Brodhead, Kanchan Chandra, Mihir Desai, Craufurd Goodwin, Roger Gordon, Diana Hicks, Caroline Hoxby, Andrea Ichino, Charlotte Kuh, Peter Lange, Michael Rothschild, John Siegfried, and Shang-Jin Wei.

After securing financial support from the Kauffman Foundation, we held a preconference at the Bureau's Cambridge offices on September 28, 2007. This session, plus ensuing communication among the authors, allowed for active collaboration and communication among participants that, I believe, is a major reason why the resulting volume has cohered to become a single, integrated whole. Reaffirming the irreplaceable value of face-to-face com-

1. Thomas L. Friedman, *The World Is Flat: A Brief History of the Twenty-First Century* (New York: Farrar, Straus and Giroux, 2005).

2. US National Academy of Sciences, Committee on Science, Engineering, and Public Policy, *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future* (Washington, DC: National Academy Press, 2007).

munication, however, the authors met together again, this time in Woodstock, Vermont, from October 2 to 4, 2008, to present and discuss their finished papers. This meeting included a dozen scholars who had agreed to be discussants. These participants brought with them research knowledge of education, innovation, and labor markets; extensive experience in university administration, or both. The group included three former deans (Peter Doeringer, Michael Rothschild, and Debra Stewart), one former vice president and current university trustee (Ronald Ehrenberg), two former provosts (Paul Courant and Charles Phelps), and two former university presidents (Harold Shapiro and Hugo Sunnenschein). The remaining discussants (Elizabeth Cascio, Caroline Hoxby, Arvind Panagariya, Bruce Sacerdote, and Michael Teitelbaum), like the former administrators, have both worked inside universities and also figured prominently in research and public policy that touch upon the issues addressed in this volume. The dialogue these discussants engendered at the conference was lively, provocative, and constructive, and the resulting published chapters in this volume benefited greatly from their active participation.

A final and emphatic word of thanks is due to Martin Feldstein. As a distinguished economist who has spent most of his career working for the same university, he became an astute observer of universities as firms.<sup>3</sup> But his impact on American higher education has been arguably greater in his role as president of the NBER, a position he held for some three decades. In that role, he left an indelible imprint on both the character of the economics profession and the nature of “competition” among universities in this discipline. Under his leadership the number of economists affiliated with the National Bureau grew tremendously at the same time that the organization retained its strong culture of free exchange of ideas. Together, these two features fostered enhanced scholarly communication and collaboration among active researchers in the profession, while paying little heed to institutional or national affiliation. For his early and sustained support of this project and its editor, I am happy to dedicate this volume to him.

3. See, for example, his written comment in Charles T. Clotfelter and Michael Rothschild (eds.), *Studies of Supply and Demand in Higher Education* (Chicago: University of Chicago Press, 1993), 37–42.

