

# ECONOMIC COMMENTARY

## Is Manufacturing Disappearing?

by Michael F. Bryan

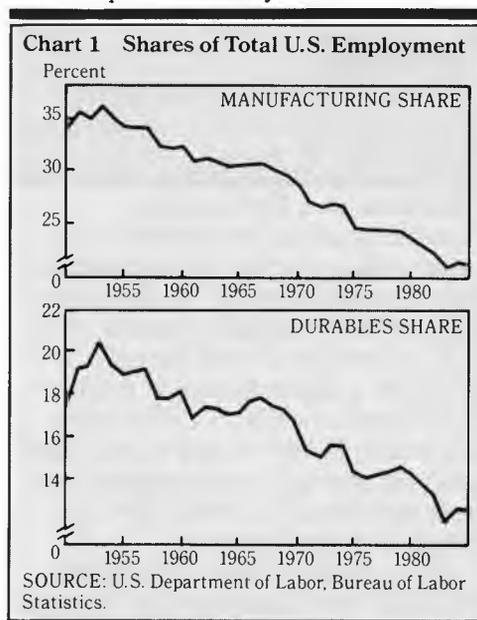
Some policymakers continue to favor the idea of using trade barriers to protect U.S. manufacturing industries. In some measure, this view is based on a perception of underlying weakness in the U.S. manufacturing sector. There is a fear that the manufacturing sector is dying—or at the very least, that its importance to the economy is shrinking. This *Economic Commentary* offers some alternative perspectives on the trends in manufacturing.

On balance, the manufacturing sector is alive and well. Indeed, the prospects for manufacturing have been strengthening over an extended period. However, the distribution of output growth across manufacturing industries is uneven, with a few traditional industries at the bottom of the growth standings. But other, less traditional, manufacturing industries are leading U.S. industrial growth. Consequently, it is necessary to qualify any analysis of the manufacturing sector by examining it from several perspectives.

### The Employment Perspective

It has become commonplace for business analysts to refer to the “alarming shift toward a service economy.” It would seem that this view is taken primarily from the perspective of employment. Manufacturing employment has been generating proportionately fewer jobs, on average, since the early 1950s (chart 1). As a share of total U.S. employment, manufacturing employment has fallen from approx-

imately 35 percent of total employment in 1953 to only about 20 percent of total employment during the first half of 1985. The decline in durable goods manufacturing employment has been equally steep, falling from a share of about 20 percent of total employment in the early 1950s to near 12 percent today.



Certain manufacturing industries, such as primary and fabricated metals industries, have had greater relative employment declines than other manufacturing industries. In 1984, primary and fabricated metals manufacturing represented 2.5 percent of total U.S. employment—less than half the employment share it had in 1953. Virtually all major manufacturing in-

dustries, however, have demonstrated lower shares of total U.S. employment in the 32-year period since 1953. Even electrical machinery manufacturing, an impressive growth industry during the 1960s and 1970s in terms of output, had a smaller share of total U.S. employment in 1984 (2.4 percent) than it did during 1953 (2.7 percent).

In short, the importance of manufacturing employment to total U.S. employment has been declining at a rather constant pace over an extended period. This pattern has been followed by most major manufacturing industries.

### The Output Perspective

Trends in U.S. employment data and output data are not necessarily identical. If we examine the share of America's manufacturing output in relation to our total output (measured by gross domestic product), a strikingly different picture of the long-term trends in manufacturing emerges (chart 2). Compared with the employment data, it becomes much more difficult to find convincing evidence that manufacturing output is significantly declining in importance to the economy.

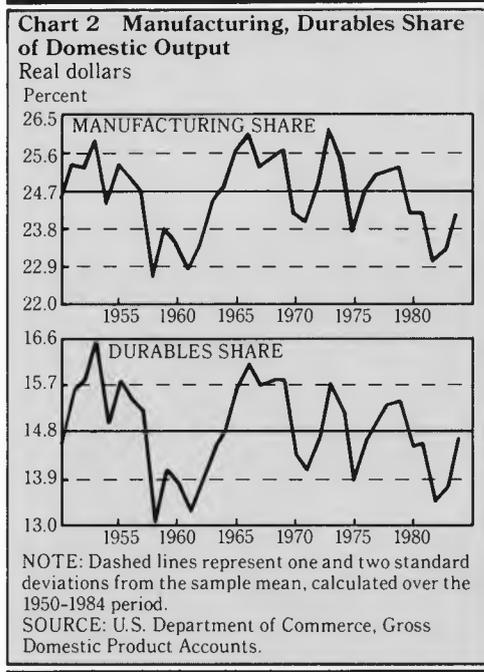
Since 1950, manufacturing output as a share of total output has fluctuated around a mean of 24.7 percent (14.8 percent for durable manufacturing). In 1984, U.S. manufacturing represented only 0.5 percent less than its 35-year average (following a rather severe trough in 1982), and durable manufacturing output was virtually identical with its 35-year average last year (14.5 percent).<sup>1</sup>

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*The views stated herein are those of the author and not necessarily those of the Federal Reserve Bank of Cleveland or of the Board of Governors of the Federal Reserve System.*

1. Data from the first two quarters of 1985 allow us to infer that the share of manufacturing output to total output might have inched downward in 1985 due to deterioration in nondurable manufacturing output. However, durable manufacturing production has continued to build momentum in 1985 and may exceed its trend value for the year.

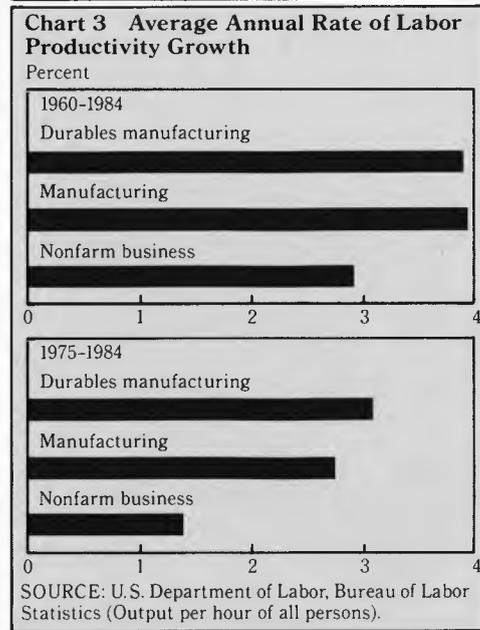
In terms of employment, it can be argued that the U.S. economy has been shifting toward a service-based economy. But, in the context of relative output, no comparable shifts have thus far occurred.



Manufacturing's share of output has fluctuated around its mean value, yet the proportion of labor resources consumed by manufacturing has been dropping. This suggests that the manufacturing sector is building strength, rather than deteriorating, as labor productivity in U.S. manufacturing must have demonstrated above-average gains (chart 3).

Since 1960, manufacturing industries have exceeded the average rate of labor productivity growth in the United States. Moreover, the pace of productivity in manufacturing relative to the average U.S. industry actually accelerated over the past 10 years. The rate of growth in durable manufacturing productivity has also been more than twice that of the average U.S. industry over the past decade.

The U.S. manufacturing sector has a popular image as an inefficient, resource-obese industry that is incapable of rigorous competition. The labor productivity improvement made in U.S. manufacturing, particularly since 1975, is a strong piece of evidence to the contrary.

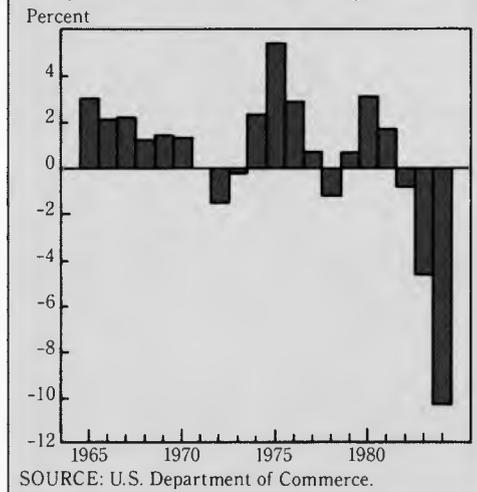


### The Demand Perspective

Another popular, but possibly mistaken, notion is that foreign competition is responsible for the disappearance of the manufacturing sector. It is true that the United States is currently at a disadvantage in international markets. Chart 4 illustrates the extent of the decline of our manufactured goods in international markets relative to the total value of domestic manufacturing.

Whereas the United States had typically been a net exporter of manufactured goods, the trade balance of manufactured goods has favored foreign producers since 1982. Undoubtedly, the 34 percent appreciation of the dollar has been a major cause of this reversal. Foreign consumers found U.S.-made products considerably more expensive, while U.S. consumers found foreign-manufactured goods increasingly less expensive.

**Chart 4 Manufacturing Trade Balance**  
As a percent of U.S. manufacturing



But the damaging influence of an increased foreign presence in manufacturing markets is inconsistent with the long-term stability in U.S. manufacturing output noted earlier. Consequently, the growth in foreign-manufactured goods in America could be a result of growth in the total demand for manufactured goods by U.S. consumers and industries.

If we track the share of real goods sales relative to total U.S. sales, a surprising growth pattern is evident (chart 5). Since 1977, the United States has been consuming above-average levels of goods. In fact, the share of goods in final sales reached a post-World War II high last year and will probably remain near this relatively high level in 1985.

Stronger growth patterns are evident in the durable goods sector.<sup>2</sup> Between 1960 and 1963, durable goods sales represented 15.75 percent of total U.S. sales. The durable goods share of total sales topped 20 percent during the late 1970s and, in 1984, matched a post-World War II high of 20.3 percent.

A number of factors probably have encouraged the long-term growth in goods demand. For example, the upward trend in the share of durable

2. The Bureau of Economic Analysis defines durable goods as goods with a useful life in excess of three years.

goods to total final sales may be explained by the emergence of the "baby-boom" generation and by a proportionately greater share of single-person households. An increase in household formations produces a strong appetite for durable commodities, such as household furnishings, appliances, and automobiles. Buying habits affected by uncertainty about future inflation, a 1970s phenomenon, would also tend to favor goods markets, particularly durable goods markets, because of their inflation-hedging characteristics.



The relative price effects from the high value of the U.S. dollar and investment tax credits for capital goods are more recent influences on manufactured goods sales. The strength of the dollar depresses the cost of imports. Imports naturally favor goods rather than services (insofar as goods are more easily storable and transportable). Consequently, the strong dollar favors goods consumption over the consumption of services. The increased demand for foreign goods would in some measure spill over into domestic markets and put further downward pressure on U.S. manufactured-goods prices relative to U.S.

services prices. In addition, a liberalization of taxation credits on capital equipment as a result of the Economic Recovery Tax Act of 1981 (ERTA) further encouraged the demand for durable goods through what was in essence a relative price adjustment.

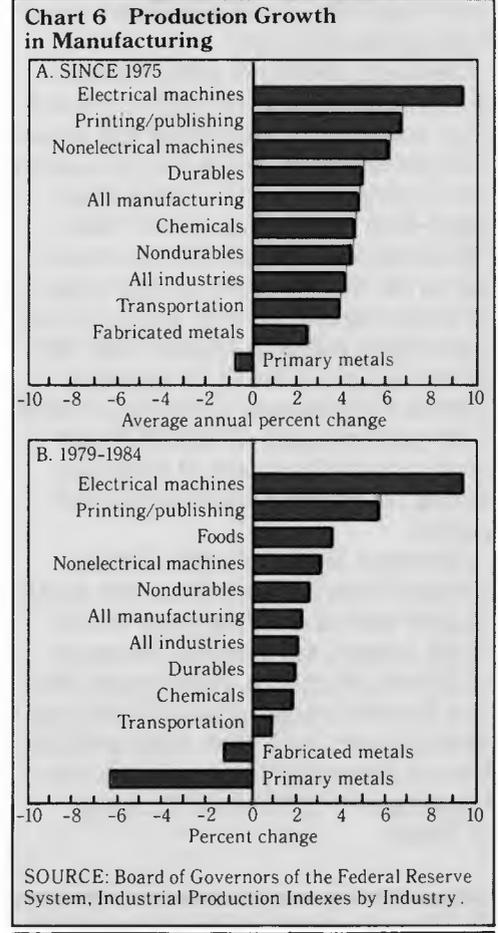
Regardless of source, which admittedly is only speculation, the impression of long-term trends in the U.S. manufacturing sector viewed from the perspective of demand is different from employment data. From a consumption point of view, the United States has actually been moving from a service-based economy to a goods-based economy.

### The Industry Perspective

It should be emphasized that this appraisal of the manufacturing sector is a broad, overall view. There are certain industries within the manufacturing sector that obviously are not enjoying output stability. In the 1960s, the growth of manufacturing output equaled the U.S. industry average; it exceeded the U.S. industry average in the 1970s and has continued to do so in the 1980s. But this aggregate view obscures the dispersion of growth within individual manufacturing industries. For example, since 1975 electrical machinery, chemicals, and printing and publishing industries have led U.S. industrial growth (chart 6A); two manufacturing industries, however—primary and fabricated metals—have seriously fallen behind. In fact, primary metals producers are now generating one-fifth less output than they did in 1975.

Since 1979, the dispersion of manufacturing growth has been somewhat greater (chart 6B). Again, primary and fabricated metals industries registered sizable production declines compared to impressive gains in the electric machinery and printing and publishing industries. In short, primary and fabricated metals industries

which, combined, represented less than 10 percent of American manufacturing output and only 12 percent of American manufacturing employment in 1979, are not characteristic of the manufacturing sector.



### The Regional Perspective

The distributional inequities that may have contributed to the view that the manufacturing sector is shrinking are compounded by the uneven regional distributions of the manufacturing sector. States in the East North Central region of the United States, the so-called rust belt, are more heavily occupied by manufacturing industries at the low end of the industrial growth scale. Consequently, despite a relatively stable share of manufacturing output in the United States, the share of manufacturing output among geographic regions has been shifting.

The contributions to total U.S. manufacturing in the Fourth Federal Reserve District states of Ohio, Pennsylvania, and West Virginia declined from 1963 to 1982, although less dramatically than in particular urban areas (like Cleveland, Ohio), where primary and fabricated metals are most heavily concentrated.

Between 1963 and 1982 (the latest data available), the share of total U.S. manufacturing output fell about 2.04 percent in Ohio and 1.86 percent in Pennsylvania (chart 7). Only Michigan (-2.05 percent) and New York (-2.53 percent) showed worse manufacturing output shifts at the state level during that 20-year interval. Contrast these regional trends with the states of California (2.52 percent), Florida (0.98 percent), North Carolina (1.09 percent), and Texas (2.77 percent), where the share of manufacturing output exploded during that period.

Between 1963 and 1982, Texas jumped from its position as the ninth-largest manufacturing state to the third largest, surpassing the states of Illinois, Michigan, New Jersey, Ohio, and Pennsylvania in manufacturing prominence. Only New York and California generated more manufacturing output in 1982 than the state of Texas.

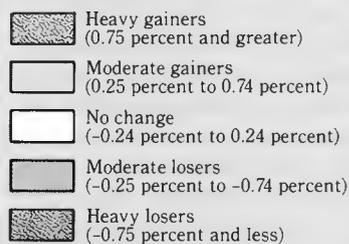
### Is Manufacturing Disappearing?

Uneasiness about the state of U.S. manufacturing invites a number of policy prescriptions. One obvious

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**Chart 7 Shifts in Manufacturing Shares: 1963-1982**  
 Nominal dollars



SOURCE: U.S. Department of Commerce, Bureau of Census (1982 Census of Manufacturers by State).



“remedy” is to protect U.S. manufacturers from foreign competition. Such a strategy would have a number of impacts, but improving the condition of U.S. manufacturing might not be one of them. It is possible that reducing the amount of low-cost imports into service markets, or even savings markets. Further, it would discourage the growth in manufacturing productivity and distort the appropriate allocation of U.S. resources.

Others have suggested that a more stimulative stance by U.S. economic policymakers might cure the manufacturing sector. This approach may only serve to encourage U.S. demand for foreign production and to further erode the U.S. manufacturing share of the world manufacturing market. Moreover, excessively stimulative domestic policies could lay the foundation for U.S. inflationary pressures in the future.

Bemoaning the demise of American manufacturing might simply be unwarranted. From an employment perspective, manufacturing is declining—it has done so virtually non-stop since 1953. Similar downward trends in manufacturing employment and output are clearly evident in certain industries (such as primary and fabricated metals) and in some regions (such as Ohio and Pennsylvania). Other industries and regions, however, have had relatively strong growth over the past 20 years. On the whole, U.S. manufacturing output has demonstrated remarkable long-term stability. From a demand perspective, the U.S. economy has been drifting from a services base to a manufacturing base.

Before we put the U.S. manufacturing sector on the endangered species list, we need to evaluate it from more than one perspective. And, in the words of a popular cliché, “If it ain’t broke, don’t fix it.”

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