PREFACE AND ACKNOWLEDGMENTS

WHEN PRESIDENT JOHN HENNESSY invited me to give the 2012 Tanner Lectures at Stanford University, I accepted readily, in part because I had already been thinking for quite some time about the twin subjects I would discuss: the "cost disease" in higher education and the potential of technology (finally!) to ameliorate the disorder. I spent much of the summer of 2012 pulling my thoughts together and working on drafts of the lectures, which were given in October of that year. Stanford arranged to have the lectures complemented by formal commentaries from President Hennessy himself (who participated actively in both the post-lecture discussions, as well as in the two formal commentary sessions), Howard Gardner of Harvard University, Andrew Delbanco of Columbia University, and Daphne Koller of Coursera.[1]

Peter J. Dougherty, director of Princeton University Press, the long-time publisher of my books, expressed a strong interest in publishing a revised version of the lectures along with the commentaries. We have now, in this book, the results of this expression of interest.

The original lectures have been available on the ITHAKA website since they were delivered, and printed copies have been distributed to a number of people. The main part of this book consists of revised versions of the original lectures. In this preface, I will first describe what I have done—and not done—by way of revision. Second, I will acknowledge all that colleagues and friends did to help along the way. But I want to anticipate the acknowledgments by emphasizing at the outset of the preface that Kelly A. Lack, a colleague at ITHAKA for the last two and a half years, has been my active collaborator in both the initial preparation of these materials and then the revisions.[2] I regard her as a full partner in this enterprise even though I cannot pass off on her, or on anyone else, my full responsibility for the final content.

In thinking about the revisions that I would like to make, I first decided that I would keep the informal, conversational character of the lectures. Next, I decided against introducing new topics. That would have delayed publication and worked against my desire to maintain a certain tone and tempo. There are, to be sure, important follow-on research projects, which I reference in the text of this book, but they will have to be addressed in due course and stand on their own. I also decided that I would do my best to incorporate new developments that appeared after the lectures and that were related to the existing lecture content. This has been a daunting task for Kelly and for me, but a stimulating one. We have learned new things. We did have to set an end date, however, and we decided that we would try to limit our inclusion of developments that occurred after Thanksgiving 2012. And we recognize that we have, inevitably, missed some materials published before our end date. This is such an incredibly "active" field that there is no way two mortals could claim to control all of it on a "real time" basis.

One other stylistic matter. In the main, I have kept—and added to—the copious endnotes, now exceeding 150 in total, that were an integral part of the text that appeared on the ITHAKA website right after the lectures. These endnotes report the sources of opinions and other materials cited in the text; they also provide additional commentary that would have overwhelmed the text had I put it there. Some readers may find the endnotes more useful than the text, and in a few cases (but only a very few) I have moved original endnote material to the text.

Readers who either heard the lectures or read online versions of them may want to know the main changes in this revised text. The structure remains the same. The book is in two parts, which track quite closely the objectives of the two lectures. Part 1, which contains the revised version of the first Tanner Lecture (henceforth referred to as Tanner I), sets the context by discussing the "cost disease" and related trends, the productivity concept as it applies to higher education, affordability, and whether rising educational costs deserve to be regarded as a real crisis. Part 2, which contains the revised version of the second Tanner Lecture (henceforth referred to as Tanner II), explores the multiple challenges we confront in trying to use technology, and variants of online learning in particular, to provide at least something of a "fix" for the cost disease. Below I summarize the revisions I have made to each lecture.

Tanner I. In addition to updating references, I have included:

- comments by President Hennessy on recent trends in the published tuition rate and student aid at Stanford, which has had the ability (and will) to increase student aid faster than tuition—a pattern that stands in stark contrast to what has happened at many (less wealthy) institutions, both private and public;
- a more nuanced discussion of the components of the productivity ratio that emphasizes the importance of both reducing institutional costs (the denominator of the ratio) and improving student-learning outcomes such as completion rates and time-to-degree (in the numerator); it also

recognizes that there is a "consumption" component on the output side of college education;
- a suggestion that publications stop making unsupported blanket condemnations of higher education as inefficient;
- a list of additional factors pushing up college costs (such as the increased expenses associated with benefits, including the effects of higher Medicaid charges in some states);
- a softening of the assertion in the original version of Tanner I that improving the match between student qualifications and the standards of the institutions they attend would improve overall completion rates;
- an even stronger emphasis on the need for new research into the "revealed preferences" of students as they make enrollment decisions in response to escalating tuition charges in the public sector;
- a brief reference to the November 2012 vote in California to permit higher taxes in lieu of further sharp reductions in state support for education; these taxes have been seen by some as resuscitating hopes for more generous state support (though I do not agree with this optimistic assessment); and
- an even stronger warning that if colleges and universities themselves do not address the cost and affordability issues that beset public higher education, elected state officials may seek to impose strong incentives for educational institutions to meet what could be overly narrow, short-term state objectives.

Tanner II. The quite extraordinary—and seemingly unremitting—surge in discussions of online learning, and especially of massive open online courses (MOOCs), has encouraged us to make a number of revisions to the discussion of the potential of technology to address the issues highlighted in the first lecture. Here are the additions:

- an explicit recognition of our lack of any real understanding of teaching effectiveness in conventional classroom settings, as well as when online learning is used;
- an emphasis on the likelihood that improvements in pedagogy, and greater experience in using online learning, will almost certainly lead to better learning outcomes over time than the ones we reported in ITHAKA's May 2012 empirical study of the effectiveness of the Carnegie Mellon statistics course at public universities—we now regard those results as setting a kind of baseline;
- recognition that the greatest potential for MOOCs to improve productivity probably lies in their creating more flexible scheduling opportunities, easier ways of gaining transfer credits, and a general re-engineering of the entire educational process in some settings;
- references to recent progress in addressing certification issues, including the minimization of cheating, that enhance the likelihood that MOOCs can raise completion rates and lower time-to-degree for the system as a whole;
- a clearer recognition that no one platform or tool kit is likely to become dominant, and of the value of competition among a variety of platforms provided by both not-for-profit and for-profit entities;
- discussion of experimentation by developers of MOOCs in finding sustainable sources of revenue (e.g., by charging fees to institutions like Antioch University that plan to use MOOCs in their credit-granting curricula); and
- consideration of the potential of technology to permit unbundling of some functions performed by faculty, thereby moving us some distance from a vertical to a horizontal educational model—with profound implications for decision-making and the role of faculty in governance (which are key topics in need of serious study).

Acknowledgments

As I have already said, Kelly A. Lack has been my chief collaborator in all aspects of this study. I cannot thank Kelly enough for her highly effective work and, beyond that, for her endless patience with me and her friendship. She has a great future ahead of her. I suspect that, right now, Kelly is more familiar with the burgeoning literature on online learning than anyone in the world!

Among the many others who have contributed ideas and have commented on early drafts, I want to single out three people:

- Lawrence S. Bacow, former chancellor of the Massachusetts Institute of Technology and former president of Tufts University, who is now "president-in-residence" at the Harvard Graduate School of Education;
- Kevin M. Guthrie, president of ITHAKA; and
- Michael S. McPherson, president of the Spencer Foundation.

These three have been indefatigable in making incisive comments, clarifying points, and offering non-stop encouragement. All three will be engaged in follow-on studies sponsored, at least in part, by ITHAKA.

Others who have offered valuable comments include:

- William J. Baumol, now professor at NYU's Stern School of Business and the academic director of Stern's Berkley Center for Entrepreneurship and Innovation;
- Paul Benacerraf, professor of philosophy emeritus at Princeton University;
- Henry S. Bienen, president emeritus of Northwestern University and chairman of the ITHAKA board;
- Derek Bok, president emeritus of Harvard University;

- Laura Brown, managing director of JSTOR and executive vice president of ITHAKA;
- William E. ("Brit") Kirwan, chancellor of the University System of Maryland;
- Daphne Koller, co-founder of Coursera;
- Deanna Marcum, managing director of the consulting and research arm of ITHAKA, Ithaka S+R (which stands for strategy and research);
- W. Taylor Reveley III, president of the College of William and Mary;
- James Shulman, president of ARTstor;
- Robert Solow, institute professor, emeritus; professor of economics, emeritus, MIT;
- Richard R. Spies, formerly executive vice president for planning and senior adviser to the president, Brown University; and
- Sarah E. Turner, professor of economics and education at the University of Virginia.

Colleagues on the staff of ITHAKA who have worked on key parts of this research agenda include Matthew M. Chingos, now at the Brookings Institution; Thomas I. Nygren, now a lecturer in the Centre for English Language Studies at Sunway University in Malaysia; and Ithaka S+R staff members Rebecca Griffiths and Matthew Staiger. Susanne Pichler, librarian at the Andrew W. Mellon Foundation, has been of great help in finding references and suggesting places to look for additional material. I am sure my colleagues would agree that my long-suffering wife, Mary Ellen Bowen, should be regarded as an informal member of the team. She has offered, as always, much good advice and, in addition, has been my "techie" out of the office.

Johanna Brownell, my executive and research assistant, has been extraordinary in the way that she has overseen this entire process, from composition to revision to publication, and has

taken responsibility for locating obscure materials, making numerous improvements in the exposition, and putting the final manuscript in good order for publication.

The funders of the pieces of related research that are the backbone of these lectures are the Carnegie Corporation of New York, the Bill & Melinda Gates Foundation, the William and Flora Hewlett Foundation, the Stavros Niarchos Foundation, the Spencer Foundation, and an anonymous foundation. In addition, the Andrew W. Mellon Foundation has generously supported key infrastructure costs. Those of us who have worked on this set of studies are grateful for the support provided by all of these funders—we could not have managed without it.

The contributions of the commentators at Stanford on these lectures have already been noted. I learned a great deal from all of them.

This research is an integral part of ITHAKA's program. I want to thank ITHAKA, led by the chairman of its board, Henry S. Bienen, and its president, Kevin M. Guthrie, for steady support and encouragement.

Finally, I want to thank my friend Peter J. Dougherty, director of Princeton University Press, and Seth Ditchik, executive editor for economics and finance, who has had direct responsibility for overseeing the publication of this book. No author could ever ask for stronger, or more professionally adept, support from a publisher.

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Notes

1. Coursera is a social entrepreneurship company that offers online courses to the general public, currently free of charge.

2. ITHAKA is a nonprofit organization whose mission is to help the academic community use technology to advance research and teaching in sustainable ways.