Policy Analysis

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Executive Summary

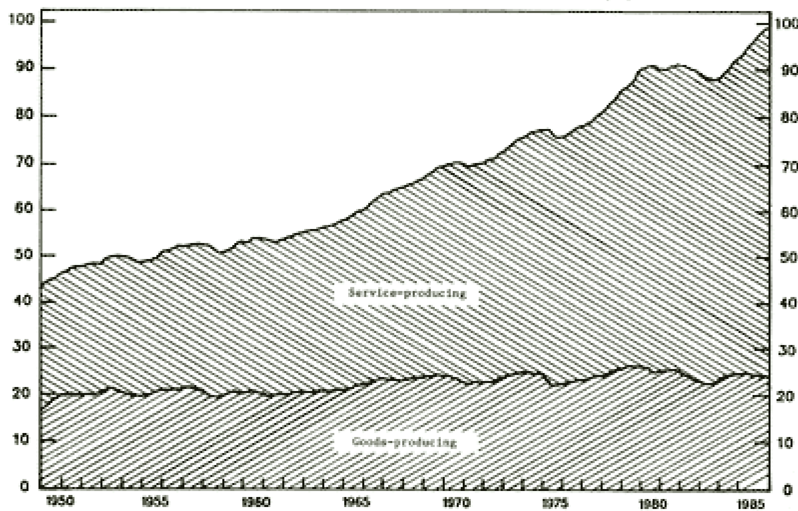
The emergence of the service economy has given birth to the public policy worry that the United States is being reduced to a nation of orderlies, fast-food workers, and bus boys. Much of the analysis that has appeared in the press, policy papers, and books has simply sought to describe structural changes in U.S. production and employment.[1]

On the basis of the data depicted in Figure 1, some analysts have concluded that employment in the U.S. service-producing sector has for some time risen at a healthy pace, while employment in the goods-producing sector, especially in manufacturing, has languished or only crept upward.[2] In the summer of 1985 such disparate employment growth trends prompted a major U.S. news magazine to fill its cover with the banner "Welcome to the Service Sector."[3]

However, much of the policy analysis has been developed with political agendas in mind and has been artfully juxtaposed with expressions of the heartfelt concern that market capitalism is operating like an unmanned bulldozer at full throttle. Wholesale economic destruction has been said to be evidenced by many conditions, including the accelerating pace of technological and structural change; the "deindustrialization of America"; the mounting financial and social problems of displaced and dislocated workers (particularly older workers) who have few transferable skills; the growing inability of American industry to compete in world markets; and the emergence, due to income-distribution patterns, of a "two-tiered" (or "bimodal" or "polarized") society.[4]

The dramatic expansion of the service sector reflected in Figure 1 has been viewed as both a cause and a symptom of a fundamental failure of the U.S. market economy. That failure can be reversed, it has been argued, only by maintaining and creating a wide variety of government-backed retraining and income-support programs, imposing restrictions on firms' ability to adjust to changing economic circumstances, and establishing additional or higher barriers to U.S. imports.[5] The wandering bulldozer, in other words, should be given a government driver who will take orders from a number of established and newly created federal and state agencies.

Figure 1
Trends in U.S. Service-and Goods Producing Employment, 1950-85
(in Millions of Employees)



Source: Bureau of Labor Statistics

The expansion of the service sector has been perceived as a cause of economic malaise because wages in that sector have been thought to be, on average, lower than wages in the goods sector. It has also been argued that without an industrial base, the United States will surely lose its status as the world's premier industrial power, only to be replaced by third-rate, Third World countries.

The expansion of the service sector has been perceived as a symptom of economic malaise because it has coincided with surpluses of labor in the traditionally high-paying heavy industries and a long-term increase in the nation's unemployment rate. In addition, the expansion of the service sector has been thought to mirror a decline in the international competitiveness of American firms due to their inability to adjust their organizational structures and production levels in response to the accelerating changes in world market conditions. U.S. goods-producing firms' inability to compete in the world economy is supposedly indicated by the country's growing deficit in merchandise trade and the decline in its industrial production.

In fact, the U.S. economy is evolving naturally in response to a host of factors, not the least of which are changes in consumer preferences, opportunity costs, and production technologies. The nation's economy has always adjusted, and it can be expected to continue to adjust. But no one should expect the process to be painless.

This paper seeks to explain why concern over the emergence of the service economy in the United States is, for the most part, unwarranted and misplaced. Far too much has been read into data on trends in service- and goods-producing employment such as those shown in Figure 1. Many of the assumptions about the economic value (or lack thereof) of services are wrong. The growth in the service sector has been misunderstood, in part because of the arbitrary division of the nation's outputs into "goods" and "services"; a largely unexplored reason for it is the fragmentation of firms into smaller and more independent production units.

A major hypothesis of this article is that the growth in the service sector, even in typically low-wage industries, has contributed to the growth in American workers' income, even income created in the goods-producing industries. From that perspective, it is clear that the presumed polarization of America is a political issue that has been the object of a misguided and vain search for empirical and conceptual justification.

The Value of Services

The policy debate over what, if anything, should be done to thwart or encourage the nation's perceived shift from an industrial to a service economy should be based on facts rather than popular beliefs, some of which are outright myths. One such myth is frequently summarized by the claim that given the emergence of the service economy, we may eventually end up doing each other's laundry. Hence, Felix Rohatyn argued, "We cannot become a nation of short-order cooks and saleswomen, Xerox-machine operators and messenger boys. . . . These jobs are a weak basis for the economy. . . . To let other countries make things while we concentrate on services is debilitating both in its substance

and in its symbolism."[6]

There are seven points to be made about that argument. First, Figure 1 provides far less information on what has happened to goods and service employment than is generally assumed. Because the world is complex, statisticians and policymakers need to classify employment and production outcomes as "goods" or "services" in order to make their discussions intelligible. However, once such categories have been devised, it is all too easy to converse as if they had more economic meaning than they do.

The fact is that no matter how carefully the definitions of "goods" and "services" are constructed, the division of employment and production outcomes into convenient, countable categories is largely arbitrary. The basis for the distinction between goods and services is frequently hard to discern (even when the criterion is the extent to which the things produced are tangible, storable, and reusable).[7] As time passes, so many different things are produced that the composition of the goods and service sectors changes, and the distinction is likely to become progressively more blurred and less meaningful.

For example, a hamburger is a hamburger to consumers, but is it a good or a service to data gatherers? According to government statisticians, a hamburger sold at a fast-food restaurant is part of a service, whereas hamburger meat sold at a grocery store is a good. Similarly, a computer is a manufactured good when sold to a household but is part of a service when leased by a time-sharing firm.

Moreover, under the government's goods/services classification system, a truck driver is a manufacturing worker if he transfers intermediate products between a firm's plants but is a service worker if he operates an independent business and contracts with the same firm to make the same deliveries. Finally, a worker in an electronics plant's assembly line is classified as a goods-producing (manufacturing) employee because he repeatedly attaches chip A to board B, whereas a worker sitting at a desk in an insurance claims office is classified as a service employee because he collates form A from pile B with form C from pile D. In practice, the work of employees in the goods- and service-producing sectors may be very much the same.

Even though classifications enable us to make sense of a complex world, we should recognize that the arbitrariness of the goods/services classification system requires us to take considerable care to avoid drawing final conclusions from the data contained in Figure 1. Because many service workers produce things that are no less "goods" than those produced by goods workers, the data can provide only rough approximations of the true sizes of the goods and service sectors. The emergence of the service economy may be an artifact of the classification system. If statisticians could separate the true service workers from the true goods workers, both employment patterns might slope sharply upward and follow much the same course over time.

Second, the gradual development of such labor-saving goods as washing machines and computers has led to a reduction in the actual material content of goods per unit produced. The goods have become, to an important degree, more a matter of intellect than of substance. That is, intellect (and creativity), the foundation of almost all services, has gradually been substituted for physical goods. But nothing that has happened in the substitution process has made people worse off; indeed, they are better off. Labor is still involved, but its form has changed, from brawn to brains. Of course, labor has had to adjust, but it always has to adjust, even in an economy whose goods sector is expanding. The structural change in the economy did not begin with the development of new services. As long as different types of goods are produced, different types of labor will be needed. Then again, the shift in the economy may have been inspired by labor's willingness and demand to shift its form. Third, public policy advocates' argument that attention must be focused on the shift in production and employment from the goods sector to the service sector seems to be based on the assumption that services are less valuable than goods because they are more ephemeral and cannot as readily be touched, stored, and reused at a later date. Such a position is hard to accept if it is assumed instead that the economy is ultimately designed to satisfy needs, not to produce "real" things. Furthermore, it is difficult to understand why many products in the goods sector--for example, automobiles and cocktail napkins--should be considered any more "real" than many products in the service sector--for example, house blue- prints and computer programs.

Fourth, there is an often-unstated presumption that workers in the service sector do nothing more than "service" the real goods that are produced in manufacturing, construction, mining, and agriculture. But it is hard to see why a

worker who moves a product from point A to point B (whether by truck, hand, or telephone) should be considered less productive (in the sense that he is accomplishing something less valuable) than a worker who moves parts from point A to point B. Textile mills are production units, but so are fast-food restaurants, accounting offices, and dry cleaners. Such elementary points should make policymakers wonder if the data in Figure 1 really indicate that the United States is sacrificing its industrial base.

Fifth, it is hard to understand why proponents of reform extol "basic" industries (by drawing attention to the plight of industries that produce basic goods such as steel and rubber) and subtly impugn services (by drawing attention to relatively menial services such as laundry and fast-food meals). Perhaps they believe that services are less important to people's livelihood than goods--a viewpoint that must be disputed because consumers and firms choose what to buy. Perhaps they declare certain favored industries to be basic in the hope of lending emotional appeal to policies that would extend differential treatment to those industries, such as government subsidies and protection from competition.

Sixth, public policy advocates seem to assume that the emergence of the service economy reflects a natural progression from lower-order goods (which are basic) to higher-order services (many of which are frivolous). Perhaps they envision a hierarchy of needs (like A. H. Maslow's) in which the lower- order needs are physiological and can be satisfied by physical, manufactured goods, whereas the higher-order needs can be satisfied by services that allow a consumer to achieve what Maslow called "self-actualization"--that is, "to become more and more what one is, to become everything that one is capable of becoming."[8] They may therefore worry that some people have been becoming self-actualized through frivolous services while others have been denied an adequate array of basic goods.

Such an explanation of the emergence of the service economy is not without merit. After all, it is altogether reasonable to assume that as incomes have increased, progressively less pressing needs have been satisfied. However, it does not follow that a disproportionate number of the newly purchased services have accommodated self-actualization needs. The additional services may have been no more capable than goods of allowing people to self-actualize; many of them may have met other, more pressing needs (physiological needs as well as the need to belong, to feel safe, or to have self- esteem). As a group, the additional services purchased with increased incomes may have satisfied as many lower-order needs as higher-order needs. The purchase of laundry or accounting services, for example, is not necessarily self-actualizing; such purchases of services outside the home often permit people to become second-income earners (and at the same time satisfy certain lower-order needs).[9]

Seventh and finally, the data on goods and service employment have been used to support false conclusions about the nature of economic activity in the United States. When assessing the recorded split between goods and service employment, one must keep the following facts in mind:

-- The expansion of the service sector has not been accompanied by a contraction of the goods sector. The gross national product (GNP) has continued to reach higher annual peaks. Although industrial production has not moved upward steadily, the industrial production index reached its all-time high in late 1987. The sale of manufactured goods has also continued to rise above previous peaks.

-- Although manufacturing output has varied widely, along with general economic conditions, over the past several decades, the U.S. economy has hardly been deindustrializing in any meaningful sense. Adjusted for inflation, manufacturing output as a percentage of GNP has remained close to 23 percent for the past 40 years.[10] Indeed, the economy has been industrializing in the sense that American industries have been relying more and more heavily on capital as a means of expanding their output. It has been deindustrializing only in the sense that industrial employment has fallen as a percentage of total employment, which signifies the attainment of an important goal of any economy and a mark of some distinction for a truly industrial society: getting a larger industrial output with fewer workers. Department of Commerce economists Ronald Kutscher and Valerie Personick reported,

While some [20] manufacturing industries clearly have been in long-run decline, and the 1980-82 recessionary period may have accelerated their problems, our data indicate that the United States is not losing its industrial base. Most manufacturing industries, indeed most that would be considered "heavy" manufacturing, are at least expanding production, if not employment. Higher productivity has allowed domestic production of manufactured goods to increase without corresponding increases in employment.[11]

-- Although manufacturing employment has also followed a highly cyclical pattern over the past few decades, for all practical purposes it too has been flat. The Bureau of Labor Statistics predicts an increase, albeit meager, in manufacturing employment through 1995.[12] In addition, there is no convincing evidence that the historical connection between the level of manufacturing employment and the level of overall economic activity has been broken to any statistically significant extent.[13]

-- Change is endemic to economic life. However, the frequently heard claim that the pace of economic change in the United States has accelerated has a highly dubious foundation. Those who make that claim usually cite statistics on the recent growth in service employment, but growth in service employment has been under way for decades. An accelerating pace of change is not at all evident, either from the data in Figure 1 or from more detailed data on changing employment patterns across all industries.[14]

-- The widespread assertion that U.S. goods-producing firms have become less able to compete effectively in world markets should be doubted simply because of the continued growth in the production of goods in the United States.[15] Having conducted a more careful analysis, John Tatom, an economist at the Federal Reserve Bank of St. Louis, concluded that the dramatic decline in the United States' capital out- flows and the dramatic increase in its capital inflows in the early 1980s cannot be explained by means of the conventional arguments, which cite high and increasing labor costs or maintain that real interest rates in the United States have been driven above world levels by exceptionally large federal deficits. On the contrary, Tatom concluded, the relatively recent changes in capital flows can be explained by the growing competitiveness of U.S. firms, as measured by, for example, decreases in per-unit labor costs.[16] Many U.S. firms offering investment opportunities (by selling stocks, bonds, and real capital assets in this country) have outcompeted other domestic firms offering goods and services for the funds of U.S. and foreign residents.[17]

-- Those who speak of a decline in the production economy, as measured by the marked decrease in the number of workers in manufacturing, fail to recognize that there are many production and nonsupervisory workers in the service sector. When the production and nonsupervisory workers in manufacturing and services are combined, a substantial increase in U.S. production employment can be observed. Indeed, between 1960 and the middle of 1985 the number of production and nonsupervisory workers in manufacturing and services increased at an average annual rate of 2.8 percent, and it remained steady at approximately 75 percent of the labor force between 1960 and 1975.[18]

-- The expansion of the service sector is due in part to the fact that goods-producing firms have been switching from internally supplied to externally supplied services. Goods-producing firms that have begun to "out-source" (or contract out or "marketize") parts and entire product lines to outside suppliers (both domestic and foreign) have been out-sourcing many of their services as well, for many of the same economic reasons.[19] A manufacturing firm, for example, may out-source its accounting simply because the cost of doing so is lower than the cost of having the service delivered by the firm's accounting department. In other words, such a firm may realize a comparative advantage by specializing in goods production, not service production. From that perspective, the increased presence of U.S. businesses (even manufacturing firms) in the service sector can be seen as a sign of increased efficiency--and competitiveness, the current national buzzword.

In short, much production of goods is occurring under the guise of the production of services. Many of the jobs now being counted as part of the service sector would have in earlier times shown up as jobs in the goods-producing sector, for reasons detailed below. As George Mason University economist Don Lavoie cautioned, policymakers should not forget that

while it might damage some people's sense of patriotism to face the fact that America exports several agricultural products to Japan in exchange for manufactur[ed] goods, surely this is a development with which mature adults can cope. It seems to me that our primary concern ought to be whether we have jobs and what the quality of life is that these jobs enable us to afford, not whether the goods we happen to be most efficient at producing might promote the symbolic image we have of ourselves.[20]

The Polarization of America?

Has the relative expansion of the service sector been accompanied by income-distribution patterns that have led to a bimodal society? Although the issue has not been settled, the evidence to date indicates that the answer is, Not very likely. Average pay in the goods sector is higher than average pay in the service sector, but many jobs in the service sector pay more than jobs in the goods sector.[21] The shift in employment from goods to services has not led to a reduction in the pay of most American workers. Their incomes, on average, have not suffered.

Furthermore, there is no credible evidence that the patterns of income distribution have been polarizing America or that the country has been losing, on balance, a large share of middle-income jobs. Proponents of the polarization argument seem to imagine that greedy capitalists have been willing to walk away from highly productive workers who have kept their wages competitive (that is, consistent with their productivity and lower than the cost of alternative resources). The contradiction in that argument should be self-evident. By walking away from such workers, employers would have been robbing themselves of profits. Proponents of that argument also fail to recognize that although firms have often shifted away from the use of labor, they have usually done so in response to rising wages--and expanding, not contracting, employment opportunities.

In addition, proponents of the polarization argument appear to believe that the service sector has been emerging from the ashes of the goods-producing sector because displaced industrial workers have had nowhere else to go. Clearly, many service firms have emerged at the sites of shut-down industrial plants, and some displaced industrial workers have sought service employment after being laid off from goods-producing jobs. But such cases are far from typical. Many laid-off production and service workers have ended up being reemployed in goods-producing jobs. Most of the relocated service workers were attracted out of the industrial sector by several important incentives: higher wages and fringe benefits, more interesting jobs, and better working conditions. The public higher education system has trained few factory workers, whereas it has made the development of attractive service jobs (whether inside the goods sector or inside the service sector) so cheap that students have not been able to turn down the prospect of service employment. That has been the case even when the wages of certain kinds of service workers (for instance, schoolteachers) have been depressed by the artificially inflated supply of those workers.

To the extent that the growth in the service sector has been self-generating (that is, due to growing demands by consumers and firms for better and more cost-effective services), it has only meant higher-paying jobs for Americans. Many low-paying jobs may have been created in the service sector, as Barry Bluestone and Bennett Harrison have maintained.[22] But what those authors (and others) have failed to recognize is that such service jobs are quite important to low-income workers, who, like other Americans, want improved employment opportunities.[23] In addition, the growth in low-income jobs, even in disproportionate numbers, has increased the demand for labor and put upward pressure on wages across much of the income spectrum. The relative share of jobs at the low end of the income spectrum may (or may not) have increased, but that does not mean that workers in the relevant portions of the spectrum are worse off.

For the country as a whole, the evidence on the polarization thesis is mixed at best--and actually refutes the thesis at worst. According to a study conducted by the Bureau of Labor Statistics, if there is any general tendency in the loss of jobs across the income spectrum, it is that the number of low-income jobs has been declining.[24] What appears to have been happening is a concurrent upward shift of employment toward higher-income categories and a slight downward shift of incomes within employment categories. The latter shift can be partially explained by the entry of the baby-boom generation into the workforce and the greater number of workers entering higher-income job classifications. The supply of high-priced labor has increased, imposing downward competitive pressure on wages in those higher-income classifications.[25]

To the extent that there has been relative growth in low-wage jobs, a reasonable explanation would encompass a variety of factors: the growth in women's participation in the labor force, the increased attraction of part-time employment, the growth in nonreporting of income, the expansion of nonwage and nonsalaried income, and the increase in transfer payments, which has discouraged high-income employment. The decline in the growth of higher-income jobs can be attributed in part to the increase in taxation, which has discouraged employers from investing in human skills and capital assets that can create more income. Another cause of the decline is the growth in government regulations, which have imposed greater costs on businesses and have reduced employment opportunities.[26]

Adam Smith's Mistake

Unfortunately, much of the contemporary commentary on the rise of the service economy is a throwback to The Wealth of Nations, in which the venerable Adam Smith mistakenly asserted that "the labour of manufacturing adds, generally, to the value of the materials which he works upon. . . . The labour of the menial servant, on the contrary, adds to the value of nothing."[27] The value of the menial labor cannot be recaptured in a later sale. Consequently, "a man [or country] grows rich by employing the multitude of manufacturers: he grows poor, by maintaining a multitude of menial servants."[28]

In describing the menial-worker group, Smith appears to have had in mind most (if not all) of the workers in the service sector. To Smith, government workers were clearly comparable to menial workers in most essential respects; however, "in the same class must be ranked, some of the gravest and most important, and some of the most frivolous professions: churchmen, lawyers, physicians, men of letters of all kinds; players, buffoons, musicians, opera-singers, and opera-dancers, etc."[29]

As many modern commentators have, Smith suggested that both "productive" workers (who generally seem to fit the description of goods workers) and "unproductive" workers (who generally seem to fit the description of service workers) must be maintained by the "annual produce of land and labour of the country."[30] That implies that only a limited number of unproductive (service) workers can be maintained. Smith assumed that many of his listed service workers represented a net drain on the country's productive capacity and that the expansion of the service sector was therefore part and parcel of a negative-sum game. In making that assumption, of course, Smith failed to recognize that services are as valuable to consumers as the goods they buy, that services are often just as much goods as "manufactured goods" are, and that services facilitate the production of both goods and other services.

The Theory of the Firm and Growth in Service Employment

The central conclusion of the previous sections of this paper is that the emergence of the service economy thought to be depicted in Figure 1 may be explained, albeit partially, by viewing it as an artifact of data gathering. To that extent, public policy advocates' concern about the emergence of the "productionless" economy is exaggerated. That is not to say that the U.S. economy has not changed or that economic problems, including persistent unemployment, do not exist. However, the methodology may have magnified (or even grossly magnified) changes in the composition of the nation's output and concomitant employment requirements.

Nonetheless, there are many reasons for acknowledging some growth in the service sector, especially given the way the measurements are made. The validity of several such reasons has been widely recognized. One is that the increased complexity and sophistication of goods and services have led to greater specialization in both sectors. The increased complexty of accounting rules and laws and the development of computer technology, for example, have given rise to independent accounting firms that handle a number of business clients.

Improvements in communications, especially telecommunications, may have disproportionately increased service employment by rendering services more dependent on communications technology. Many services were traditionally bound by time and place. Barbering and cosmetology are an obvious example of a class of services that requires the worker and the customer to be in approximately the same place at the same time. Improvements in communications may not have materially affected the delivery of barbering and cosmetology services, however (except to the extent that they have facilitated the meetings between workers and customers). On the other hand, brokerage, accounting, travel, and a variety of other business and personal services have been greatly aided by the enhancement of regional, national, and international communications.

Unions have traditionally dominated key "basic" industries, which have tended to be in the goods-producing sector. But union wage and work-rule demands have caused capital to move from the union to the nonunion sector, and services have historically been nonunion. Thus, growth in the service- producing sector (except in government) has not been extensively thwarted by union demands.

Although communications improvements, union influence, and government growth are important reasons for the growth of the service sector, other, less obvious reasons warrant more attention: the reduction in the cost of engaging

in market transactions and the development of legal biases against goods production.

Transaction Costs and the Theory of the Firm

The following explanation of why the measured, as well as the real, growth of the service sector has been disproportionate to that of the goods sector draws on the economic theory of why firms exist. The theory provides an understanding of how an increase in international competition and a decrease in communications and transportation costs have led to the fragmentation of production through out-sourcing.

The paradigm of the maximally efficient firm is the much-maligned "hollow corporation." In a strict sense, such a firm produces nothing; it relies on outside sources for all parts and services and operates with minimum internal organization. By relying on outside sources for supplies, a hollow corporation can seek competitive bids on all parts and services and thus minimize its production costs. Unfortunately, relying on external sources of supply can be costly in other ways, which is why so few firms are in fact hollow (and why policymakers need not worry that hollow corporations will dominate many production processes).

Firms exist for many reasons, but a fundamental one is to reduce the costs of consummating market transactions. Although the fact is often overlooked or ignored in production theories, market exchanges are costly. Time, energy, and money are required to complete market exchanges and to ensure that the terms of contracts are determined and met efficiently. Such costs, called "transaction costs," are especially high for parties that are geographically distant from one another, because it takes considerable time for them to effect a contract. Consequently, firms maintain internal production and service bureaus to avoid the costs of continually negotiating exchanges with outside contractors.

Firms attempt to reduce their transaction costs (and thus their net production costs) by substituting a hierarchical command structure for negotiations and market transactions. Thus, many of the benefits of market competition may be lost in the process of forming firms, but the firms that emerge are able to survive by reducing their transaction costs.

Management, of course, has an interest in minimizing the inefficiencies of the organizational structure. But in markets that are anything less than perfectly competitive, inefficiencies are bound to arise. That is true for two reasons. First, costs are incurred in monitoring the organizational structure of a firm to ensure that commands are obeyed and profits are maximized. Imprecise monitoring permits inefficiencies (such as excessive costs or slack work) to occur. Second, in the creation of a firm, internal bureaus are established--within certain bounds--as sole-source suppliers of intermediate goods and services. In effect, those bureaus have a degree of monopoly power, which they can be expected to exploit to the extent that they are hard to monitor and to the extent that management fails to consider the alternative of outside sources of supply.

Among other factors, management's attentiveness to external sources of supply is dependent upon the competitiveness of the firm's final product markets and intermediate parts and services markets. The competitiveness of the firm's markets, in turn, is dependent upon its transaction costs. Those costs can be affected by the communication and transportation costs that the firm incurs by engaging internal and external sources of supply.

For many domestic firms, the widely heralded advances in the technology of producing goods and services, which have coincided with the internationalization of production, have resulted in increased competitiveness. Both changes have imposed greater price and quality pressures on management. As a consequence, management has had to search more diligently (and therefore incur higher monitoring and search costs) for alternative, external sources of intermediate goods and services. Its increased attentiveness to that search has led to a lower demand for internal sources of supply and a higher demand for external sources.

Hence, the long-term relative decline in the prices of goods produced in manufacturing, for example, can be viewed as part of the competitive process that has led to greater out-sourcing (or a greater threat of out-sourcing). The emergence of smaller intermediate manufacturing and service firms in the domestic and foreign economies is part of the same process. Likewise, small U.S. firms have become more dominant in job creation in a period of growing international competitiveness.

The growth of intermediate manufacturing firms involved in the out-sourcing process would have been counted as part

of the goods sector. That sector would have grown only to the extent that enhanced competitiveness and a greater use of out-sourcing have sparked decreases in the prices of final goods and increases in aggregate real income. Indeed, in the face of greater worldwide competition, employment in the domestic goods sector may have either actually declined or grown at a slower rate because of a greater reliance on foreign sources of intermediate and final goods.

The growing competitiveness of the goods sector, on the other hand, can be assumed to have led to the disproportionate increase in the service sector. The increase in the outsourcing of intermediate services may be no more dramatic than the increase in the out-sourcing of intermediate goods, but it would have resulted in a shift of production and employment from the goods sector to the service sector.[31]

There is no a priori reason for the out-sourcing of services to have been any more or less internationalized than that of goods. But it should not be surprising that a significantly greater share of the out-sourcing of goods has gone abroad, given that the internationalization of production has been spurred by reductions in communication and transportation costs.

In short, communications advances and reductions in the costs of communication and transportation have led to an increase in the out-sourcing of intermediate products, including services. In addition, those improvements have expanded the market and led to more specialization at all intermediate levels, but the measured increase in the service sector has therefore been disproportionately large. The reduced transaction costs resulting from improvements in communication and transportation have undercut the raison d'etre of integrated firms.

The theory of the firm has other implications as well-- for example, that the deregulation of telephone service in the United States has also had those effects on the goods and service sectors. International events that have lowered the costs of energy, communication, and transportation, such as the breakup of OPEC (Organization of Petroleum Exporting Countries), have further contributed to the increase in the use of out-sourcing--and to the disproportionate expansion of the service sector. The deregulation of the trucking, airline, broadcast, and financial markets has also led to a fragmentation of those markets.[32]

Furthermore, it should be remembered that households are producing units and as such are similar to firms in many substantive ways. They rely on resource inputs from their members (labor, for example) and from the market for intermediate goods and services (groceries and dry cleaning, for example). An increase in wages and employment opportunities for men and women (but for women especially, because they are the primary producers of many household goods and services) has resulted in both a relative increase in the prices of home- produced goods and a greater reliance on market-produced goods and services (a shift that can also be viewed as a form of out-sourcing). For example, household members have begun to eat more meals at restaurants and fewer at home. They have also begun to rely more heavily on services that were once produced exclusively at home--house cleaning, entertainment, and accounting, for example. The shift in goods and services production from the home to the marketplace has exaggerated the increases in service employment and income and possibly the increase in reliance on services, not least because many of the market substitutes sought by households have been counted as services.

Changes in the Institutional Environment

The increased use of out-sourcing could have been stimulated by a host of factors, not all of which can be considered here. Nonetheless, it is important to note that the growth of the public sector, as measured by, say, higher government expenditures and taxes, is one such factor. The resultant changes in overall market conditions have led to greater uncertainty about the course of the economy, and firms have begun to hedge against potential instability by using external sources of supply as a means of expanding and shrinking their labor forces (and other resources). That is particularly evident in labor markets in which the prices of resources cannot readily be reduced--for instance, in the unionized sector of the economy. As noted above, out-sourcing is likely to have contributed to the disproportionate growth in the service sector simply because all out-sourcing of intermediate parts would have stayed within the measured goods sector.

The contemporary U.S. legal environment has made concentrated business wealth an increasingly attractive target for appropriation. Such wealth can be expropriated through lawsuits, not the least important of which are personal-injury and wrongful-death suits. Although hard data are scant, it is reasonable to deduce that the value of an in-court or out-

of-court settlement for injury or death has become increasingly proportional to the size of the firm under litigation (measured roughly by profits and capital assets), ceteris paribus. Given the mounting legal discrimination against large firms, it is not surprising to observe a growing reliance on the fragmentation of production, whether directly, through the breakup of firms, or indirectly, through the increased use of out-sourcing. The purpose of the latter is to reduce the size of the legal target in order to cut legal expenses and penalties and thereby cut production costs.

Of course, none of those occurrences means that the service bureaus of firms have necessarily shrunk in real terms. The point is that the out-sourcing of both services and goods has grown more than the use of internal sources.

There are several reasons for the broad-based discrimination against goods-producing firms by the judicial system. One is that because goods are intrinsically easier to define than services, such firms are more readily subjected to legal penalties (the prospect of which can cause them to spend more on legal defenses and less on risky or high-priced products). The likely consequence of the out-sourcing of intermediate goods encouraged by the legal system is a marginal retardation in the growth of the goods sector due to the increased cost of production. On the other hand, the service sector may have increased even though the shift to out-sourcing is likely to have increased the cost of obtaining services.

Another way in which goods-producing firms have been discriminated against is that the concept of "strict liability" (liability without proof of fault or negligence) has been applied almost exclusively to goods.[33] Such legal discrimination has likely contributed to the cost of producing goods and to the fragmentation and relative contraction of the goods sector--and therefore to the relative expansion of the service sector.

Many laws instituted in the 1960s and the 1970s have discriminated against producers of goods. Environmental regulations that imposed stricter pollution controls on new entrants (and restrictions on access to environmental resources used largely by goods producers) could have disproportionately increased the cost of goods production and thus retarded the growth of the goods sector.[34]

Conclusion

The purpose of this study is twofold. First, it is intended to cast doubt on the reliability of the data on the relative growth in the service sector. Although it is possible to agree that employment and production have become progressively concentrated in services, that assertion may mean nothing more than that workers have gradually begun to do different jobs, just as they have done different jobs within the goods-producing economy in response to changes in market conditions. Workers are always engaged in the production of things that satisfy consumers' needs, whether those things are labeled "goods" or "services." Granted, in jobs at which robots are more effective, they may eventually supplant workers, just as capital in other forms has historically supplanted human labor, with the effect of raising living standards. The replacement of human labor by capital will continue regardless of what policymakers call the outputs.

The second aim of this study is to demonstrate that the measured growth in the service sector is not only a reflection of the actual production of more services but also a reflection of evolutionary changes in the structure of businesses. There are good reasons for concluding that political and legal, as well as economic, forces have brought about those changes and perhaps the resulting fragmentation of goods production and relative expansion of the service sector. Those who seek true reform in economic policy should perhaps start by identifying and striving to eliminate government policies that discriminate against goods producers.

How one identifies the proper policy on the growth of the service sector depends in part on how one views the forces driving the data. If the growth in the service sector is viewed as being independent of prices and society's drive to produce things that are wanted and needed, greater government control of the job-creation process may appear to be warranted. However, if it is understood that the job-creation process is not a random walk but the result of constraining market forces, additional control may appear to be unnecessary. An implicit purpose of this paper is to describe the ways in which job creation in the goods and service sectors has been controlled, most often tolerably well, by market forces. From that perspective, it is clear that solutions to the nation's economic problems can be found by removing institutional obstacles to the free flow of employment information within labor markets.

FOOTNOTES

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[1] See Ronald E. Kutscher and Jerome A. Mark, "The Service- Producing Sector: Some Common Perceptions Reviewed," Monthly Labor Review (April 1983): 21-24; Michael Urquhart, "The Employment Shift to Services: Where Did It Come From?" Monthly Labor Review (April 1984): 15-22; Ronald E. Kutscher and Valerie A. Personick, "Deindustrialization and the Shift to Services," Monthly Labor Review (June 1986): 3-13; and Patricia E. Beeson and Michael F. Bryan, "The Emerging Service Economy," Economic Commentary (Federal Reserve Bank of Cleveland), June 15, 1986.

[2] The service-producing sector includes transportation and public utilities, wholesale and retail trade, finance, insurance, real estate, business services, and government. The goods-producing sector includes mining, construction, and manufacturing. For some purposes, agriculture is included in the goods-producing sector.

Goods-producing employment fell from 40.9 percent of the nonagriculture labor force in 1950 to 26.2 percent in November 1985. Manufacturing employment fell from 33.7 percent of nonagriculture employment (and 82.3 percent of goods-producing employment) in 1950 to 20.6 percent of nonagriculture employment (and 78.9 percent of goods-producing employment) in November 1985. During the same period service-producing employment rose from 59.1 percent to 73.8 percent of the nonagriculture labor force.

[3] National Journal, July 27, 1985. However, it is worth noting that the magazine opened its discussion of the growth in the service-producing sector by commenting on the difficulty of defining that sector (pp. 1724-25), which suggests that it was not certain what it was welcoming.

[4] See Larry Mishel, The Polarization of America: The Loss of Goods Jobs, Falling Incomes and Rising Inequality (Washington: Industrial Union Department, AFL-CIO, 1986); and Barry Bluestone and Bennett Harrison, The Great American Job Machine: The Proliferation of Low Wage Employment in the U.S. Economy (Washington: U.S. Congress, Joint Economic Committee, 1986).

[5] For a major set of proposals intended to fill the presumed training and retraining needs of American workers, see Malcolm Lovell, Adjustment Assistance in a Competitive Society (Washington: U.S. Department of Labor, Office of the Secretary, December 1986). Lovell was chairman of the Task Force on Economic Adjustment and Worker Dislocation, which recommended a new federal agency in the Department of Labor, alongside offspring state agencies, that would spend an additional $500-600 million on retraining programs for displaced workers--workers who had spent three or more years on the job before being permanently displaced.

[6] Felix G. Rohatyn, as quoted in David M. Alpern, "Mr. Fixit for the Cities," Newsweek, May 4, 1981, p. 29.

[7] Of course, such statistical distinctions, although important to researchers, have no meaning to the people who are seeking to satisfy their needs, including their employment needs.

[8] A. H. Maslow, Motivation and Personality (New York: Harper and Row, 1954), pp. 90-92.

[9] When focusing on a hierarchy of needs that resembles Maslow's, one must remember that it was developed at a given time with given definitions of various needs and given prices of ways to satisfy the needs. A movement up the hierarchy may therefore reflect a subsequent change in those prices. Hence, the emergence of the service economy may reflect not only an increase in incomes but a relative decline in the prices of services that satisfy certain needs (or a relative increase in the prices of alternative means of satisfying them). The last point is more fully developed in Richard B. McKenzie and Gordon Tullock, The New World of Economics (Homewood, Ill.: Richard D. Irwin, 1975), pp. 36-43.

[10] Of course, real manufacturing output has never been a constant percentage of GNP. That is because

manufacturing tends to be more affected by business cycles than other parts of the economy. See Murray L. Weidenbaum, Learning to Compete: The Feedback Effects of a Nonlinear Economy (St. Louis: Washington University, Center for the Study of American Business, 1986), p. 27.

[11] Kutscher and Personick, p. 12.

[12] Howard N. Fullerton, "The 1995 Labor Force: BLS' Latest Projections," Monthly Labor Review (November 1985): 17-28. See also related articles in the same issue.

[13] The first and most comprehensive empirical support for this point was presented in Robert Z. Lawrence, Can America Compete? (Washington: Brookings Institution, 1984). See also John E. Cremeans, "Three Measures of Structural Change," working paper (Washington: U.S. Department of Commerce, 1985); and Kutscher and Personick. The continuing decline of manufacturing employment after the recessions of the early 1980s may represent a break in the tie that has bound manufacturing employment to the business cycle in the past. However, the history of the manufacturing sector, along with a two-year drop in the value of the dollar in international money markets, suggests that hasty conclusions are highly risky.

[14] If the pace of change had accelerated, the correlation between the distributions of employment across all goods- and service-producing industries would have fallen. That result has not been indicated by the relevant data, however. In fact, the correlation coefficient for 149 industrial classifications of employment between 1959 and 1969 was close to .98, approximately the same as the coefficient for the correlation between the employment patterns observed between 1969 and 1979 and the employment patterns recorded for 1979 and projected for 1990. See Richard B. McKenzie, "The Pace of Economic Change: Is It Accelerating?" (St. Louis: Washington University, Center for the Study of American Business, 1986).

[15] It is also important to remember that not all of the statements made about the depressed state of key manufacturing industries in the United States are true. In 1984, for example, U.S. apparel production peaked in real dollar terms, and U.S. textile production was practically back to its peak of the late 1970s, despite what those industries, in appealing for protection, called the "flood" of textile and apparel imports. Parts of the textile and apparel industries are in trouble, but the trouble (like that of other industries) has domestic as well as foreign sources. It is due to the substantial increases in the productivity and competitiveness of textile and apparel firms, both outside and inside the U.S. economy. (See Richard B. McKenzie, "The Loss of Textile and Apparel Jobs: The Relative Importance of Imports and Productivity" [St. Louis: Washington University, Center for the Study of American Business, 1986].)

[16] John A. Tatom, "Domestic vs. International Explanations of Recent Developments in U.S. Manufacturing," Federal Reserve Bank of St. Louis Review (June/July 1986): 5-17.

[17] Richard B. McKenzie, "American Competitiveness: Do We Really Need to Worry?" Public Interest (Fall 1987).

[18] ____________________, The Good News about U.S. Production Jobs (St. Louis: Washington University, Center for the Study of American Business, 1986).

[19] The expansion of the service sector is partially reflected in the decrease of the ratio of value added in manufacturing to manufacturing shipments. In 1970 that ratio was 47.3; by 1981 (the latest year for which data were available for the 1985 study) the ratio had fallen to 41.5 (or by 13 percent). See McKenzie, The Good News about U.S. Production Jobs, p. 8.

[20] Don Lavoie, National Economic Planning: What Is Left? (Washington: Cato Institute, 1985), p. 179.

[21] In fact, the average pay in all services was higher in 1985 than the average pay in textiles.

[22] Bluestone and Harrison.

[23] The value of low-wage employment to many workers was revealed in a survey of government-sponsored empirical studies of low-wage labor markets (Daniel J. Benjamin, Mark L. Mitchell, and John T. Warner, Synthesis of

Policy Implications from Studies of Low Wage Labor Markets [Clemson, S.C.: Clemson University, Center for Policy Studies, 1987]).

[24] Neal H. Rosenthal, "The Shrinking Middle Class: Myth or Reality?" Monthly Labor Review (March 1985): 3-10.

[25] Patrick J. McMahon and John H. Tschetter, "The Declining Middle Class: A Further Analysis," Monthly Labor Review (September 1986): 22-27.

[26] These and other explanations for the observed U-turn in worker income and the polarization of income classes are developed at length in Richard B. McKenzie, "The 'Great U- Turn': Another Economic Myth or New Economic Reality?" (Washington: U.S. Congress, Joint Economic Committee, 1987).

[27] Adam Smith, An Inquiry into the Nature and Causes of the Wealth of Nations (1776; reprint, New York: Modern Library, 1937), p. 314.

[28] Ibid.

[29] Ibid., pp. 314-15.

[30] Ibid.

[31] In addition, it can be assumed that many firms in the goods sector, having found their service bureaus to be more competitive than external service suppliers, have sold or spun off their services to other firms--and perhaps established their bureaus as independent businesses. Furthermore, it can be assumed that employees in service bureaus who were no longer able to secure rents from their firms and yet were capable of competing with market rivals have moved to the service sector and offered their services to the firms that once employed them.

[32] Of course, the increased competitiveness of intermediate service producers due to reductions in transaction costs is another likely cause of the relative expansion of the service sector.

[33] For example, doctors and hospitals that provide services have been heavily sued. However, negligence must be proved. The point is not that the growth of services has not been retarded by such action but that it would have been even more retarded if the service providers had been subjected to strict liability.

[34] In addition, the Robinson-Patman Act, which forbade price discrimination in the sale of goods but not services, could have marginally reduced the efficiency of the goods sector and marginally increased the profitability of the service sector, both of which would have resulted in a relative expansion of service production and employment. Of course, many other examples of government discrimination against service providers could be cited.