Explanations for the Growth of Services

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Service growth in the United States has been remarkable. Even when expressed as a percentage of all employment, service employment growth shows no sign of slowing. The U.S. government defines this sector as all nongoods-producing industries. Given that definition, the service sector accounts for nearly three of every four jobs and that number will continue to increase. Despite these facts, no one explanation for service growth emerges. Moreover, competing explanations provide diverse implications. This chapter examines many possible traditional explanations for service growth, including increasing levels of income, nonproductivity of services, urbanization, deregulation, women in the workforce, demographic shifts, growth of government, environmentalism, general growth in GNP, and changes in the demand composition. Recent research raises doubt about the sufficiency of these explanations. After discussing these older explanations, we turn to recent explanations with more credibility, including specialization of labor and international competition. The chapter concludes that specialization has two effects. Specialists do many of the functions previously done within a manufacturing operation. As the role of knowledge-based specialists grow, functions move from manufacturing to the service sector. Second, specialists perform their specialties more efficiently than nonspecialists. As the scale economies allow use of specialists, efficiency increases and costs decrease. As costs decrease, prices decrease and the demand for services increases. This explanation has many implications for organizational structure and the definition of organizations.

AUTHOR'S NOTE: The author wishes to thank Sarita Bhagwat for her substantial help in preparing this chapter.
For many years, marketing academics and practitioners have debated the definitions and roles of services and goods. Usually services take the role of the ignoble. Some argue that service production is immaterial. Others argue that service production detracts resources from more valuable activities. Indeed, the debate starts with the classification of output as either "services" or "goods." This classification seems to imply that services are somehow "nongoods" or "bads."

Recent research is rapidly changing that view. We now know that all advanced economies move toward service production (Riddle, 1986). Achieving service production is, in fact, a trait of a truly advanced economy. Services are the fuel of a truly advanced economy. Productive manufacturing and agricultural operations cannot exist without critical infrastructure services. Without financing, distribution of raw materials, distribution of replacement parts, maintenance, repair services, electricity and water, a modern farm or factory would cease to operate.

Indeed, most highly educated workers find employment in the service sector (e.g., as financial analysts, health care professionals, attorneys, consultants, researchers). Even the modern manufacturing company might consist entirely of services. The company could have substantial funding in research and development. This department designs safe, effective, high-quality, and economical products. This department also develops efficient production techniques using minimal energy and producing minimal waste. Finally, the department develops production scheduling and shipping procedures.

Assembly might be subcontracted or performed in another country. After assembly occurs, the modern manufacturing company directs distribution of the finished goods, provides advertising and marketing support, arranges for financing, and performs all other distribution services. Indeed, the modern manufacturer might become a service provider.

A New Focus on Services

The service sector now receives more respect and attention from both academics and practitioners. Practitioners are helping the service sector become more marketing oriented as the sector faces rising competition and deregulation. The academic marketing literature now recognizes
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services marketing as a legitimate field of study. Many major universities have started teaching courses on services marketing. An increasing number of academic journals are publishing articles on services marketing.

The predominant factor causing both academics and practitioners to recognize services is the extraordinary growth of the service sector. In this chapter, we first examine that growth. Then we consider some of the possible explanations for service growth.

Service Growth

Economists have observed and made various comments on the growth of services in terms of gross national product, labor or employment statistics, and trade statistics. The services sector includes business services, retailing, wholesaling, financial services, insurance, real estate, communications, utilities, transportation, government, and many personal services. Although some U.S. government publications use the term "services" only for personal services, most U.S. government publications use the term to refer to all services, that is, all products not manufactured or extracted. We use the term "service sector" to refer to all service categories.

The service sector is overwhelmingly important to the U.S. economy. According to data from the U.S. Bureau of Labor Statistics, the service sector accounts for nearly three of every four jobs. According to Fortune magazine, that fraction will continue to increase. Over 80 million U.S. citizens work in services-producing industries. The service sector exports over $60 billion in services each year. It is one of few areas in which U.S. exports exceed U.S. imports.

Figure 10.1 shows the steady growth of nongoods production in the United States. In 1959, nongoods accounted for about 56% of all production. By 1995, projections show that 67% of all production will be nongoods. Service output continues to grow as a major component of the U.S. economy.

Not only are services currently important, service economies are a vision of the future. Growth in the service sector continues throughout the world in nearly every developed and developing country. Figure 10.2 shows the steady growth of services employment in the U.S. economy. In 1990, employment in nongoods-producing industries accounted for over 74% of all jobs. By 1995, projections expect nongoods employment to account for over 77% of all jobs. The service sector will create 9 out of every 10 new jobs (Personick, 1985) in the period of 1984 through 1995.
From 1982 to 1987, annual receipts from services increased by 76.2%. Business services, the fastest growing of the service industries, had an increase of 102.9% in annual receipts.

**Explanations**

**Miscellaneous Explanations for Service Growth**

Economic data suggest the importance of services in the world economy and the high level of service growth. To fully understand the nature of the service economy, we now examine some reasons for that growth. We start with some older explanations: increasing levels of income, nonproductivity of services, urbanization, deregulation, women in the
work force, demographic shifts, growth of government, environmentalism, general growth in GNP, and changes in the demand composition. Recent research raises doubts about the sufficiency of these explanations.

After discussing these older explanations, we progress to some recent explanations that have more credibility, including specialization of labor and international competition.

*Increasing Levels of Income.* Several books (e.g., Bell, 1973; Kuznets, 1971) have studied the hypothesis that consumers buy more services as average income levels increase. This hypothesis assumes a causal relationship
between income and services. Certainly, service economies thrive in developed countries and developed countries have greater average income. But the relationship between the consumption of services and income levels is complex. Service growth often leads to enhanced productivity in other sectors and enhanced incomes. Service growth precedes or accompanies increased income. As income increases, the use of many infrastructure services increases. The use of other services remains constant or declines. Occasionally, increasing incomes lead to higher prices for services. The higher prices often equalize demand. The cost of hiring a cook or a baby-sitter in India, for example, is far less than the cost in the United States.

The relationship between income and service consumption (Riddle, 1986) depends on the degree of development of the country. It appears that as income increases, consumers spend less on agricultural products and more on either services or manufactured products only during certain phases of development. The prices of services dictate where consumers spend. As the prices of personal services escalate, even wealthy individuals substitute quality durables. Also, the increased income theory is only applicable to personal services. However, business services are the fastest growing part of the service sector. In fact producer services that include business services (SIC 73), legal services (SIC 81), and miscellaneous professional services (SIC 89) have observed the most rapid growth. This does not fit the increased income assumption about service growth. Our explanation in a later section fits better with this growth in producer services.

**Nonproductivity of Services.** Productivity measures the resources required to generate output. Consider a worker who assembles 10 units per hour. If that worker could assemble 11 units per hour, that worker’s productivity would increase by 10%. However, if that worker’s compensation increased by 20%, productivity would fall because input increased at a faster rate than output.

Measuring productivity in manufacturing can be difficult when higher quality causes higher costs. Fortunately, we can often observe higher quality. Manufacturing a superior car, for example, leads to many virtually identical high-quality cars. We can drive any one car and observe objective enhancement in fuel efficiency, comfort of the interior, smooth pickup, and likely additions such as air bags, antilock brakes, power steering, power windows, and so on. Mass production and durability help us measure quality for manufactured products.
Measuring productivity for services is more complicated. Suppose a beautician’s wages increase with no corresponding increase in the number of haircuts performed. The beautician’s productivity appears lower. This observation can be deceptive. Although the beautician performs the same number of haircuts, his/her intangible output may increase. The beautician may be more accurate or imaginative or spend more time with the customer to help him/her choose the right haircut. He/she may even use computerized images to make the decision easier for the customer and ultimately build up a relationship between the service organization and the customer. Enhancements in service productivity are often invisible because we do not observe many quality improvements. This invisibility and a historic belief in the unproductivity of the service sector combine to make service productivity appear weak.

From the early theories of Allan Fisher and Colin Clark, many researchers questioned the idea of enhancing service productivity. At that time, most researchers believed that services are, by definition, labor intensive. Personal services such as haircuts, taxicab rides, shoe shines, and domestic work all require a human worker. The human worker is difficult to remove and therefore it is difficult to increase the output per worker. This argument suggests that employment in the service sector should increase as other sectors become more productive. Services are doomed to be labor intensive and should eventually employ most workers.

Later researchers better understand the complexity of the service sector. As we have seen, services are diverse, and personal services are only a modest part of the entire service sector. Most of the output in the service sector comes from other services such as business services, transportation services, retailing, social services, and so on. It is important to consider productivity by service type. Personal services are not representative of the service sector.

Another complexity involves interpretation of service prices. Sometimes higher prices reflect lower productivity, whereas at other times increased prices reflect better output. The price-quality relationship for services is even more complex than that for products. For example, suppose you stay in a hotel for one night and it costs you $30. The next year, you stay at the same hotel and the hotel charges you $40. Your purchase of a service, a one-night stay in a hotel, has many experience-based attributes attached to it. This makes it difficult to interpret the price increase. Perhaps productivity increased because the hotel provided better rooms and furniture. Or it could be because it hired more efficient and more highly trained staff. It is not very easy for a consumer to interpret
the price increase by saying that he/she paid $10 more than the last time because the person at the register was more polite. It is difficult to put a price tag on the enhancement in quality of a service. Perhaps productivity decreased because the hotel offered exactly the same quality of service at a higher price; that is, inflation of over $10. Perhaps productivity increased by more than $10 because the service had really improved and the consumer only paid $10 more for the additional quality.

Considering different types of services and carefully choosing output measures allows us to examine service productivity. Service productivity depends on the service industry (Mark, 1988). Like manufacturing, productivity varies widely across industries. Gasoline stations, air transportation, telephone communications, apparel retailing, and railroads show large gains in productivity. Retail food stores, public utilities, and commercial banking show poor gains in productivity. The goods-producing sector may show fewer productivity gains than the service sector.

Additional research (Riddle, 1986) concludes that productivity in the service sector is higher than most researchers previously believed. It also shows that service sector productivity is higher than for the economy as a whole. An additional worker to many service operations often provides a greater increase in output than an additional worker to a manufacturing operation.

Urbanization. A third hypothesis (Singelmann, 1978) puts urbanization as the cause of service growth. This hypothesis is consistent with the requirement of service proximity. Service providers and suppliers sometimes require direct contact. Urban areas facilitate that contact. In addition, urbanization promotes the growth of government and nonprofit services.

Although this hypothesis might explain the service growth in the United States to a certain extent, it fails to explain the growth in developing countries like India where, with the exception of five or six major cities, the population is rural. Moreover, the hypothesis does not explain the growth of many national and international services such as banking and insurance.

Deregulation. Deregulation of several U.S. industries in the 1980s resulted in net employment gains and growth of the deregulated services. These industries include trucking, busing, air transportation, communications, financial services, and cable television. The gains in employment, unfortunately, were often accompanied by lower wages and disruptive
relocation. In addition, loss of government subsidies has sometimes slowed growth. However, deregulation led to increased competition and enhanced performance in these industries in the United States. This, in turn, contributed to service growth in the United States.

Women in the Work Force. In the United States, the value of time changes as women enter the work force. According to the U.S. Bureau of Labor Statistics, 33.3% of U.S. workers in 1960 were women. By 1990, that percent increased to 45.3%. In 1975, only 13.1% of economists were women; today 43.8% are. In 1975, only 7.1% of lawyers were women; today 20.8% are. In 1975, only 14.8% of computer systems analysts were women; today 34.5% are.

Participation of women in the work force results in their departure from household activities. But the tasks they used to perform in the households still exist. The house still needs to be cleaned, food needs to be bought and cooked, and babies and children to be looked after (Bellante & Foster, 1984). These services are not included in any of the three manufacturing, extractive, or service sectors, although there is a definite value attached to each of these services. As such, the government does not include these services in output statistics. However, once women stop performing these services around the house, someone else has to step in and perform the services for the household; hence the growth enjoyed by restaurants, cleaning services, baby-sitters, and day care centers. There is also a cost associated with producing these services. Households, usually women, invest many hours in production of household services. Women entering the work force make time more precious and increase the cost of producing these services. When a woman can earn $12 an hour, for example, the cost of her spending 2 hours producing a meal is $24. This figure would be larger if we included the cost associated with lost leisure time. As women's wages increase, the cost of spending time on household tasks increases and the cost of preparing a meal eventually exceeds the cost of buying a prepared meal at a restaurant.

When professional day care centers, cleaning services, and restaurants come into existence, they become part of national output. The service sector grows.

Demographic Shifts. The population of the United States is aging. In 1960, only 29.2% of the population was over 44 years of age. By 2020, 44.1% of the population will be over 44 years of age. As the population ages and life expectancy increases, demand for many services increases
because the elderly consume a disproportionate share of services. These include recreation, financial planning, and retirement services. Health care may be the biggest beneficiary of this aging process. The fastest growing occupations are medical assistants, home health aides, radiologic technologists, and medical secretaries.

**Growth of Government.** In 1920, government activities represented less than 9% of GNP. Today, government is more than 20% of GNP. The government is a major supplier of services, producing both social services and defense services. Government growth is certainly a factor contributing to the growth of the service sector in the United States and other countries. Japan also is steadily increasing its government expenditures. Japan, nevertheless, is still spending far less than the United States on government as percent of GNP.

**Environmentalism.** Both manufacturing and extraction activities can cause damage to the environment, such as air, water, or noise pollution and destruction or depletion of natural resources. The service sector, however, generates fewer complaints. The nonpolluting nature of many services is now an important impetus to the growth of services. For these reasons, many communities encourage the development of clean services with the use of tax incentives and zoning accommodations.

**GNP Growth.** Expansion of the total economy is one reasonable explanation for growth in the service industry. GNP growth, however, explains only about 40% of the growth in producer services, which is one of the largest parts of the service sector. Moreover, growth in GNP explains only about 50% of the communication industry’s growth and 65% of media services growth. It does explain 90% of the growth in the eating and drinking industry, however.

**Changes in Demand Composition.** Economists argue that the composition of people’s demand for goods and services changes over time. This could mean that people’s preferences have merely shifted toward services. It is now, for example, more socially acceptable to leave children in day care, have others cater your parties, and lease your automobile. Tschetter (1987), however, demonstrates that this changing demand composition explains less than 2% of the growth in producer services.
Better Explanations for Service Growth

We first presented three older explanations for services growth. Empirical studies make these explanations questionable. We subsequently presented some slightly more relevant and acceptable explanations of service growth. However, none of these explanations are completely satisfactory in explaining the pattern of service growth that we observe throughout the world. We now present two more credible reasons for the growth of services in nearly all countries. As shown in Table 10.1, both reasons relate to the specialization of service functions.

National Specialization. As the world becomes more complex, knowledge generation enjoys an exponential growth. Years ago, a physician could have a good understanding of the different areas of medicine. "General" practitioners were sufficient. Today, physicians are lucky to keep abreast with new technologies in their own specialties. In just the area of diagnosis, physicians must be familiar with the areas of computerized axial tomography, digital subtraction angiography, magnetic resonance imaging, positron-emission tomography, single photon emission computer tomography, thermographic imaging and ultrasound imaging (Shugan, in press). Health care, like almost every other field, is becoming more complex. It is not surprising that the fastest growing occupations in the United States are medical assistants, home health aides, radiologic technologists, and medical secretaries. Advances in information technology are also resulting in increases in activities such as processing, manipulation, and utilization of information in all three sectors. In fact electronic information service is the fastest growing service industry.

One way of coping with enhanced knowledge, innovations, and technological advances is increasing task specialization (Shugan, in press). Specialization causes service growth in two different ways. First, there is a change in accounting. Activities previously performed in the extractive and manufacturing sectors move to the service sector. Second, there is an increase in productivity that causes growth in both the service and manufacturing/extractive sectors.

Let us first consider the change in accounting. When manufacturing of a product requires more knowledge-based expertise, it does not always justify permanent employment. Patent law, for example, is continuing to become more complex. As complexity increases, a firm's legal department
TABLE 10.1 Reasons for Service Growth

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<thead>
<tr>
<th>Older Explanations for Service Growth</th>
<th>Better Explanations</th>
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<tbody>
<tr>
<td>• Increased Income</td>
<td>• National Specialization</td>
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<tr>
<td>• Lack of Productivity</td>
<td>• International Specialization</td>
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<tr>
<td>• Urbanization</td>
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<td>• Deregulation</td>
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<td>• Women in the Workforce</td>
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<td>• Demographic Shifts</td>
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<td>• Growth of Government</td>
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<td>• Environmentalism</td>
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<td>• GNP Growth</td>
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<td>• Changes in the Demand Composition</td>
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</table>

may find it more efficient to out-source the services of a patent attorney from a legal service rather than permanently employ more attorneys. The need for specialized services causes many businesses to purchase these specialized or knowledge-based services rather than employ additional generalists.

As more firms from extractive and manufacturing sectors purchase specialized services, more of the tasks performed within manufacturing or extractive sectors get performed in the service sector. This causes a change in accounting as activities of the manufacturing or extractive sectors shift to the service sector. What was counted as manufacturing activity in national accounting now becomes service activity. This results in service sector growth.

We can illustrate this accounting effect for software development. Consider a manufacturing firm that has its own team of computer professionals who design software for tasks such as scheduling jobs, releasing jobs from a backlog to the shop floor, and sequencing jobs at different work stations within the shop.

Suppose a manufacturing firm spends $100,000 on software development and generates $300,000 in shipments. When the manufacturing firm spends money on software development, the government considers this to be part of the manufacturing sector. The $300,000 is the output of the manufacturing sector. There is no service sector output (see the column labeled In-source in Table 10.2).
TABLE 10.2 Using a Software Vendor: Accounting Effect
(same output but different sector)

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<th>In-Source</th>
<th>Out-Source</th>
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<tbody>
<tr>
<td></td>
<td>No Software Supplier</td>
<td>External Software Supplier</td>
</tr>
<tr>
<td>Software Spending</td>
<td>$100,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>Shipments</td>
<td>$300,000</td>
<td>$300,000</td>
</tr>
<tr>
<td>Service Sector Output</td>
<td>$0</td>
<td>$100,000</td>
</tr>
<tr>
<td>Gross Mfr. Output</td>
<td></td>
<td>$300,000</td>
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<tr>
<td>Less Expenses</td>
<td></td>
<td>$100,000</td>
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<tr>
<td>Manufacturing Sector Output</td>
<td>$300,000</td>
<td>$200,000</td>
</tr>
<tr>
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<td>$0</td>
<td>$100,000</td>
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<tr>
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<td>$200,000</td>
</tr>
<tr>
<td>Total Output</td>
<td>$300,000</td>
<td>$300,000</td>
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Now suppose the manufacturing firm out-sources software development. Here, the activity of software development, which accounts for $100,000 in output, shifts from the manufacturing sector to the service sector (see the column labeled Out-source in Table 10.2). Total output remains at $300,000. There is merely a shift in activity from the manufacturing sector to the service sector. An accounting transaction causes the growth in the service sector.

We should remember, however, that the manufacturing firm would not out-source the software development unless it was more productive to do so. We would, therefore, expect GNP to be greater with out-sourcing than without out-sourcing simply because out-sourcing occurs. The sophisticated software helps the manufacturing company increase productivity. The manufacturing firm, consequently, lowers production costs. That enables the firm to lower prices and boost shipments.

Table 10.3 illustrates this effect. The first column in Table 10.3 matches the second column in Table 10.2, reflecting the accounting shift caused by mere out-sourcing. The second column in Table 10.3, however, illustrates the increased productivity caused by the sophisticated software. In the column labeled Out-source With Growth, shipments increase from $300,000 to $400,000. Although shipments increase, manufacturing sector output remains constant. Total shipments increase from $300,000 to $400,000, but the manufacturing sector loses $100,000 to the service sector.
Summary

The service sector is the fastest growing sector of the economy. Advancement in technology and information leading to specializations at national and international levels is the chief reason for this growth. Older explanations for service growth are questionable. Researchers no longer believe that increased income results in service growth. Also questionable is the belief that lack of productivity is the explanation. Many service providers are very productive. Finally, urbanization does not explain service growth.

There are two effects of specialization. Specialists do many of the functions previously done within a manufacturing operation. As the role of knowledge-based specialists grow, functions move from manufacturing to the service sector. There is a change in national accounting that leads to the growth of the service sector.

Specialization has a second effect on service growth. Specialists perform their specialties more efficiently than nonspecialists. As the scale economies allow the use of specialists, efficiency increases and costs decrease. As costs decrease, prices decrease and the demand for services increases. Specialization leads to out-sourcing, which has an effect on organizational structures and hierarchies within the organizations.

References

services. Exporters of transportation services, for example, must consider many regulations and restrictions. Despite these problems, international service trade continues to grow.

For good or bad, governments cannot continuously inhibit strong market forces. For example, despite great expense governments have had great difficulties eliminating the illegal drug trade. Regulations do impose costs, but persistence and creativity can overcome many regulatory barriers. Toys-λ-US, for example, collaborated with local lobbyists to change Japanese law so that Toys-λ-US could locate its retailing services in Japan.

Creativity and advanced technology create difficulties for regulators. A consultant or accountant working in a foreign country can get remote access to computers, data bases, staff, and software. Advances in technology allow information, software, and images to flow over telephone lines. Restrictions on export and import of knowledge and other intangibles are more difficult to administer than restrictions on the physical transfer of manufactured products.

We have provided two important reasons for the growth of services. The first reason is the need for specialization created by increasing complexity. This creates a demand for the services of specialists who often provide services to multiple customers. The second reason is the consequence of business globalization. Here, specialization and the comparative advantage of developed countries lead to the increased trade of services.

The Likely Consequences of Specialization

As we saw earlier, specialization leads to spin-offs or out-sourcing of activities by manufacturing firms. This is likely to have a considerable impact on organizational structures. Researchers predict that future organizations are likely to be vertically disaggregated, with many of their functions performed by a network of specialized organizations (Miles & Snow, 1984).

Organizations will go beyond just operating from a global base to becoming a “quasicorporation” participating in a global partnership of skills and resources (Achrol, 1991). The Scoupe car is a very apt example of such activities with its body designed by Itel Design of Italy, suspension by Lotus of England, and manufacturing by Hundai of Korea. Flatter organizations will also lead to changes in hierarchies within organizations and place more emphasis on teamwork. The traditional roles of all the functions in a firm will undergo changes.
a nation. Service providers develop and perform many services previously performed within manufacturing and extraction. When this event occurs within one country's economy, it causes both service sector growth and growth in the national economy.

When this event occurs across countries, specialization causes international trade. Countries that have a relative or comparative advantage at some function tend to specialize in that function. Consider the creation of a video camera. The design function might take place at a university in the United States. A Korean steel firm might provide the raw materials. A Swiss bank might provide the financing. A Mexican assembly plant might construct the device, and a Japanese firm might provide distribution.

Many researchers believe that services are the relative or comparative advantages of advanced countries. Less developed countries often have very low wage rates. These low wages provide them with an advantage in labor-intensive manufacturing not enjoyed by more developed or advanced countries.

Advanced countries, in contrast, have great advantages in infrastructure, information, education, communications, transportation, and other services. A truly advanced company manufacturing computers might entirely become a service business. The company might do market research and demand analysis. The company might develop new technologies with faster processing speeds, memory, storage capacity, and so on. The company might also develop superior manufacturing techniques, including flexible computer integrated manufacturing and intelligent manufacturing equipment.

Actual assembly might occur in another country. A foreign company might do the assembly, or assembly could occur at a foreign subsidiary. The complex part of the assembly process would require advanced equipment. The simple parts of the assembly process would require relatively unskilled labor.

The assembler ships the final assembled products back to the original company for distribution. The company provides financing, distribution, advertising, market research, maintenance, repairs, and other pre- and postsale service activities. The company in the advanced country effectively imports manufacturing and exports services. From these arguments, we might expect developed countries to focus on service exports. We would also predict increased international trade of services. But the area of international trade is controversial. Some researchers emphasize the significance of barriers and tariffs that countries impose on pure trade. These obstacles inhibit the trade of both manufactured products and
government records the $100,000. The government could assign the expenses to a services account (e.g., business services) or to a manufacturing account (e.g., auto manufacturing). But the change should involve more than just national accounting. Specialization can actually increase both service and manufacturing output (see Table 10.2).

Service specialization causes producer services to be more effective. This allows manufacturer output to improve. Hence, services growth and manufacturing growth can occur together.

*International Specialization.* In the previous section, we discussed how specialization of knowledge-based functions leads to the separation of service functions from the manufacturing and extractive sectors within
TABLE 10.3 Using Software Vendor: Productivity Effect
(out-sourcing increasing output)

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<th>Out-Source With Growth</th>
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sector. Hence, total manufacturing output remains at $300,000. The accounting effect moves the productivity gain of $100,000 to the service sector. Total output enjoys an increase of $100,000, but the national accounting shows that increase in the service sector.

The service sector grows as business services enhance the productivity of the manufacturing and extractive sectors. Accounting effects exaggerate service sector growth, but growth is still real.

Figure 10.3 illustrates how national accounting causes growth in the service sector. The pie on the left represents a manufacturing firm. The firm does manufacturing and many services functions including inventoring, accounting, finance, marketing, management. As functions become specialized, the manufacturing firm subcontracts or spins off many of the service functions. As a consequence, these same functions move from the manufacturing sector to the service sector without any change in either input or output. Economists call this the “unbundling” phenomenon. However, if this is the only explanation for growth in the service sector, we should observe a decline in the manufacturing output. Also, there should not be an increase in the volume of total service activity, only a change of location.

Without an increase in the total pie, the dollar growth in the service sector is merely a change in national accounting: a change in where the