Volume Title: The Growing Importance of the Service Industries

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Volume Publisher: NBER

Volume ISBN: 0-87014-410-3

Volume URL: http://www.nber.org/books/fuch65-1

Publication Date: 1965

Chapter Title: Introduction to "The Growing Importance of the Service Industries"

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Chapter URL: http://www.nber.org/chapters/c1691

Chapter pages in book: (p. 1 - 4)

THE GROWING IMPORTANCE OF THE SERVICE INDUSTRIES*

VICTOR R. FUCHS

The economics of tertiary industry remains to be written. Many as yet feel uncomfortable about even admitting their existence.

COLIN CLARK, *The Conditions of Economic Progress*

INTRODUCTION

THIS paper begins with the observation that virtually all of the net growth of employment in the United States in the postwar period has occurred in the service sector. As a result, this sector (comprising trade, finance, insurance, and real estate; personal, professional, business, and repair services; and general government) now accounts for more than half of total employment and more than half of gross national product. This country is pioneering in a new stage of economic development. We are now a "service economy"—that is, we are the first nation in the history of the world in which more than half of the employed population is not involved in the production of food, clothing, houses, automobiles, and other tangible goods.[1]

Although the shift of employment to the service industries has been particularly dramatic in the postwar period, it was also in evidence prior to the war, as may be seen in Table 1 and Figures 1 and 2. The table shows employment by sector for selected years since 1929. Some industrial detail is also presented in explicit recognition of the partly arbitrary character of the sector definitions. These definitions arise in part from our interest in a group of industries that have not received much attention in the past from economists concerned with productivity analysis. The boundary between service and goods production is very difficult to draw, and probably no division based on industrial classifications would be completely satisfactory. One could refer to the industries studied in this paper simply as "group 1" and "group 2"; but for convenience, and because it generally conforms to convention, they are designated as the service and goods sectors.

In addition to the full sector comparisons, data are presented for modified sectors denoted by asterisks. Goods* is the

* This paper is the second to appear as part of the National Bureau's study of productivity in the service industries, undertaken with the assistance of a grant from the Ford Foundation. A grant of electronic computer time by the International Business Machines Corporation was used for some of the statistical analyses in this report.

I have benefited from comments by Gary S. Becker, Daniel Creamer, Solomon Fabricant, Robert E. Lipsey, Jacob Mincer, Geoffrey H. Moore, and David Schwartzman. The reading committee of the National Bureau's board of directors—Walter W. Heller, Maurice W. Lee, and Donald B. Woodward—made many helpful suggestions. I am pleased to acknowledge the research assistance of Judy Mitnick, Linda Nasif, Regina Reibstein, Katherine Warden, and especially Irving Leveson. I am also grateful to James F. McRee, Jr., who prepared the manuscript for press; to H. Irving Forman, who drew the figures; and to Joyce M. Rose, for secretarial and editorial assistance.

[1] One dramatic example of this shift is that the *increase* in employment in education between 1950 and 1960 was greater than the *total* employment in primary metal industries in either year.

TABLE 1

PERSONS ENGAGED BY SECTOR AND MAJOR INDUSTRY GROUP, SELECTED YEARS, 1929–63

(Thousands)

	1929	1937	1948	1953	1957	1963
Goods[a]	27,561	25,989	31,764	33,286	32,767	31,445
Service[a]	18,655	21,167	26,812	31,779	33,807	37,962
Goods*[b]	17,947	16,651	24,032	26,559	26,433	25,733
Service*[b]	12,263	12,596	17,107	18,767	20,323	22,547
Agriculture, forestry, and fishing	9,205	8,864	7,012	5,885	5,470	4,725
Mining	1,017	993	1,021	896	858	654
Construction	2,306	1,738	3,262	3,801	4,161	4,305
Manufacturing	10,556	10,686	15,468	17,462	17,054	16,767
Transportation	3,034	2,333	3,000	2,997	2,846	2,546
Communications and public utilities	1,034	901	1,281	1,403	1,514	1,461
Government enterprise	409	474	720	842	864	987
Wholesale trade	1,744	1,857	2,712	2,971	3,205	3,391
Retail trade	6,077	6,305	8,597	9,311	9,775	10,537
Finance and insurance	1,207	1,065	1,349	1,705	2,040	2,437
Real estate	368	455	574	615	681	763
Households and institutions	3,249	3,060	3,051	3,246	3,749	4,316
Professional, personal, business, and repair services	3,235	3,369	4,449	4,780	5,303	6,182
General government (including armed forces)	2,775	5,056	6,080	9,151	9,054	10,336

[a] Goods = agriculture, mining, construction, manufacturing, transportation, communications and public utilities, and government enterprise; service = wholesale and retail trade, finance and insurance, real estate, services, and general government.

[b] Goods* = goods excluding agriculture and government enterprise; service* = service excluding real estate, households and institutions, and general government.

Source: Office of Business Economics; *Survey of Current Business*, July, 1964; *U.S. Income and Output*, 1958; *National Income, 1954 Edition*.

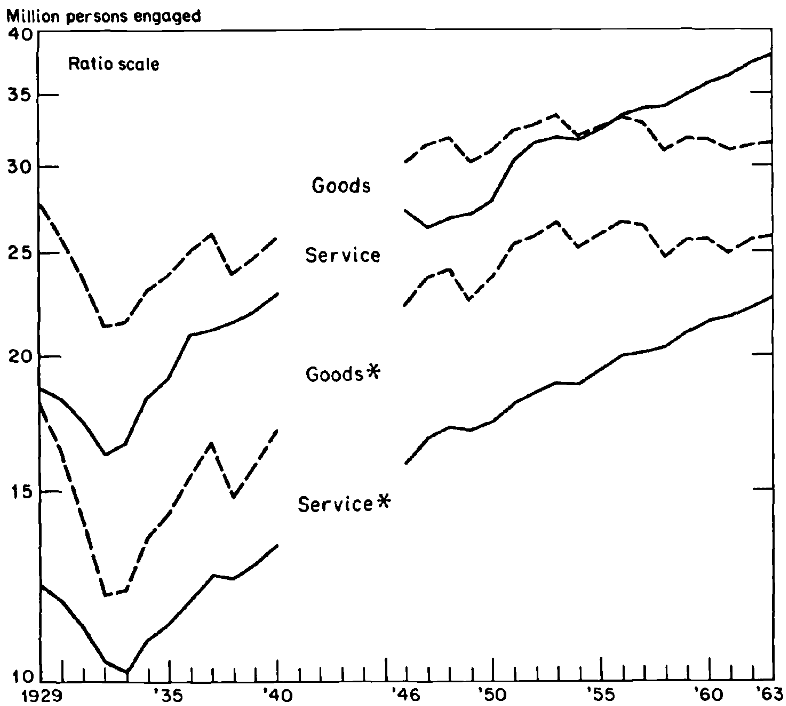

FIG. 1.—Persons engaged by sector, 1929–40, 1946–63. See Table 1 for sector definitions. Source: U.S. Department of Commerce, Office of Business Economics.

goods sector minus agriculture and government enterprises. Service* is the service sector minus real estate, households and institutions, and government.[2] Other sector definitions could be introduced as well, but the basic point concerning the growing relative importance of services would be unaffected by any reasonable changes in definition.

Figures 1 and 2 show sector employment in absolute terms and as a percentage of total employment annually, 1929 through 1963. The war years are omitted because the changes in employment patterns caused by the war are largely irrelevant for the study of long-term trends. Some differences between the prewar and postwar trends may be noted. The full service sector increased its share of employment in both periods, but the relative growth of the modified service sector occurred almost entirely after the war. Similarly, while the share of the full goods sector has been decreasing steadily, the modified goods sector was above its 1929 level in the decade 1946–56. It is only in recent years that the other goods industries have joined agriculture

[2] The excluded industries present special problems in the measurement of inputs and outputs.

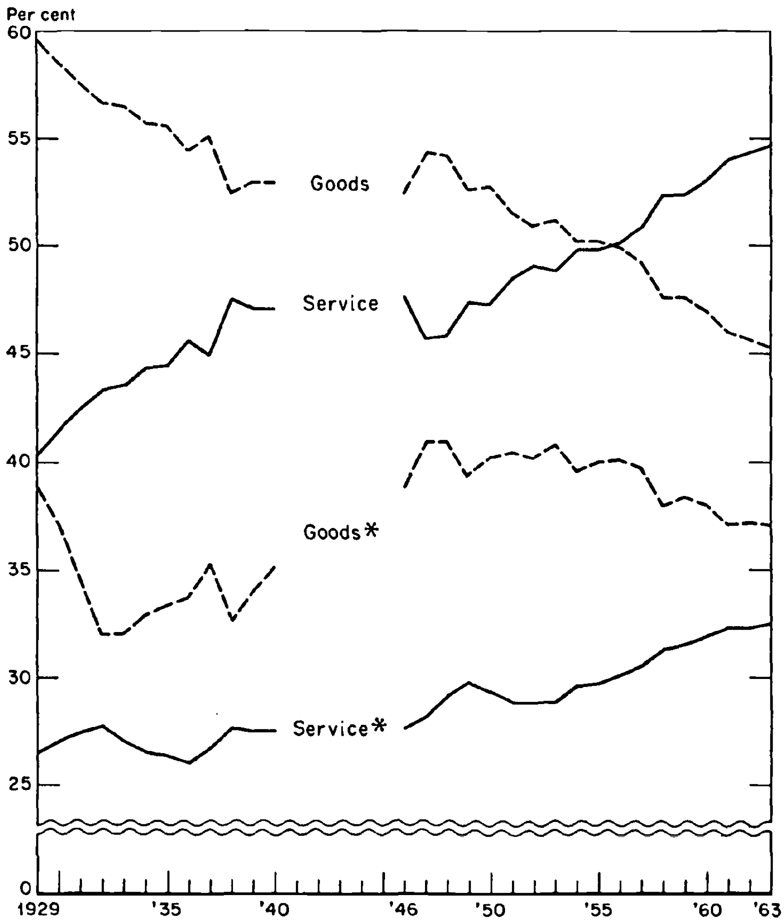

FIG. 2.—Sector employment as percentage of total employment, 1929–40, 1946–63. Source: see Fig. 1

as a declining fraction of total employment.

In this paper I propose to explore three questions concerning the relative growth of the service sector: (1) Why did the shift occur? (2) What are the implications for the economy? (3) What are the implications for economic analysis? The answers that will be suggested are not based on completed, tested research. They are rather akin to working hypotheses. Some of them are currently being explored in the National Bureau's study of productivity in the service industries.[3]

A MORE DETAILED LOOK AT THE GROWTH OF SERVICES

Before considering possible explanations for the increase in the service sector's share of total employment, several aspects of this increase should be explored. First, let us see whether the differential growth has been true for individual industries as well as for the sector aggregate. Table 2 provides an affirmative answer to this question.

Average annual rates of change of employment (1929–63) by industry have been calculated at the sixty-one–industry level of detail provided by the National Income Division of the Office of Business Economics. Thirty-eight of the industries are in the goods sector; twenty-three in the service sector. The fraction of the industries in each sector experiencing different annual rates of growth is also shown.

We see that a large percentage of the service industries had rapid rates of growth of employment and only a very few had negative or slow rates. For the goods industries, the reverse is true. Almost one-third of the goods industries showed an absolute decline in employment between 1929 and 1963, while fewer than one-sixth of them had rates of growth in excess of 2.5 per cent per annum. Only two of the service industries showed declines in employment and almost half of them grew at rates exceeding 2.5 per cent. The median rates of growth were 2.14 for the service industries, 0.99 for the goods, and 1.43 for all industries.

If the sixty-one industries are grouped by sector, and by whether they grew faster or slower than 1.43 per cent per annum, the difference between sectors is statistically significant at the 95 per cent level of confidence, according to the χ^2 test. It appears that the generalization about the shift of employment to services has considerable validity at the detailed industry level, as well as for the sector aggregate.

A second question concerns the extent to which a classification of employment by function instead of industry would confirm the existence of a trend toward services. We do not have employment data by function, but we do have information concerning the occupational distribution of the labor force, and the latter more closely approaches function than do the data for industries.

In Table 3, the eleven major occupation groups have been classified as "service type" or "goods type" according to their industrial distribution in 1960. We see that the former group has grown rapidly (2.1 per cent per annum between 1930 and 1960), while the "goods-type" occupations showed no net change over the period. Moderate gains in some goods-producing occupations were offset by absolute declines in others. Thus the

[3] Some preliminary findings of this study are reported in Victor R. Fuchs, *Productivity Trends in the Goods and Service Sectors, 1929–61: A Preliminary Survey* (Occasional Paper 89). (New York: National Bureau of Economic Research, 1964.) Other work now in progress at the National Bureau includes studies of wholesale and retail trade, state and local government, personal services, health, and changes in the quality of labor.