

This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: Productivity Differences within the Service Sector

Volume Author/Editor: Victor R. Fuchs and Jean Alexander Wilburn

Volume Publisher: P DGT

Volume ISBN: 0-87014-443-X

Volume URL: <http://www.nber.org/books/fuch67-2>

Publication Date: 1967

Chapter Title: Front matter, Ptqf wlxk{ Dkht gpegu'y kj kp"  
yj g Sgtxleg Sgevqt

Chapter Author: Victor R. Fuchs, Jean Alexander Wilburn

Chapter URL: <http://www.nber.org/chapters/c1429>

Chapter pages in book: (p. -18 - 0)

VICTOR R. FUCHS

NATIONAL BUREAU OF ECONOMIC RESEARCH

JEAN ALEXANDER WILBURN

BARNARD COLLEGE

PRODUCTIVITY DIFFERENCES  
WITHIN THE  
SERVICE SECTOR

OCCASIONAL PAPER 102



NATIONAL BUREAU OF ECONOMIC RESEARCH

NEW YORK 1967

*Distributed by* COLUMBIA UNIVERSITY PRESS

NEW YORK AND LONDON

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National Bureau of Economic Research, Inc.

261 Madison Avenue, New York, N.Y. 10016

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Library of Congress Catalog Card Number: 66-29197

Printed in the United States of America

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as revised February 6, 1933, and February 24, 1941)*

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## PREFACE

THIS is the third report to appear as a result of the National Bureau's study of productivity in the service industries, undertaken with the financial assistance of the Ford Foundation. The first two, *Productivity Trends in the Goods and Service Sectors, 1929-61: A Preliminary Survey* and *The Growing Importance of the Service Industries*, were focused at a highly aggregative level; the comparisons made were primarily between the goods and service sectors and among major industry groups.

In the present report, an attempt is made to study productivity at a much finer level of industry detail. Such an approach has some clear limitations. It will not be possible to include all the service industries. Moreover, the danger of errors in the data may be greater than when we work with sector aggregates or broad industry groups. Generalizations can be made only with the greatest caution. Nevertheless, we know from preliminary study that substantial differences in rates of growth of productivity exist within the service sector. It may be that an analysis of such differences would provide some insight as to why services as a group tend to improve their output per man less rapidly than do the goods industries. Furthermore, there are a number of important conceptual problems concerning the measurement of output and input in service industries which are likely to be brought out more clearly by a consideration of detailed industries. Finally, the analysis of changes in productivity over time in selected service industries may provide some guidance for the study of intercountry differences in productivity at a given point in time.

The report that follows consists of two independent studies. In the first, differential trends in productivity across seventeen service indus-

tries from 1939 to 1963 are examined. The analysis is largely statistical in nature, relying heavily on correlation and regression techniques. Some interesting differences in productivity trends within the service sector are revealed, but no attempt is made to explore any particular industry in depth.

The second study, by Jean Wilburn, does precisely that. It focuses on the disparate performance of two apparently similar industries—barber shops and beauty shops—and subjects these two industries to a highly detailed analysis. This intensive case study not only provides new insights about an unexplored part of the economy but it also increases our understanding of factors of general importance. These include the implications for productivity of technological change, fashion, size of transaction, labor quality, use of part-timers, and disguised unemployment.

One of the results of the studies presented here is to confirm the conclusion reached by economists who have studied manufacturing industries that productivity and growth tend to be positively correlated. Jean Wilburn's paper, in particular, shows the two-sided nature of this relationship, with technological change stimulating growth through decreases in price and improvements in quality, and the growth of demand stimulating productivity through increases in the size of transactions and decreases in idle time. This report also confirms previous findings that changes in wages across industries are not correlated with changes in productivity.

While many of the results presented here tend to support conclusions that have been reached on the basis of studies of manufacturing, other parts of this report serve to point up significant differences between manufacturing and services. It is hoped that this exploration into relatively unknown territory will highlight the importance of developing better data on the service industries and of broadening the scope of investigations of productivity.

The barber and beauty shop industries provide a good illustration of both points. Together they employ almost as many persons as does the basic steel industry, but they receive only a small fraction of the statistical coverage of the latter industry. Furthermore, such frequently discussed questions as the embodiment or disembodiment of technological change prove to be of little consequence in understanding productivity in these industries as compared with questions such as

the use of part-timers, changes in the age of the work force, and developments in the competing nonmarket sectors of the economy.

Both authors have numerous acknowledgments that they are happy to make. The Directors' reading committee, Lloyd G. Reynolds, Murray Shields, and Boris Shishkin, made useful suggestions. The first study has benefited from comments by Edward F. Denison and Solomon Fabricant, and thanks are due Irving Leveson for conscientious preparation of the tables and appendixes. A preliminary version of this study was presented at the 9th General Conference of the International Association for Research in Income and Wealth, Lom, Norway, September, 1965.

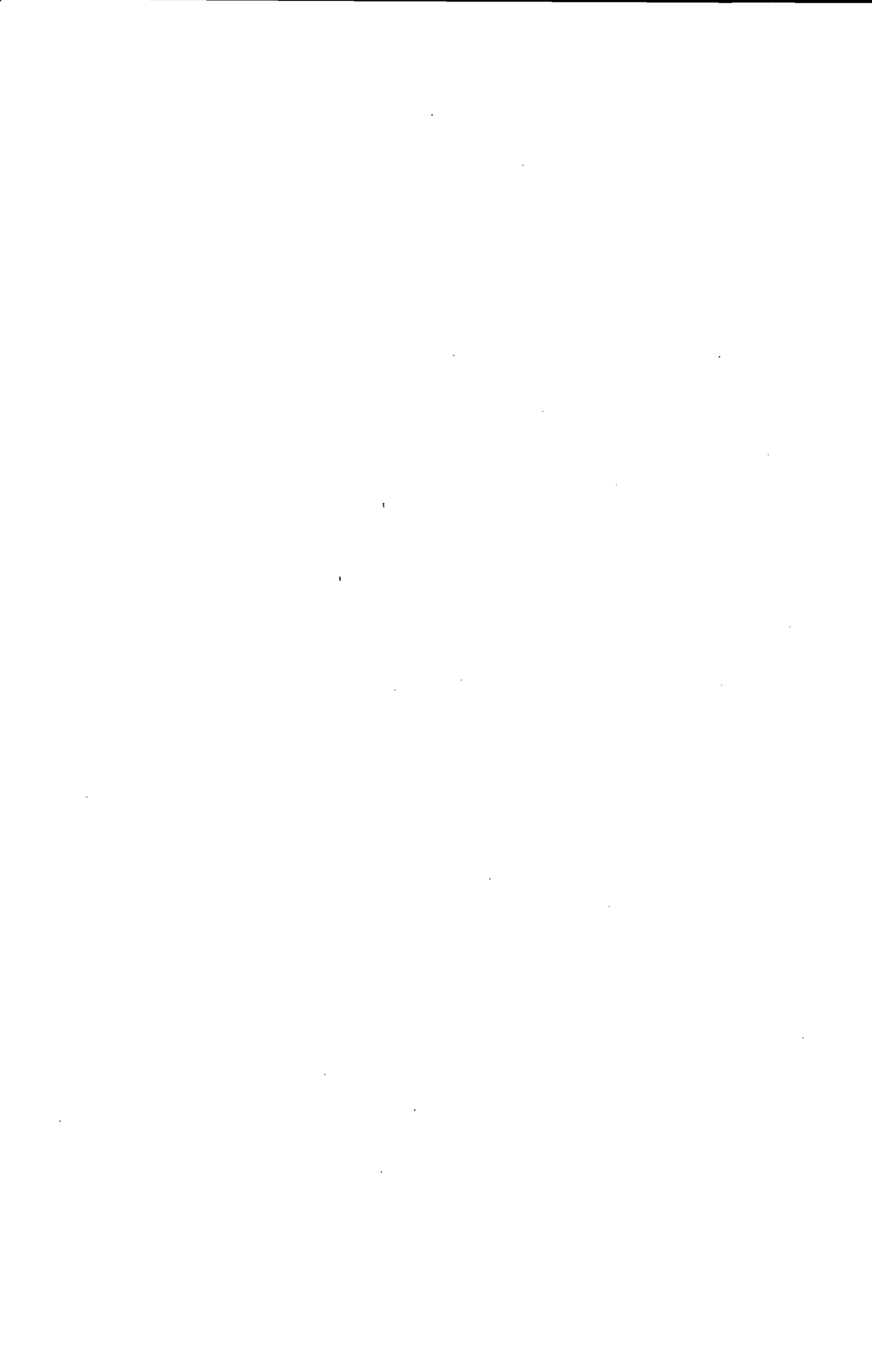
Jean Wilburn is happy to acknowledge helpful comments from Gary S. Becker, Solomon Fabricant, F. Thomas Juster, Jacob Mincer, and Anna J. Schwartz, and the research assistance of Irving Leveson, Linda Nasif, and Deborah Sarachek.

Both authors are grateful to Charlotte Boschan for the computer program she developed, to International Business Machines Corporation, for its grant of computer time, to James F. McRee for his editorial assistance, to H. Irving Forman who drew the charts, and to Joyce M. Rose for the skill and care she devoted to the secretarial chores.

Certain data used in this paper were derived by the authors from punched cards furnished under a joint project sponsored by the U.S. Bureau of the Census and the Population Council and containing selected 1960 Census information for a 0.1 per cent sample of the population of the United States. Neither the Census Bureau nor the Population Council assumes any responsibility for the validity of any of the figures or interpretations of the figures published herein based on this material.

VICTOR R. FUCHS

*Associate Director of Research*



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**Fuchs, Victor Robert, 1924-**

Productivity differences within the service sector (by Victor R. Fuchs and Jean Alexander Wilburn. New York, National Bureau of Economic Research; distributed by Columbia University Press, 1967.

xiii, 109 p. illus. 23 cm. (National Bureau of Economic Research. Occasional paper 102)

Bibliographical footnotes.

1. Service industries—U. S.—Labor productivity.      i. Title.  
(Series)

H11.N2432 no. 102

331.1'1

66-29197

MATERIAL SUBMITTED BY PUBLISHER.





2,006,000

National Bureau of Economic Research, Inc.

**Fuchs, Victor Robert, 1924-**

Productivity differences within the service sector (by Victor R. Fuchs and) Jean Alexander Wilburn. New York, National Bureau of Economic Research; distributed by Columbia University Press, 1967.

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331.1'1

66-29197

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