

National Bureau of Economic Research

Studies in Income and Wealth Vol. 45

The Measurement of Capital

Edited by Dan Usher This Page Intentionally Left Blank

The Measurement of Capital

Studies in Income and Wealth Volume 45

National Bureau of Economic Research Conference on Research in Income and Wealth

The Measurement of Capital

Edited by

Dan Usher

The University of Chicago Press

Chicago and London

DAN USHER teaches in the Department of Economics at Queen's University, Kingston, Ontario. He is the author of *The Price* Mechanism and Meaning of National Income Statistics and The Measurement of Economic Growth.

The University of Chicago Press, Chicago 60637 The University of Chicago Press, Ltd., London

© 1980 by the National Bureau of Economic Research All rights reserved. Published 1980 Printed in the United States of America 84 83 82 81 80 5 4 3 2 1

Library of Congress Cataloging in Publication Data

Conference on the Measurement of Capital, Toronto, Ont. 1976.

The measurement of capital.

(Studies in income and wealth ; v. 45)
Includes bibliographical references and index.
1. Capital—United States.
2. Capital—Statistical
methods.
I. Usher, Dan, 1934– II. Title.
III. Series: Conference on Research in Income and
Wealth. Studies in income and wealth ; v. 45.
HC106.3.C714 vol. 45 [HC110.C3] 330'.08s 79–18893
ISBN 0-226-84300–9 [332'.041]

National Bureau of Economic Research

Arthur F. Burns, honorary chairman James J. O'Leary, chairman Eli Shapiro, vice-chairman Martin Feldstein, president Charles E. McLure, Jr., vice-president Charles A. Walworth, treasurer Sam Parker, director of finance and administration

Directors at Large

Moses Abramovitz Andrew F. Brimmer Arthur F. Burns George T. Conklin, Jr. Morton Ehrlich Solomon Fabricant Martin Feldstein Edward L. Ginzton David L. Grove Walter W. Heller Walter E. Hoadley Roy E. Moor Geoffrey H. Moore Michael H. Moskow James J. O'Leary Peter G. Peterson Robert V. Roosa Richard N. Rosett Bert Seidman Eli Shapiro Stephen Stamas Lazare Teper Donald S. Wasserman

Directors by University Appointment

Gardner Ackley, Michigan George Leland Bach, Stanford Charles H. Berry, Princeton Otto Eckstein, Harvard Walter D. Fisher, Northwestern John H. Kareken, Minnesota J. C. LaForce, California, Los Angeles Almarin Phillips, Pennsylvania James L. Pierce, California, Berkeley Lloyd G. Reynolds, Yale Robert M. Solow, Massachusetts Institute of Technology Robert R. Sterling, Rice Henri Theil, Chicago William S. Vickrey, Columbia Burton A. Weisbrod, Wisconsin

Directors by Appointment of Other Organizations

Eugene A. Birnbaum, American Management Associations
Carl F. Christ, American Economic Association
Robert G. Dederick, National Association of Business Economists
Stephan F. Kaliski, Canadian Economics Association
Franklin A. Lindsay, Committee for Economic Development
Paul W. McCracken, American Statistical Association Douglass C. North, Economic History Association
Rudolph A. Oswald, American Federation of Labor and Congress of Industrial Organizations
G. Edward Schuh, American Agricultural Economics Association
James C. Van Horne, American Finance Association
Charles A. Walworth, American Institute of Certified Public Accountants

Directors Emeriti

Emilio G. Collado Frank W. Fetter Thomas D. Flynn Gottfried Haberler Albert J. Hettinger, Jr. George B. Roberts Murray Shields Boris Shishkin Willard Thorp Joseph H. Willits Theodore O. Yntema

Since this volume is a record of conference proceedings, it has been exempted from the rules governing critical review of manuscripts by the Board of Directors of the National Bureau (resolution adopted 6 July 1948, as revised 21 November 1949 and 20 April 1968). This Page Intentionally Left Blank

Contents

	Prefatory Note	ix
	Introduction Dan Usher	1
1.	Estimation of Capital Stock in the United States Allan H. Young and John C. Musgrave Comment: Thomas K. Rymes Comment: Jack G. Faucett Reply	23
2.	Economic Depreciation and the Taxation of Structures in United States Manufacturing Industries: An Empirical Analysis Charles R. Hulten and Frank C. Wykoff Comment: Paul Taubman Reply	83
3.	Alternative Measures of Capital and Its Rate of Return in United States Manufacturing Robert M. Coen Comment: Solomon Fabricant	121
4.	New Books on the Measurement of Capital Stanley Engerman and Sherwin Rosen Comment: John W. Kendrick	153
5.	Capital Gains and Income: Real Changes in the Value of Capital in the United States, 1946–77 Robert Eisner	175

	Comment: Martin J. Bailey Comment: J. W. S. Walton	
6.	Measurement of Income and Product in the Oil and Gas Mining Industries John J. Soladay	347
7.	The Measurement of Capital Aggregates: A Postreswitching Problem Murray Brown <i>Comment</i> : Edwin Burmeister	377
8.	Aggregation Problems in the Measurement of Capital W. E. Diewert Comment: Michael Denny Reply	433
	List of Contributors	539
	Author Index	541
	Subject Index	545