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

Volume Title: Innovation and Public Policy

Volume Authors/Editors: Austan Goolsbee and Benjamin Jones, editors

Volume Publisher: University of Chicago Press

Volume ISBNs: 978-0-226-80545-0 (cloth), 978-0-226-80559-7 (electronic)

Volume URL: https://www.nber.org/books-and-chapters/innovation-and-public-policy

Conference Date: March 13, 2020

Publication Date: February 2022

Chapter Title: Front matter, preface

Chapter Author(s):

Chapter URL: https://www.nber.org/books-and-chapters/innovation-and-public-poli cy/front-matter-preface

Chapter pages in book: p. i - x

Innovation and Public Policy



A National Bureau of Economic Research Conference Report

NATIONAL BUREAU of ECONOMIC RESEARCH



Edited by Austan Goolsbee and Benjamin F. Jones

The University of Chicago Press

Chicago and London

The University of Chicago Press, Chicago 60637 The University of Chicago Press, Ltd., London © 2021 by The National Bureau of Economic Research All rights reserved. No part of this book may be used or reproduced in any manner whatsoever without written permission, except in the case of brief quotations in critical articles and reviews. For more information, contact the University of Chicago Press, 1427 E. 60th St., Chicago, IL 60637. Published 2021 Printed in the United States of America

30 29 28 27 26 25 24 23 22 21 1 2 3 4 5

ISBN-13: 978-0-226-80545-0 (cloth) ISBN-13: 978-0-226-80559-7 (e-book)

DOI: https://doi.org/10.7208/chicago/9780226805597.001.0001

Library of Congress Cataloging-in-Publication Data

Names: Goolsbee, Austan, editor. | Jones, Benjamin F., editor.
Title: Innovation and public policy / edited by Austan Goolsbee and Benjamin F. Jones.
Other titles: National Bureau of Economic Research conference report.
Description: Chicago : University of Chicago Press, 2021. | Series: National Bureau of Economic Research conference report | Includes bibliographical references and index.
Identifiers: LCCN 2021021047 | ISBN 9780226805450 (cloth) | ISBN 9780226805597 (ebook)
Subjects: LCSH: Technological innovations—Government policy— United States. | Technological innovations—Economic aspects— United States. | Science and state—United States.
Classification: LCC HC110.T4 I553 2021 | DDC 338.973—dc23 LC record available at https://lccn.loc.gov/2021021047

This paper meets the requirements of ANSI/NISO Z39.48-1992
 (Permanence of Paper).

National Bureau of Economic Research

Officers

John Lipsky, *chair* Peter Blair Henry, *vice chair* James M. Poterba, *president and chief executive officer* Robert Mednick, *treasurer*

Directors at Large

Susan M. Collins Kathleen B. Cooper Charles H. Dallara George C. Eads Jessica P. Einhorn Mohamed El-Erian Diana Farrell Helena Foulkes Jacob A. Frenkel Robert S. Hamada Peter Blair Henry Karen N. Horn Lisa Jordan John Lipsky Laurence H. Meyer Karen Mills Michael H. Moskow Alicia H. Munnell

Kelly Horak, controller and assistant corporate secretary Alterra Milone, corporate secretary Denis Healy, assistant corporate secretary

> Robert T. Parry Douglas Peterson James M. Poterba John S. Reed Hal Varian Mark Weinberger Martin B. Zimmerman

Directors by University Appointment

Timothy Bresnahan, Stanford Pierre-André Chiappori, Columbia Maureen Cropper, Maryland Alan V. Deardorff, Michigan Graham Elliott, California, San Diego Edward Foster, Minnesota Bruce Hansen, Wisconsin-Madison Benjamin Hermalin, California, Berkeley Samuel Kortum, Yale George Mailath, Pennsylvania Joel Mokyr, Northwestern Richard L. Schmalensee, Massachusetts Institute of Technology Lars Stole, Chicago Ingo Walter, New York David B. Yoffie, Harvard

Directors by Appointment of Other Organizations

Timothy Beatty, Agricultural and Applied Economics Association Martin J. Gruber, American Finance Association Philip Hoffman, Economic History Association Arthur Kennickell, American Statistical Association Robert Mednick, American Institute of Certified Public Accountants Dana Peterson, *The Conference Board*Lynn Reaser, *National Association for Business Economics*Peter L. Rousseau, *American Economic Association*Gregor W. Smith, *Canadian Economics Association*William Spriggs, *American Federation of Labor and Congress of Industrial Organizations*

Directors Emeriti

George Akerlof Peter C. Aldrich Elizabeth E. Bailey Jagdish Bhagwati John H. Biggs Don R. Conlan Ray C. Fair Saul H. Hymans Marjorie B. McElroy Rudolph A. Oswald Andrew Postlewaite John J. Siegfried Craig Swan Marina v. N. Whitman

Relation of the Directors to the Work and Publications of the NBER

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	ix
	Introduction Austan Goolsbee and Benjamin F. Jones	1
1.	A Calculation of the Social Returns to Innovation Benjamin F. Jones and Lawrence H. Summers	13
2.	Innovation and Human Capital Policy John Van Reenen	61
3.	Immigration Policy Levers for US Innovation and Start-Ups Sari Pekkala Kerr and William R. Kerr	85
4.	Scientific Grant Funding Pierre Azoulay and Danielle Li	117
5.	Tax Policy for Innovation Bronwyn H. Hall	151
6.	Taxation and Innovation: What Do We Know? Ufuk Akcigit and Stefanie Stantcheva	189
7.	Government Incentives for Entrepreneurship Josh Lerner	213
	Contributors Author Index Subject Index	237 239 245

Preface

Innovation is widely recognized as a central force for raising standards of living. Yet innovative activity is riddled with market failures that can limit private investment. These market failures invite public policy to play a potentially critical role in promoting innovative effort. Indeed, such policies might be among the most important things governments can do to foster key social goals over the long run, including improved human health and rising socioeconomic prosperity. The purpose of this volume is to take stock of recent research that advances our understanding of innovation and the specific roles that public policy can play.

This project was generously funded by the Ewing Marion Kauffman Foundation through a grant to the National Bureau of Economic Research. The Kauffman Foundation has a long tradition of supporting research on entrepreneurship and innovation, in economics as well as other fields. We are very grateful for their support.

In building this volume, we were fortunate to recruit a set of authors who have made key contributions to innovation-policy research and who have come together here to synthesize the latest insights. The authors have produced a series of excellent chapters, each organizing cutting-edge research streams into coherent frameworks that can inform a large set of policy opportunities. With innovation playing a central role in improving standards of living, the stakes in getting policy right are very large. In the individual chapters, and collectively, the authors have provided a concise and accessible guide.

We also thank Josh Lerner, Jim Poterba, and Scott Stern for suggesting that we undertake this project and supporting the effort throughout. Finally, we thank Chad Zimmerman, our editor at the University of Chicago Press, and Helena Fitz-Patrick at the NBER, who were both extremely helpful in managing the publication process.