

CHAPTER Dh

Services and Utilities

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INTRODUCTION

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Services are functions such as repairing, restoring, and facilitating that maintain or improve the quality of a product but are not physical products themselves. Services also include activities such as education, health and personal care, entertainment, and protective services that are designed to enhance the standard of living and quality of life. In the context of the National Income and Product Accounts as reported here, “services” refers to the activities of private businesses and public agencies that are engaged in these maintenance and enhancement activities. Utilities are services or commodities provided by the government or by government-regulated entities. The major utilities are communications, electricity, natural gas, running water, sanitary services, and refuse collection.

The North American Industry Classification System (NAICS) classifies seventeen major economic sectors under the broad heading of Service Sector. It classifies Utilities under the broad heading of Secondary Sector. For a full listing of the NAICS system, see the Introduction to Part D.

Because of their size and complexity, statistics for a number of services and utilities are presented as separate chapters of *Historical Statistics of the United States*. The most notable of these are health care (Chapter Bd), social assistance (Chapter Bf), educational services (Chapter Bc), finance and insurance (Chapter Cj), public administration (Chapter Ea), communications (Chapter Dg), and electric and natural gas utilities (Chapter Db). See the Introduction to Part D for a concordance between the official list of the service and utilities sectors and the chapters of *Historical Statistics of the United States*.

This chapter presents a global discussion of the service sector by Thomas Weiss, followed by a similar discussion of the utilities sector by Susan Carter. The data displayed in the accompanying tables refer to the global definitions of these sectors (and thus span

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and serve to summarize material scattered across many chapters) and provide details on the industries and activities not elsewhere presented.

SERVICES

Thomas Weiss

The service sector is composed of a heterogeneous assortment of industries. Narrowly defined – as, for example, in the national accounts – services include the following: hotels and other lodging places; personal services, which include a wide range of industries servicing individuals and the home, such as barbering, tax return preparation services, and funeral services; business services, such as advertising, direct mail, and secretarial services; automotive repair services and parking; miscellaneous repair services, including electrical repair, computer repair, and the like; motion pictures; amusement and recreation services; health services; legal services; educational services; social services; membership organizations; other miscellaneous services; and the value of services provided by those employed in private households.¹ In addition, there are other industries whose products are entirely or largely services: transportation and public utilities; wholesale trade; retail trade; finance, insurance, and real estate (FIRE); and government services. These individual industries are so important to the economy that they are identified and listed separately in the national accounts. Nonetheless, a comprehensive definition of the service sector would include these as well as the more narrowly defined service industries.

Over time, almost all of these industries have become an increasingly important component of the American economy, especially those services identified in the national income accounts. The rapid growth in the service component of the U.S. economy can be seen in Figure Dh-A. This growth has sparked alarm among social critics. Some call the shift out of manufacturing and into services “deindustrialization” and see it as a cause of slower growth of productivity and in the standard of living overall. One popular view is that the United States is becoming a nation of “hamburger flippers” who do not contribute much to the growth or vitality of the nation’s economy.

¹ In the Census of Service Industries, the government provides further detail, identifying other categories such as museums, art galleries, and zoological and botanical gardens; and engineering and management services.

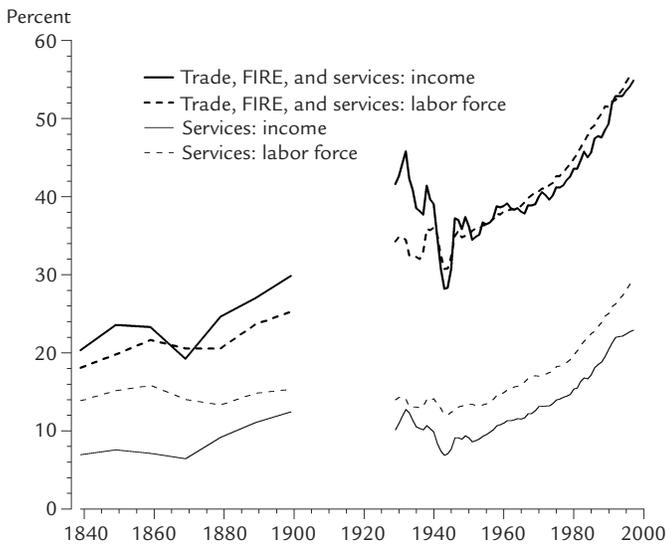


FIGURE Dh-A Percentage of the labor force and national income in services and related industries: 1839–1997

Sources

Series Ba1–2, Ba40–41, Ba471, Ba481, Ca4, Ca10, Dh1–3, Dh7–9, and Dh25–32.

Documentation

This figure presents a long-term view of services and related industries as a share of the larger economy – specifically, wholesale and retail trade; finance, insurance, and real estate (FIRE); and selected service industries. In order to construct this figure, various series of roughly comparable coverage and scope have been spliced together as described here.

Value added in trade, FIRE, and service industries, 1839–1899: series Dh1–3 (or series Dh3 in the case of just services). National income originating in trade, FIRE, and service industries, 1929–1997: series Dh25–28 (or series Dh28 in the case of just services).

Gross domestic product for the entire economy, 1839–1928: series Ca10, with straight-line interpolation based on the change for 1840–1841 to create a value for 1839. National income for the entire economy, 1929–1997, series Ca4.

Gainful workers in trade, FIRE, and service industries, 1839–1899: series Dh7–9 (or series Dh9 in the case of just services). Persons engaged in trade, FIRE, and service industries, 1929–1996: series Dh29–32 (or series Dh32 in the case of just services).

Labor force for the entire economy: 1839–1899, the sum of series Ba1–2 and Ba40–41, with straight-line interpolation; 1900–1937, series Ba471; 1938–1996, series Ba481.

The data in this chapter tell a different story. The shift to services has been a more complex phenomenon, involving “high-tech” industries along with fast food chains, and it has been going on for a long time. Some of the shift toward services reflects increased investment in skills, health, and other proficiencies that may be expected to improve economy-wide productivity in the long run. Other components of the shift toward services involve the maturation of activities such as accounting services, out of individual firms and into stand-alone firms that supply services to many firms in different industries. To the extent that such specialization and division of labor enhance productivity and reduce business costs, the growth of the service sector means productivity growth – not decline – for the economy as a whole.

The rise of the service sector with economic development is a seemingly universal pattern among industrializing nations, as service output and employment grow disproportionately fast as per capita income rises. With per capita income in the United States

having risen at more than 1.0 percent per year since the 1820s or so, the composition of the nation’s output and the industrial distribution of its labor force have been steadily shifting toward services for well over 150 years. The same is true elsewhere. While other advanced countries display slightly different patterns in the pace and timing of the shift toward services, and while the patterns are not the same for the labor force as for output, there are few exceptions to the general rule.

The Service Sector Defined

Whether one is interested in the more recent history or the longer-term story, the timing, pace, and pattern of the shift toward services depend on the definition of services and on how one measures the sector and its component parts. Services can be defined in different ways, and their output measured accordingly. For some questions it may be appropriate to use a narrower definition that excludes specific industries (for example, finance) even though they provide a service, while in other instances a broader definition that includes all of the intermediate-type services, such as transportation and trade, would be more useful. Or, industries could be categorized according to the final use of their services or by the industry in which they were produced. In the former case, for example, tax returns prepared for households would be considered a professional service; in the latter instance, bookkeeping services supplied to a manufacturer would be classified in the accounting industry.

In the national product statistics shown in Chapter Ca, the focus is on the end user of the goods and services. In that framework, service output is measured as the value of services, such as medical care or recreation, flowing to consumers. It also includes the value of shelter services, including an imputed value for those who occupy their own homes, and expenditures on household operations for items such as electricity and gas. The figures include the value of transportation services purchased by consumers but exclude transportation services and other intermediate services that were used to distribute durable and nondurable goods to the consumers.² This focus on final goods and services has its use, but it downplays the importance of intermediate services in our economy and the extent to which workers are employed in the production of those services.

Another way to view the service sector, then, is to look at output and employment by industry of origin. In this scheme of things, transportation, wholesale and retail trade, finance, and business services are identified as separate industries. The output of each industry is measured as the value added by that industry and excluded from the value of any other industry, so that the sum of these value-added figures adds up to an unduplicated total of the nation’s output.

In this industry-of-origin scheme, the service sector could be defined broadly to include everything from the highly labor-intensive personal and repair services to the most capital-intensive transportation services and the most technologically sophisticated finance firms. When defined so broadly, the sector appears very heterogeneous, and it becomes difficult to draw generalizations about the sector’s performance. For this reason, it can be useful to focus on a more homogeneous subset of the much larger service sector.

² Even in this scheme of things, there can be disagreement about the definition of the service sector. More detailed discussion about the various ways of defining the sector can be found in Fuchs (1968) or Ofer (1967).

It is just such a category that is labeled as “services” when the national income accounts are presented on an industry-of-origin basis. Although this reduces the heterogeneity, it does not eliminate it. Within services one finds a diverse collection of industries and products, such as barbershops and shoe repair shops, as well as movie production, engineering services, and kidney dialysis centers.

Another view of services sees them as growing in importance only after a nation has passed through earlier stages of development. In its least advanced stage, an economy would be concentrated predominantly in primary industries – agriculture, fishing, forestry – those industries and products without which the populace could not survive. As the economy developed and incomes rose, some resources would shift toward a second group of industries, primarily manufacturing. In this scheme of things, services are seen as becoming important in the third stage of development, and so have been referred to as the tertiary sector.³ This pattern, however, does not apply equally to all service items or activities, especially not to those services, such as trade and transportation, that make up part of the more broadly defined sector. Those intermediate services would be necessary even at low income levels to simply distribute the primary and secondary goods, and their behavior over time has differed from those final services, such as recreational services, that become more widely used only at higher incomes.

It is also important to bear in mind the distinction between the type of product, such as accounting services, and the industry, such as manufacturing or business services, in which it is produced. Intermediate services consist primarily of business-type services that are used by firms in many industries in order to produce and deliver their products to the ultimate user. Some intermediate services, such as transportation and retail trade, have been important throughout much of American history. There are, however, a number of other business services, such as finance, accounting, and more recently computer software services and consulting, that have grown in importance as economic growth took place. The exact extent to which such intermediate services may have grown in importance is difficult to trace because of the way in which data are collected and reported, and because of the extent to which some services are embodied in the final good. If we were to measure service output at any point in time based on the type of firm in which the output was produced, some business services would be excluded because they would have taken place within a firm in some different industry, such as manufacturing or construction.⁴ Over time, however, some of these services became so specialized that they were shifted out of the manufacturing or construction firm into separate service firms and industries. As a result, we would observe a rise of services, measured on an industrial basis, even though there may be no additional services taking place in the economy.

These movements from the services being provided within a firm to their provision by outside service firms is a well-known

³ Fisher (1935) and Clark (1957) were among the first to identify the service industries as the tertiary or residual part of the economy. The historical pattern has been well documented empirically by Kuznets (1966, 1971) and Maddison (1995).

⁴ The obvious examples of this sort of service are business services such as accounting, legal services, or consulting, but there are also complementarities between some consumer goods and services, such as maintenance contracts on durable consumer goods or instructional services for items of technology. See Stanback, Bearse, et al. (1981, Chapter 2) for a discussion of these complementarities.

phenomenon today – called outsourcing – but it has also taken place over the long term. Moreover, as is true today, the shifts can and did go in both directions.⁵ The available statistics describing the growth of some of the business-type services, therefore, represent the net shifting of services within and without firms and do not sort those changes into new growth versus substitution. Obviously, when measured in this way, the statistics capture only a portion of the total volume of services being produced.

In the remainder of this discussion, the term “service sector” is used to represent a broader definition that includes some of the intermediate service industries; the term “service industries” pertains to the narrowly defined “services” embodied in the national income accounts. The data presented in the accompanying tables focus on the industry-of-origin classification rather than the final use. The chapter focuses primarily on the service industries but begins by first describing the service sector, broadly defined, to include the intermediate industries of wholesale and retail trade and finance. Additional data about the trade and finance components, as well as other industries, such as transportation and government, that could also be classified as services, are presented in separate chapters.

The Long-Term Shift toward Services

At the close of the twentieth century, services comprised a sizable chunk of the U.S. economy whether we look at the value of final services purchased by consumers (see Chapter Cd) or the governmentally defined “services” reported on an industrial basis (that is, the service industries) in Table Dh17–28. Final services amounted to \$3.4 trillion or 38 percent of gross domestic product (GDP) in 1999.⁶ The service industries comprised 20 percent of GDP when measured in current prices. The former percentage is larger than the latter primarily because it includes some transportation, housing, and other services, such as electricity, related to the operation of households. In the industry-of-origin approach, these services are classified as separate industries or placed in some other intermediate service industry; housing services, for example, are placed in the finance, insurance, and real estate industry. If in the industry-of-origin scheme we were to define services broadly to include wholesale and retail trade, transportation, and finance, then the sector dominates the economy, accounting for 64 percent of GDP in current prices. If government services were also included, then the service sector’s share of GDP would be higher by another 12 percentage points. When measured by the number of workers engaged, the picture is similar but not exactly the same. The labor force share is the same as the output share for the entire service sector, but not for the subset of service industries. For that subset, the share of persons engaged at 30 percent is noticeably larger than the output share of 20 percent.

The rise to prominence occurred over a very long time. Since 1840, the earliest year for which we have reliable and comprehensive statistics that describe the composition of the economy, the service industries have been increasing in importance (Table Dh1–16). The increases in the service share of the economy were

⁵ Our knowledge of these countermovements over time, however, is not well documented, and this would seem to be an area in which further research would enhance our statistical picture of the rise of services.

⁶ If housing were excluded, the share would have been 29 percent. If we further excluded transportation, the figure would be 26 percent.

gradual at some times, and the pace and timing of the increases varied across the different service industries, but the upshot has been an inexorable increase in importance. And, the increases have occurred more prominently in the labor force than in output. The upward movement was such that Victor Fuchs could assert that the United States had become “the world’s first service economy – that is, the first nation in which more than half the employed population is [involved in the production of services]” (Fuchs 1968, p. 1). He dated this as having occurred in the period following World War II, but if he had defined the sector to include transportation, the milestone would have been reached a decade or so earlier.

The relatively rapid rise in service output can be explained in part by changes in the country’s level of economic development, or its statistical counterpart – increases in per capita output or income – just as appears to be true elsewhere. Over time, increases in per capita income are seen as one of the basic forces underlying the rise in the service sector. Of course, the level of economic development or per capita income is a proxy for a wide variety of factors – such as urbanization, changing educational levels, and technological progress – that are associated with it.⁷ The upshot of all of those factors is that increased incomes in the United States led to increased demand for service industry output and tended to have a more noticeable effect on final services than on intermediate ones. The United States became the first service economy because its income rose to greater heights sooner than it did in all other nations, not because the United States had unusually strong preferences for services (Weiss 1984). Indeed, as Baumol and others argue, the United States has been shifting toward services more slowly than other nations (Baumol, Blackman, and Wolff 1992, Chapter 6).

The impact on the size of the service labor force was indirect; the increased demand for service products created a derived demand for workers in the service industries. All else equal, the service labor force would have risen as output rose in response to the increased demand. Not all things were equal; differential changes in productivity have contributed to the rising importance of the service labor force. Productivity changes are discussed in Chapter Cg, but suffice it to say here that slower productivity growth in services has been a major determinant of labor force growth in the twentieth century (Fuchs 1968, Chapter 2; Baumol, Blackman, and Wolff 1992, Chapter 6). In the nineteenth century, slower productivity growth also played a part, but it was not nearly as important a force as in the twentieth century (Weiss 1984).

The Nineteenth Century

The service sector was surprisingly large in the nineteenth century and increased in importance during the century. In 1840, the service sector produced approximately 23 percent of the nation’s

output and engaged about 18 percent of the labor force.⁸ By the end of the century, those shares were 31 percent and 25 percent, respectively. Clearly, the importance of services emerged at lower levels of income and development than would have been predicted by those who see an economy as progressing from a primary stage in which agriculture dominates, to a secondary stage where manufacturing becomes important, and then to a third and later stage in which services become prominent.

That services were relatively important and increased in importance so early in the U.S. growth process reflects the heterogeneous nature of both manufacturing and services. Some components of the service sector experienced rapid growth early on in the nation’s growth process, while some manufacturing industries – such as flour milling and saw milling – grew slowly, with the consequence that the overall rate of growth of services was about the same as that of manufacturing. This growth should not be surprising because intermediate services are necessary to produce and market all the agricultural and manufactured goods and so can be expected to experience increases in demand that parallel those for all other products. The group of intermediate services was the larger throughout the nineteenth century, and especially so earlier in the century. Trade and finance accounted for roughly two thirds of the sector’s output before the Civil War and still well over half at the end of the century (Table Dh1–16). Thus, service output was weighted heavily toward industries that served other sectors and that grew at approximately the same rate over the long term, although it varied from decade to decade.

The other portion of the sector – services such as education and personal services that flowed primarily to consumers – also experienced growth during the nineteenth century, especially in the post–Civil War period. This portion of the service sector increased more rapidly than manufacturing, and much more rapidly than the entire goods-producing sector, suggesting that rising per capita income must have favored this group of services even at the levels of income that prevailed in the nineteenth century.⁹

The composition of the labor force and the changes that took place in that composition over the nineteenth century were quite a bit different from those on the output side. Whereas intermediate services produced the bulk of the sector’s output, their share of the workforce was much smaller. In 1840, trade and finance engaged slightly less than one fourth the service sector labor force. This reflects the fact that a large number of gainful workers in the United States, including a large number of slaves in the antebellum South, worked in personal services. In 1840 personal service (which included the repair trades) engaged nearly two thirds of all the workers in the service sector (see Table Dh1–16). Output per worker in these personal service industries was, and still is, relatively small *on average*, so the labor force share was noticeably higher than the output share. The importance of this industry’s

⁷ The relationship between the level of development and the service share may not be as strong as that for the other industrial sectors; nevertheless, it is positive, and its impact shows up more clearly in the workforce shares than in output. The cross-sectional evidence for the economically advanced nations suggests that there would or should have been a smaller rise in the service sector workforce than that which occurred historically in those countries that have experienced long-term economic growth (Kuznets 1971, pp. 276–80). On the other hand, if the historical evidence is expanded to include countries with lower incomes per capita – those countries that industrialized more recently and for a shorter length of time – predictions based on the cross-sectional evidence would overstate the rise in the service workforce (Kuznets 1971, pp. 281ff.). See also Baumol, Blackman, and Wolff (1992, Chapter 6).

⁸ Figures are taken from Weiss (1969), Tables 2, 6, A-1, and A-12. The output shares are based on value added with shelter services being excluded from both the service sector total and the U.S. total. The output and number of workers in transportation and government have been excluded from the service sector total for this calculation. If they were included, the sector’s shares of output would have been 32 percent in 1840 and 42 percent in 1900, and the labor force shares would have been 20 percent in 1840 and 33 percent in 1900.

⁹ It is likely that price trends worked against the growth of services because the prices of final service output probably rose relative to the prices of other services and commodities.

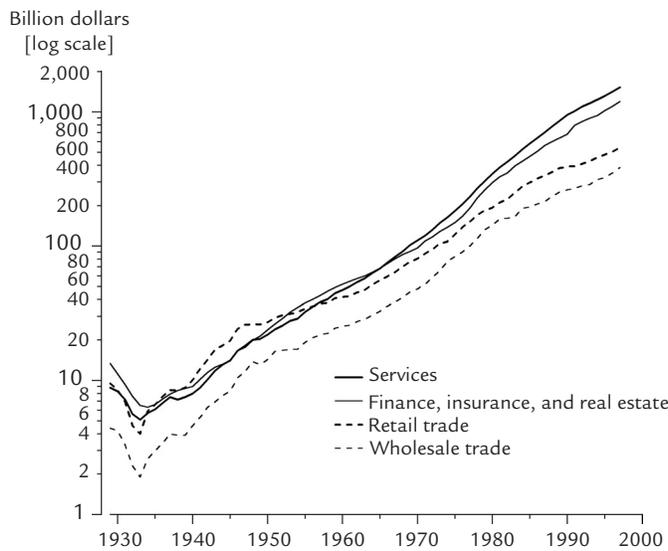


FIGURE Dh-B National income in service, finance, and trade industries: 1929–1997

Sources

Series Dh25–28.

workforce dwindled substantially over time, especially after the Civil War, and closed the century around 45 percent.¹⁰ Meanwhile trade and finance had risen to 39 percent of the sector.

The Twentieth Century

The same upward trends in output and the labor force that characterized the nineteenth century continued through the twentieth, but the compositional changes were different in the two centuries (Tables Dh1–69). The twentieth century is the era of the “service industries” – that subset of the service sector made up of consumer services and business services other than trade and finance. It is also the era in which some people have become concerned about the continued rise of services – or, viewed differently, the deindustrialization of America.

The growth of the service sector can be seen in Figures Dh-B and Dh-C. All of the major components in Figure Dh-B increased from 1929 to the present, but the two trade components increased only modestly, while finance and all of the other service industries grew more rapidly. Since World War II the differential growth is even more striking. The service industries’ output of around \$18 billion in 1947 was not quite equal to that in retail trade (\$26 billion), but by the close of the twentieth century, the service industries were producing nearly two and one half times as much as retail trade. The labor force shows similar movement: Between 1929 and 1997, the number of persons engaged in the service industries rose more rapidly than any of the other major components of the service sector, and fully twice as fast as that in retail trade.

The rise of the service industries in the twentieth century can be traced in large part to the explosion of business and health care services (Figure Dh-C). While gross product for the entire set of service industries increased between 1947 and 1997, business

¹⁰ These calculations exclude transportation workers. Had they been included, the personal service share would have been 51 percent in 1840 and 28 percent in 1900.

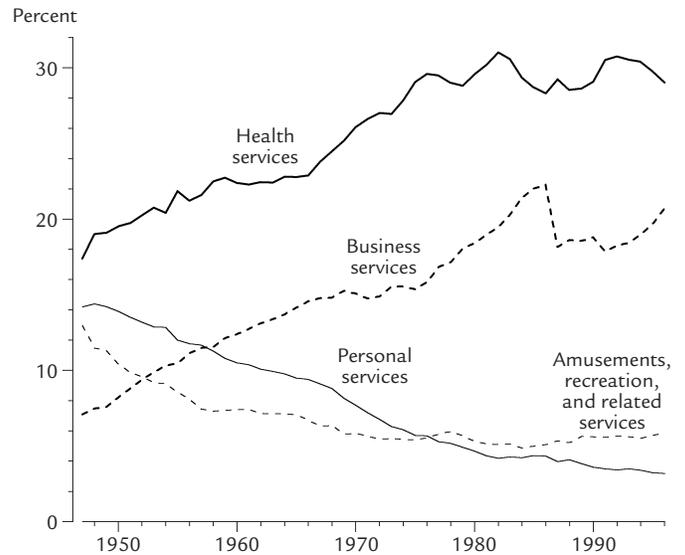


FIGURE Dh-C Gross product in selected service industries as a percentage of total service industry gross product: 1947–1996

Sources

Series Dh39–40 and Dh42–43, each expressed as a percentage of series Dh37.

Documentation

This figure provides a percentage breakdown for the services total displayed in Figure Dh-B. Although Figure Dh-B refers to national income and Figure Dh-C refers to gross product, the distributive shares are approximately the same.

The lesser categories from Table Dh37–47 are not shown (series Dh38, Dh41, and Dh44–47). Over the period shown, these categories accounted for 40–50 percent of the total in series Dh37.

service output rose three times as much, and health services increased by nearly twice as much. Over the longer term from 1929 to 1997, when the number of persons engaged in the entire service industry subsector rose by 460 percent, the number in business services increased by nearly eight times as much; its share of the service industry workforce rose from 3 percent to 21 percent.

At the opposite extreme were the personal services and all other services. The former dropped from 16 percent in 1929 to only 5 percent of the subsector in 1997, while the latter fell from being the dominant component at 56 percent in 1929 to only 28 percent in 1997. The category called “all other services” was comprised primarily of persons engaged in private households in 1929 (87 percent of that category), but by 1997 such workers comprised only 16 percent of this category, having declined from 2.3 million workers in 1929 to only 796 thousand in 1997.

Perhaps one of the more striking developments revealed by the statistics on persons engaged is the change in the relative importance of self-employment. It was thought by many that the rise of services would have provided greater opportunity for individuals to go into business for themselves. The chief reason for this expectation was that the capital requirements were lower in services than in manufacturing or agriculture. In addition, the personalized nature of some of the service outputs (such as beauty shops), and the absence of economies of scale in those and others were compatible with self-employment (Fuchs 1968, Chapter 8). Many people did behave as predicted and became self-employed in services; in 1997 there were 4.2 million self-employed persons engaged in the service industries, three times as many as the 1.4 million or so engaged in 1929. Likewise in finance, insurance, and real estate the number

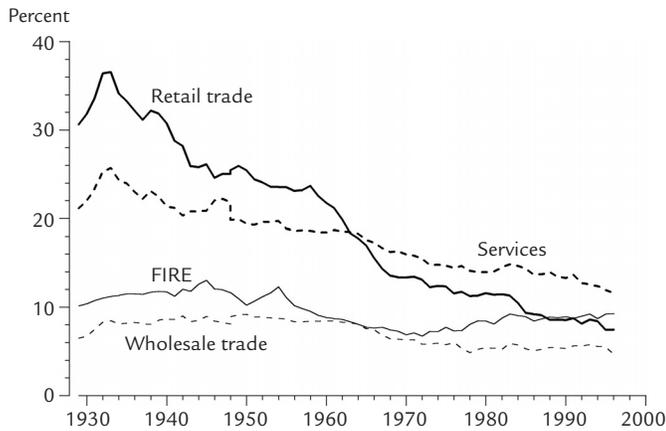


FIGURE Dh-D The self-employed as a percentage of persons engaged in trade, finance, and service industries: 1929-1996

Source

Table Dh29-36.

Documentation

FIRE stands for finance, insurance, and real estate.

of self-employed persons increased, quadrupling between 1929 and 1997. But in retail trade there are now fewer self-employed persons than there were in 1929, and in wholesale trade the number is only slightly larger. More surprising, perhaps, is that self-employment is relatively less important today even in the service industries. As can be seen in Figure Dh-D, the self-employed share of the workforce has declined in each of the major components of the service sector.

The Implications of the Rise in Services

Does the rise in the importance of services mean de-industrialization and in general bode poorly for the U.S. economy? Since 1970 or so there has been concern that the shift to services could have undesirable consequences for the U.S. economy (see, for example, Urquhart 1984, pp. 15-22; Kutscher and Personick 1986, pp. 3-13; Inman 1985). The issues were first aired by Victor Fuchs in the late 1960s (Fuchs 1968, especially Chapter 8). At that time, the service industries employed about 13 percent of the labor force, while the broader service sector employed 55 percent. Today the fractions are even higher, approximately 30 percent and 62 percent, respectively. Fuchs found that the major explanation for the rise of the service workforce between 1929 and 1965 was the relatively slower growth of productivity in services versus goods-producing industries, and it was natural to be worried about a continuation of those trends. Baumol labeled this sort of phenomenon the "cost-disease of the service sector" (Baumol 1967; Baumol, Blackman, and Wolff 1992). The concern was further heightened by the productivity slowdown that appeared to be afflicting the U.S. economy beginning in the early 1970s. Those seeking an explanation for that phenomenon brought up a number of possibilities, the rise of services being one. With productivity growing slower in the service industries, the structural shift toward that sector meant retardation in the rate of growth of productivity for the nation as a whole, a slowing of the nation's economic growth, and increased difficulty in producing for export.

Some of that concern appears to have been exaggerated and misdirected. The argument reflects to a large extent the mistaken

view that manufacturing and manufactured exports in particular are the keys to economic success, a view that can be traced back to mercantilist ideas about the economy.¹¹ The concern about the rise of services has also overlooked the fact, as shown previously, that the U.S. economy has been shifting to services for over a century. There is of course a difference between the structural shift in the nineteenth century and that which has taken place more recently. In the nineteenth century, the shift came at the expense of agriculture; both services and manufacturing increased in relative importance while agriculture dwindled. With agriculture having declined to a negligible share of the labor force today, any shift toward services must come in part from manufacturing. Even today, however, the shift is predominantly a relative one, with the industrial workforce increasing, although more slowly than that in services.¹² Perhaps the United States could have grown even faster before 1970 if there had been less of a shift to services, but the point is that the economy's performance before 1970 was considered a success. The country experienced what seemed to be an acceptable rate of economic growth accompanied by shifts in the composition of output that met consumers' changing desires.

The fears were exaggerated in part because the slowdown in productivity that prompted the concern had been misjudged. It appeared to be a very striking retardation when contrasted with the economy's performance after World War II. In retrospect, however, that immediate postwar performance was the anomaly, being noticeably above the longer term trend in the U.S. economy. Baumol, Blackman, and Wolff present a more balanced or cautious view (Baumol, Blackman, and Wolff 1992, Chapter 4). In particular, they stress the value of taking the long-term view: what appeared to have been a slowdown in productivity could be viewed more realistically as a return to normalcy. Thus, the shift to services, or the other possible sources of the slowdown, was not as worrisome as it had been made out to be.

The phenomenon of slow productivity advance in services, however, has not and likely will not go away. Certain service industries will continue to lag behind in productivity growth. The provision of child care services is an example. It seems generally agreed that there is a limit to the number of children who can be provided with adequate day care by an individual provider. Additional children can be accommodated only by hiring additional day care workers, virtually ruling out an increase in output per worker.¹³ The service sector is broad and heterogeneous, however, and includes some services that have experienced rapid productivity growth, such as railroads in the nineteenth century and broadcasting in the twentieth, as well as those with substantial potential for continued productivity advance, such as electronic banking and Internet-related services. Nevertheless, the sector may be comprised of a disproportionately large number of industries in which productivity advance

¹¹ To the extent the concern is with the balance of payments, it is worth bearing in mind that the United States runs a surplus in the balance of trade in services, and it has been increasing (see Chapter Ee).

¹² During cyclical downturns, such as that of the mid-1970s or early 1980s, the level of employment in manufacturing dipped but subsequently recovered to about its previous level. For goods-producing industries as a whole, the level of employment has been more stable. See Kutscher and Personick (1986), Table 1. Ironically, during the 1970s when the productivity slowdown became an issue, manufacturing employment rose steadily (except for that cyclical downturn) and reached a peak in 1981 (U.S. Bureau of Economic Analysis, Internet site).

¹³ For a discussion of the difficulties of increasing productivity in the arts, see Baumol and Bowen (1966).

seems limited, so continued shifts toward services will continue to hold aggregate productivity growth in check.¹⁴

Consumer Behavior

Whatever the consequences for productivity growth, the shift toward services is being driven in part by consumers expressing their preferences for services as incomes rise. The share of GDP made up of consumer expenditures on services has risen from 21 percent in 1947 to 38 percent today, and there is no reason to think the trend will not continue. In the past, some have expressed concern that these are frivolous expenditures – “a luxury that can not be afforded” – especially when made by lower income households (see Costa 1997, p. 22). When one realizes that a substantial chunk of the 38 percent includes expenditures on nonrecreational items, such as education and medical care, the concern abates somewhat. Still, there is the group of recreational services whose increase may be decried by some because they object to passive recreation such as spectator sports or movie going. Perhaps they are echoing ideas of Marx about the unproductiveness of services, or the physiocrats on the importance of agriculture, or those with a more puritanical viewpoint who hold that expenditures on such services are frivolous, immoral, or even wasteful. Agreement on what those frivolous services might be could be hard to come by, but one way of gauging them is to look at the expenditures on recreational services, such as purchases of movie tickets or parimutuel receipts (Table Dh309–318). The rise in those expenditures has certainly occurred, but surprisingly the expenditure on recreational goods, such as toys, audio equipment, and potted plants, has continued apace. As can be seen in Figure Dh-E, consumer expenditures on recreational services relative to expenditures on recreational goods have been increasing since 1970 or so, but it is still the minority portion of this set of expenditures. Perhaps more startling is that recreational services today are no more important relative to recreational goods than they were in the 1920s and 1930s.

Moreover, the distinction between recreational goods and services can be misleading, and the dollar figures may not accurately reflect all the services consumers are getting in today's economy. For example, the dollars spent on the purchase of a boat add to the goods total, but the purpose of such expenditure is to engage in a service activity over a long period of time. The national income accounts make just such a distinction with housing, incorporating a separate estimate of the value of shelter services derived from owner-occupied housing into the total value of consumer purchases of services. No similar calculation has been made for other durable goods whose purpose is to provide service. As can be seen in Table Dh339–353, the number of recreational boats owned has doubled since 1970. Although this has been a relatively slow growing part of recreational participation, its value as a service is neglected entirely.

The dollars spent on recreational services do not measure fully the value of all such services being consumed in the United States.

¹⁴ Fuchs (1968), Chapters 3–5, and Baumol, Blackman, and Wolff (1992), Chapter 6. Some of the slow productivity growth reflects the fact that it is difficult to measure output in some service industries, such as government, health care, and banking, and in consequence the growth of output and productivity may be understated in these industries and the service sector as a whole. See Fuchs (1968), Chapter 6; Reder (1969); and Gorman (1969).

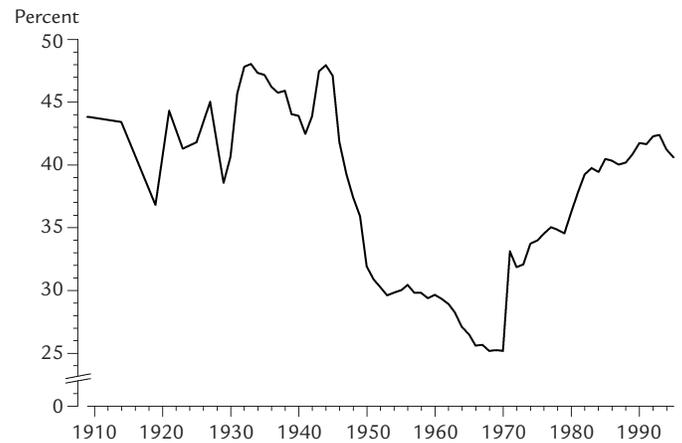


FIGURE Dh-E Personal consumption expenditures for recreational services as a percentage of total recreational expenditures on goods and services: 1909–1995

Sources

Series Dh309 expressed as a percentage of the sum of series Dh298 and Dh309.

For one thing, there has been an increase in the provision of public spaces, such as museums, national and state parks, artificial lakes, municipal golf courses, and tennis courts, where recreational services can be enjoyed for free or for a low, subsidized user fee. There are also services provided by the private sector or by non-governmental agencies that are subsidized. Ticket prices for, say, symphony concerts or dance performances come readily to mind as being subsidized by grants from the National Endowment for the Arts or by various state and local governments. But ticket prices for professional sports, as high as they may seem to some, are also subsidized by the many tax exemptions and financing schemes used to lure teams to a city. Whatever the merits of the subsidies for arts and sports, the consequences are the undervaluation of the services being consumed and, as intended, the increased consumption of these services. To the extent this has occurred, the subsidies would appear to have had far greater impact on sports than the arts (see Tables Dh327–391).

Although recreational services amount to only a small fraction of the nation's GDP, their history can serve to illuminate the status of services in the U.S. economy. Concern about the rise of services must be tempered by the facts; this ascendance is not a major problem for the American economy. To be sure, the service industries have increased in importance, but that rise has not been sudden or sharp; it has been going on for a long time, and it will almost certainly continue. There are legitimate concerns, especially about the slower growth of productivity in some of the service industries, but this may not be so different from what can be found within the goods-producing sector. More importantly, the inexorable growth of services has been primarily the result of individual decision making as the nation experienced its long history of economic development, characterized by not only sustained increases in incomes but by increased leisure as well. Services that may have been luxury items in the nineteenth century are today being enjoyed by much of society. The increased accessibility and consumption of services has improved the standards of living of all, including those in the lower income groups (Costa 1997, 1999).

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UTILITIES

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Utilities take their name from the usefulness of the services they provide. These include tap water, sanitation, electricity, gas, telephone, and transportation. Today, utilities are virtually synonymous with public utilities. As the latter name suggests, utilities are often owned by government, and when they are in private hands, they are most often regulated by government.

In the United States, the appearance of utilities was spurred by the development of urban places. In rural areas, individuals typically supply their own water, sanitation, energy, and transportation. In cities, such individual procurement is ineffective and counterproductive. One person's water supply is another's latrine;

one person's yard is another's garbage dump. Foraging chickens, pigs, and goats mean animal waste and dead animal carcasses on streets and in vacant lots.

Individuals are poorly situated to address such problems on their own. One reason has to do with the "public good" aspect of such situations. Clean water at my local watering hole benefits not only me, but also my neighbors. The incentive for me to clean up is less than the value of such cleanup to the community as a whole. In an environment where individuals are responsible for their own cleanup, such services are underprovided and individuals are better off if water is supplied by an agency that responds to the needs of the community as a whole.

Another reason why utilities are difficult to procure individually has to do with the nature of the technology. Water provision, waste disposal, and electricity, gas, telephone, and transportation services involve extensive networks of pipes and wires, and of distribution, collection, and disposal routes. Utilities are extremely expensive if they are not networked in this fashion.

Networking reduces the average cost to consumers, but it also means economic power for the provider since more than one network would be redundant. In economic terms, this characteristic makes utilities "natural monopolies" because a single company can offer services at lower cost than two competitors. Market pressures push for the elimination of all but one provider. Once a single firm is the sole provider in a market, however, that firm has an incentive to charge customers high rates. Since the service is necessary and there is no competition, consumers have little choice except to pay.

Because of their tendency toward natural monopoly, utilities are often owned by governments; when held privately, they are heavily regulated. An important objective of government ownership and regulation is to set prices close to costs, including as a part of costs a "fair" or normal return on the capital invested. Governments also oblige utilities to provide services to all citizens, even those for whom service might come at high cost. An example of a high-cost utility provision is the rural electrification program begun in 1935 that built more than one third of a mile of electrical line for each customer serviced, considerably more line per customer than in densely packed urban areas (see series Dh277–278). By the 1950s, more than 95 percent of rural residents had access to electricity (series Db239). Privately owned utilities do not appear to have taken the mandate to provide services to all citizens as seriously as those that are owned by the government. For example, Troesken (2001) shows that public water companies provided black communities with better service than did private water companies.

The ownership and regulation of utilities are often matters of intense public debate. Conditions that seem to justify regulation during one phase of history may change because of new technologies and new industries offering substitutes. The development of government ownership and regulation of utilities is the subject of a large body of literature.¹

An important characteristic of utilities is their "networked" character. Utilities themselves are networks, that is, complex, large-scale systems that cross and interconnect in ways that require coordination and management. In addition, utilities form part of

¹ See, for example, Demsetz (1968), North (1990), Troesken (1996, 1997), and Williamson (1985). For an analysis of the recent *deregulation* of utilities, see Hirsh (1999).