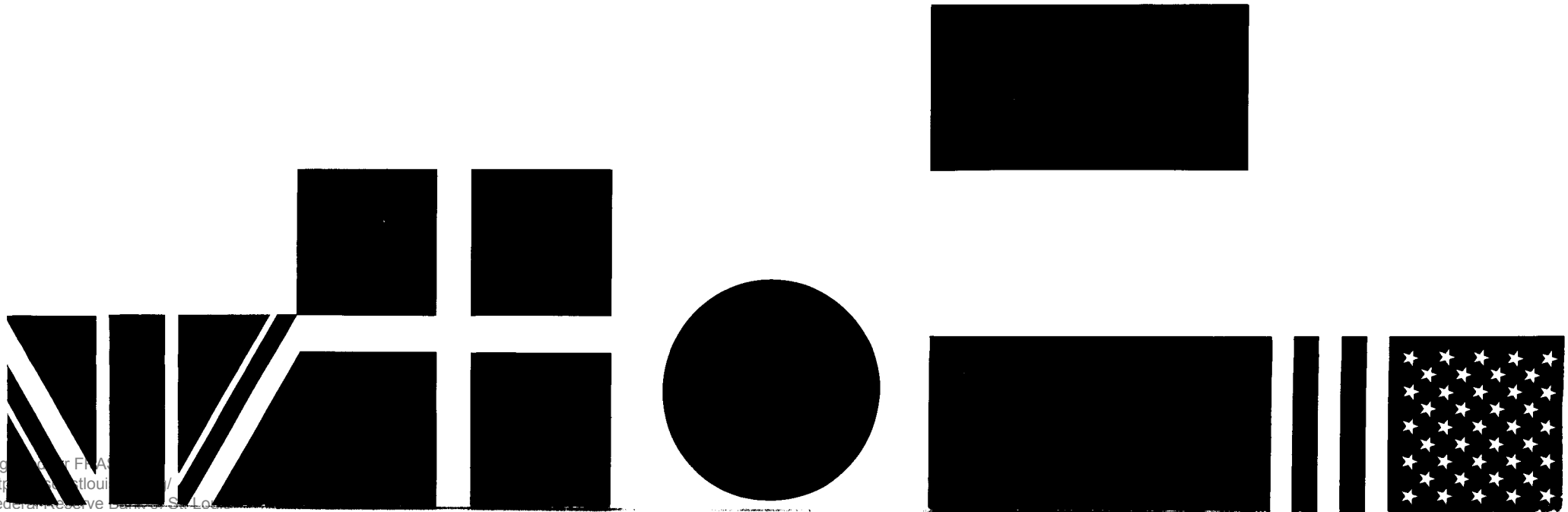
# Comparative Growth in Manufacturing Productivity and Labor Costs in Selected Industrialized Countries

U.S. Department of Labor
Bureau of Labor Statistics
1977

Bulletin 1958



# Comparative Growth in Manufacturing Productivity and Labor Costs in Selected Industrialized Countries

U.S. Department of Labor
Ray Marshall, Secretary
Bureau of Labor Statistics
Julius Shiskin, Commissioner
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# Preface

This bulletin is one of a series of BLS studies providing comparative measures of productivity for the United States and other industrialized countries. Other studies include *Unit Labor Cost in Manufacturing: Trends in Nine Countries, 1960-65* (Bulletin 1518, 1966); *An International Comparison of Unit Labor Costs in the Iron and Steel Industry, 1964: United States, France, Germany, United Kingdom* (Bulletin 1580, 1968); and the chartbook *Productivity: An International Perspective* (Bulletin 1811, 1974).

Jerome A. Mark, Assistant Commissioner for Productivity and Technology, Bureau of Labor Statistics, presented the findings of this study at the Workshop on Recent Progress in Productivity Measurement and Prospects, held in Copenhagen, Denmark, in October 1976. This bulletin incorporates certain data refinements and minor textual revisions.

The bulletin was prepared by Assistant Commissioner Mark and by Arthur Neef, Patricia Capdevielle, and other staff members of the Bureau's Office of Productivity and Technology, Division of Foreign Labor Statistics and Trade, John Chandler, Chief.

# Contents

# Introduction

For many years the Bureau of Labor Statistics has provided comparative measures of labor statistics for the United States and other industrialized countries to shed light on U.S. economic performance relative to these countries. The principal measures developed cover productivity, hourly compensation, and unit labor costs, as well as labor force, employment, and unemployment.

With regard to productivity, comparative trends in output per hour in the manufacturing sector are compiled and published annually for the United States and 11 other industrialized countries. These are time series generally starting with 1950 and expressed in index form (1967=100). Because of its principal interest in labor costs and the greater availability of current labor input data, the Bureau has directed its attention to measures of output per unit of labor input, i.e., labor productivity measures. In addition, the Bureau prepares corresponding hourly compensation and unit labor cost indexes to indicate the relationship between productivity movements and cost movements in the various countries.

The all-manufacturing measures are limited to trend comparisons, i.e., intercountry series of productivity and cost changes over time, rather than level comparisons, because of the difficulties involved in developing an adequate and comprehensive set of intercountry measures of absolute levels of productivity and because of the need to have current information on changes in relative performance of the countries. The requirements for developing a suitable set of level comparisons generally preclude the possibility of deriving current measures.

In comparing productivity levels, the data needs are rigorous, because any inconsistency is likely to be reflected fully in the relative level measure. Therefore, it is extremely important that data on output and input within each country be carefully matched and that coverage and definitions be closely aligned between countries. In addition, when making bilateral comparisons, it is desirable to use weighting systems from both countries wherever possible.

In comparing trend measures, some data inconsistencies can be tolerated because their effects are not likely to alter the comparative trends appreciably. This is so especially where a consistent error is carried within a series over a period of years.

# Concepts and Methods

The BLS indexes of manufacturing output per hour, hourly compensation, and unit labor costs in 12 countries are derived from available country sources of data. Comparisons are necessarily limited because statistical concepts and methods in each country are fashioned to meet domestic needs rather than international needs. In some cases, a country's data can be adjusted, if necessary, to achieve greater consistency with other countries' series. More often, however, it is only possible to point out the main inconsistencies. Inconsistencies can arise from differing definitions or concepts, and from differing methods of compiling data among countries. For instance, it cannot be taken for granted that each country means precisely the same thing when using such common terms as manufacturing, or production, or employee, or hours, or compensation. Denmark, for example, excludes handicraft work from its manufacturing classification. Other countries have regarded certain repair work, such as auto repair or shoe repair, as manufacturing production.

In deriving these measures the Bureau has confronted many of the conceptual problems and data limitations that are inherent in international comparisons, and it has developed some accommodations that satisfy practical needs, at least, if not all theoretical conditions.

The *output component* of the measures refers to constant value gross product originating or value added in all countries.[1] The data are from the national accounts for all countries except Japan and Switzerland. The methods used to compile the real output measures, however, differ considerably among the 12 countries.

The United States, Belgium, Germany, Italy, and Sweden measure the trend in real output by using some variant of a deflated value measure, involving deflation of both material input values and output values by appropriate price indexes. In the other countries, the estimation procedure involves some form of extrapolation of base-year value added, using deflated values, quantity indicators, or a mixture of the two. Canada and France extrapolate both inputs and outputs, and the remaining countries generally use gross output indicators only. In addition, the weighting structure, the frequency of revision, the use of proxy measures, and the method of linking with earlier series vary considerably. An indication of the problems with present measures of manufacturing output can be found in the magnitude of revisions that have been made from time to time in several countries, including the United States.

[1] A description of the measures for each country is presented in appendix A to this report.

Another indication is that, in the eight countries that have more than one production series, the differences between series are often substantial.

*Employment* customarily means wage and salary employment, excluding the self-employed and unpaid family workers. However, a preferable concept would cover all persons engaged in manufacturing. For the United States and Canada, the labor input measure pertains to all persons. For Switzerland, the data cover wage earners only, and for the other countries, the data apply to employees only, because of a dearth of information about other employed persons. Also, the employment data for one country (Germany) do not cover persons in establishments of less than 10 workers.

*Total hours* data represent "hours worked" for most of the countries but "hours paid" for the United States and Switzerland. The preferred measure is hours worked, rather than hours paid for. Hours worked are also described as hours at work or plant hours. The Bureau has explored the problems of developing a series on hours worked in the United States, but it may be a long time before such a change can be made.

Estimates of total hours generally must be made without information on the number of hours worked by salaried employees.

The concept of *compensation* presents difficulties that involve both the source of payment and the purpose of payment. The Bureau's general view is that compensation (labor cost) should cover all employer expenditures that are ordinarily allocated to labor. Included would be direct pay in cash or in kind, before any deductions, and all payments into funds for the benefit of employees. Because of measurement difficulties, certain costs of hiring and retaining an effective work force, such as recruitment and training costs, subsidies for lunchrooms and similar plant facilities, and plant medical and welfare services, are not included. On ther other hand, certain payroll-related taxes that are not of direct benefit to employees have been included. Examples are the 5-percent payroll tax that applied in France until December 1968 and the British Selective Employment Tax (SET) that was introduced in 1966 and discontinued several years later. Employee benefits that are not derived directly from employers or from employer-financed funds are not included as compensation. An example is the value of benefits received from the British National Health System, which is financed out of general public revenues.

Data on total compensation are available from national accounts for nine of the countries studied. For France, Belgium, and Switzerland, estimates are constructed from data on average earnings, average compensation, employment, and average hours.

# What the Data Show

As indicated earlier, the Bureau's series for most of the countries begin with the year 1950. However, principal attention has been given to the period from 1960 to the present. The decade of the 1950's was an important period of reconstruction and growth, but it was a period of transition in several respects. For many of the countries, the post-World War II phase of restoration and rebuilding of capital facilities lasted well into the 1950's, the worldwide dollar shortage tended to dominate international economic decisions, and many restrictions on the movement of goods and supplies were still in effect. Consequently, the productivity and cost experience of the period is no longer very pertinent to current international conditions. Also, the data systems for all of the countries were less refined than they have become, so that measures of productivity and labor costs during the 1950's may be less reliable than recent measures.

## Productivity

Looking at the results over the past 15 years, output per hour in manufacturing has risen at an annual rate between 4 percent and 7 percent for most countries. The conspicuous exceptions are the United States, which shows an average rise of less than 3 percent per year, and Japan, where the average rate has been over 9 percent per year. Within Europe, the smaller nations have shown a much better performance than the larger countries. The European countries included here showing the most vigorous gains since 1960 have been Denmark, Netherlands, Belgium, and Sweden. Similarly, in North America, the smaller economy, Canada, has shown the higher rate of productivity gain.

The productivity gains in each of the countries reflected different output and input movements. In North America and Japan, manufacturing output rose more than productivity so that the productivity gains were associated with labor input increases. In most European countries, however, the pattern was reversed; average productivity gain over the entire period 1960-75 exceeded output growth, reflecting a general decline in total hours. The exceptions were France and Italy, where average output gains slightly exceeded productivity gains. The relationship between trends in productivity, output, and hours is shown graphically in chart 1. The changes over the past 15 years are summarized in table 1. Supporting details are shown in appendix tables B-1 through B-17.

Within the period, there were marked changes in the relative productivity growth rates both within and among the countries. During the first 5 years—from 1960 to 1965—although most countries showed productivity increases averaging from 4 to 7 percent per year, the United States had a substantially higher rate than it did for the entire period and was much more in line with the rates for most of the other countries (table 2).

Japan led in productivity growth during the early years as it did throughout the entire period, but the difference between its rate and that of other countries during the first 5 years was not as great as it was to become. On the other hand, Switzerland

**Table 1. Output per hour, output, and hours in manufacturing: Average annual rates of change, 12 countries, 1960-75**

(Percent)

| Country | Output per hour | Output | Hours |
|---|---|---|---|
| United States | 2.7 | 3.8 | 1.1 |
| Canada | 4.0 | 5.7 | 1.6 |
| Japan | 9.7 | 11.2 | 1.4 |
| Belgium | 7.0 | 6.1 | −.8 |
| Denmark | 7.2 | 5.7 | −1.4 |
| France | 5.6 | 6.0 | .4 |
| Germany | 5.7 | 5.0 | −.7 |
| Italy | 6.2 | 6.4 | .2 |
| Netherlands | 7.1 | 5.8 | −1.2 |
| Sweden | 6.6 | 5.2 | −1.4 |
| Switzerland | 5.1 | 4.1 | −.9 |
| United Kingdom | 3.8 | 2.7 | −1.1 |

NOTE: The percent changes are computed from the least squares trend of the logarithms of the index numbers.

**Chart 1. Indexes of output per hour, output, and hours in manufacturing, 12 countries, 1960-75**

(1960=100; ratio scale)

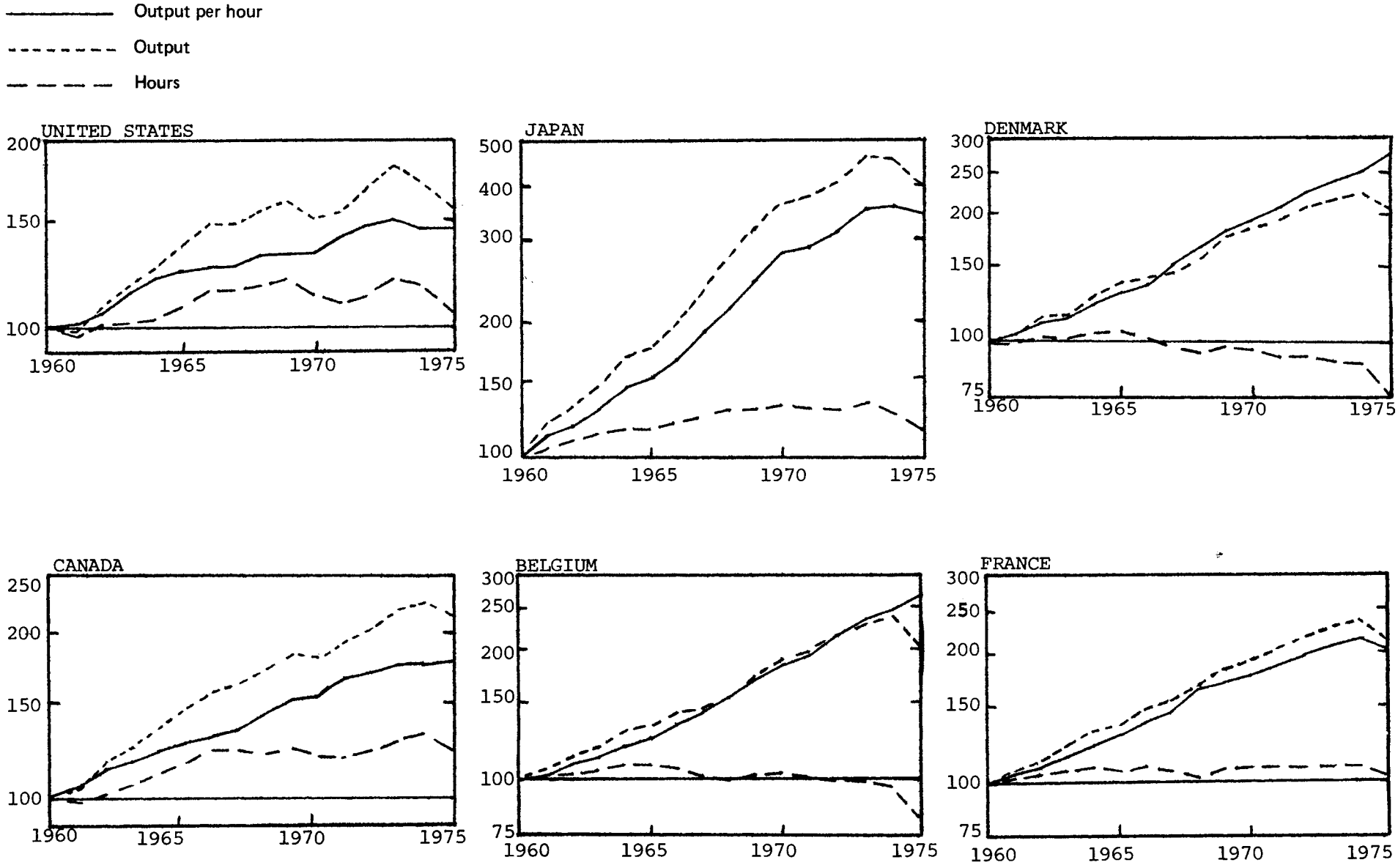


**Chart 1. Indexes of output per hour, output, and hours in manufacturing, 12 countries, 1960-75—Continued**

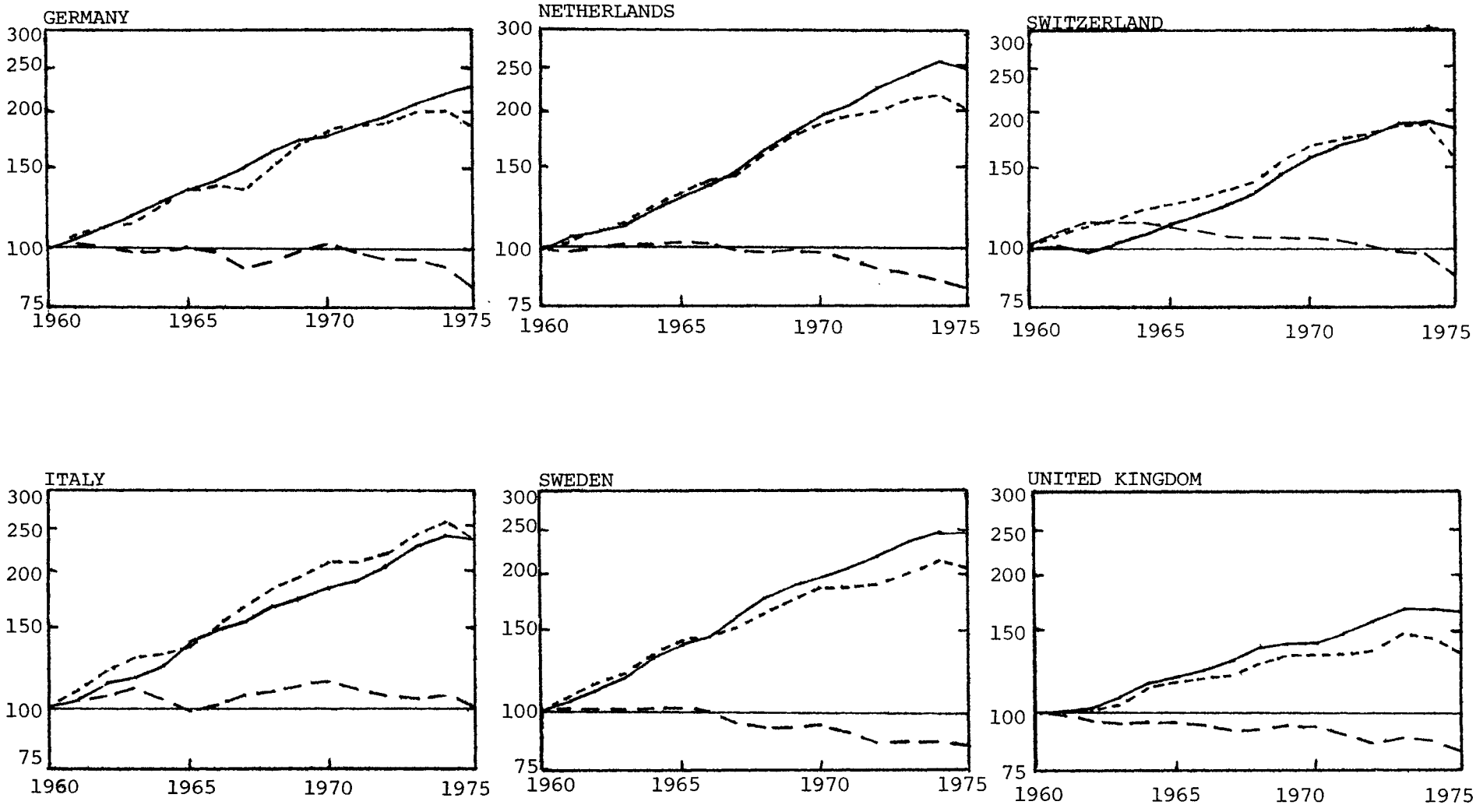


**Table 2. Output per hour in manufacturing: Average annual rates of change, 12 countries, 5-year periods, 1960-75**

(Percent)

| Country | 1960-75 | 1960-65 | 1965-70 | 1970-75 |
|---|---|---|---|---|
| United States | 2.7 | 4.9 | 1.4 | 1.8 |
| Canada | 4.0 | 4.5 | 4.5 | 2.7 |
| Japan | 9.7 | 8.5 | 13.4 | 5.4 |
| Belgium | 7.0 | 4.8 | 8.0 | 7.6 |
| Denmark | 7.2 | 5.4 | 8.7 | 6.8 |
| France | 5.6 | 5.2 | 6.7 | 3.4 |
| Germany | 5.7 | 6.4 | 5.6 | 5.4 |
| Italy | 6.2 | 6.8 | 5.3 | 6.0 |
| Netherlands | 7.1 | 5.0 | 8.7 | 5.8 |
| Sweden | 6.6 | 7.1 | 7.6 | 5.0 |
| Switzerland | 5.1 | 2.3 | 6.7 | 3.5 |
| United Kingdom | 3.8 | 4.1 | 3.7 | 3.1 |

NOTE: The percent changes are computed from the least squares trend of the logarithms of the index numbers.

experienced very modest productivity growth during the period, substantially lower than all the countries examined.

During 1965-70 some pronounced changes took place. Japan's rate of increase rose to the remarkable level of 13.4 percent per year, and four other countries showed gains of over 7 percent per year. In the United States, however, the average fell to 1.4 percent per year. Altogether, 8 of the 12 countries equalled or exceeded their rates of gain in the previous period.

In the most recent 5-year period, 1970-75, the situation reversed itself to a great extent. All but two of the countries showed a slower rate of gain in productivity than in the previous 5 years. Most noteworthy was the change for Japan, which dropped from a 13.4-percent to a 5.4-percent rate of gain, still a very substantial rate of productivity improvement. Only the United States and Italy were able to improve upon their 1965-70 performance, but the United States continued to show the slowest rate (1.8 percent) among all the countries.

It is difficult to ascertain the sources of the differences in productivity growth among the countries, particularly at the manufacturing level. It is also difficult to separate the short-term cyclical effects on productivity change from the longer term factors. BLS has not attempted to do this. It would appear, however, that the decelerations which occurred in most countries in recent years were strongly influenced by the greater severity of the recent recessions. The years between 1960 and 1970 were remarkably free of serious industrial recession, judging from trends in manufacturing output. In most countries there was a mild slowdown in growth during 1966-67 and a sharper slowdown during 1970-71, but few countries showed actual output declines during either period. It was not until the recent widespread recession of 1974 and 1975 that sharp declines in output occurred in most countries and were accompanied by productivity declines in most cases.

## Labor costs

Productivity movements can be viewed in conjunction with changes in hourly compensation in order to understand the implications for unit labor cost changes among countries.

The average rate of gain in employee compensation in manufacturing has accelerated in almost all countries since the early 1960's (table 3). In the latter half of the 1960's, 7 of the 12 countries showed a higher rate of gain in hourly compensation. During 1970-75, the rate of gain accelerated in all countries without exception. However, the countries that showed the lowest annual gain in compensation since 1960 were also those that showed the least productivity gain (United States, United Kingdom, Canada, and Switzerland). Japan showed the highest rate of increase in average compensation and also in productivity.

In brief, the rate of change in compensation has accelerated since the 1960's while the rate of productivity gain has slowed down. Consequently, unit labor costs have surged in recent years in close association with price increases.

The decade of the 1960's was a period of relative cost stability, with manufacturing unit labor costs rising at annual rates ranging from 1.5 percent to 4 percent among the countries. An important shift occurred during the decade, however. The United States showed an average annual decline in costs of 1 percent during 1960-65,

**Table 3. Hourly compensation in manufacturing: Average annual rates of change, 12 countries, 5-year periods, 1960-75**

(Percent)

| Country | 1960-75 | 1960-65 | 1965-70 | 1970-75 |
|---|---|---|---|---|
| United States | 5.6 | 3.5 | 6.1 | 8.0 |
| Canada | 7.0 | 3.6 | 7.6 | 10.0 |
| Japan | 15.6 | 13.2 | 15.3 | 20.7 |
| Belgium | 11.6 | 9.6 | 9.3 | 16.9 |
| Denmark | 12.2 | 9.6 | 12.5 | 15.5 |
| France | 10.4 | 9.2 | 9.3 | 15.1 |
| Germany | 10.2 | 9.6 | 8.3 | 13.3 |
| Italy | 13.3 | 13.6 | 9.4 | 22.1 |
| Netherlands | 13.0 | 11.3 | 12.0 | 16.0 |
| Sweden | 10.9 | 10.2 | 9.8 | 14.1 |
| Switzerland | 9.0 | 8.8 | 7.1 | 11.9 |
| United Kingdom | 9.7 | 6.4 | 7.6 | 16.4 |

NOTE: The percent changes are computed from the least squares trends of the logarithms of the index numbers.

**Table 4. Unit labor costs in manufacturing, based on national currency values: Average annual rates of change, 12 countries, 1960-75**

(Percent)

| Country | 1960-75 | 1960-65 | 1965-70 | 1970-75 |
|---|---|---|---|---|
| United States | 2.9 | −1.3 | 4.6 | 6.1 |
| Canada | 2.8 | −.9 | 3.0 | 7.1 |
| Japan | 5.4 | 4.3 | 1.7 | 14.5 |
| Belgium | 4.2 | 4.6 | 1.2 | 8.7 |
| Denmark | 4.6 | 4.0 | 3.5 | 8.1 |
| France | 4.5 | 3.8 | 2.4 | 11.4 |
| Germany | 4.2 | 3.0 | 2.5 | 7.5 |
| Italy | 6.7 | 6.3 | 3.8 | 15.2 |
| Netherlands | 5.5 | 5.9 | 3.0 | −9.7 |
| Sweden | 4.0 | 3.0 | 2.1 | 8.7 |
| Switzerland | 3.8 | 6.3 | .4 | 8.2 |
| United Kingdom | 5.7 | 2.2 | 3.7 | 12.9 |

NOTE: The percent changes are computed from the least squares trend of the logarithms of the index numbers.

while Japan and most European countries showed increases averaging from 3 percent to 6 percent (table 4). During 1965-70, the situation reversed as U.S. unit labor costs rose at a 4.6-percent annual rate while the rate was below 4 percent for all other countries. Then, in 1970-75, unit labor costs rose explosively. The average annual increase in 1970-75 was higher than in 1965-70 for all 12 countries, ranging from 6 percent for the United States up to about 15 percent for Japan and Italy.

For international comparisons, currency revaluation is an additional factor that influences the trend in unit labor costs. When trends in national units are converted to a U.S. dollar basis, the measures of increase in unit labor costs are more pronounced, especially in recent years (table 5). During the 1970-75 period, the exchange value of the U.S. dollar declined in relation to the currencies of nine of the other countries. Consequently, unit labor costs in those nine countries rose more sharply in U.S. dollar terms than in national currency terms. Only in Italy and the United Kingdom, where severe devaluations occurred in recent years, did unit labor costs on a dollar basis rise somewhat less than on a national currency basis.

Where there is relative stability in growth of hourly compensation, changes in unit labor costs display a close inverse relation to changes in output per hour. When changes in these two rates are charted, they tend to show a mirror image of each other. (See chart 2.) This is particularly true of the United States, Sweden, and, until recently, Canada. Where the changes in hourly compensation are more volatile or erratic, as in Italy, the inverse relationship between productivity and unit labor costs is less pronounced. Hourly compensation and unit labor costs show very similar movements in several countries, notably Denmark, Germany, Italy, and the United Kingdom. These relationships illustrate the key role of productivity in holding down unit costs and thereby reducing the inflationary pressures that can be generated by high wage increases.

### Effects of shifts within countries

It is well known that labor productivity indexes based on real gross product and unweighted employee hours reflect the effects of shifts among industries with different net output per hour as well as movements in output per unit of labor input within component industries. In these measures, shifts in industry shares of output and input can affect productivity for manufacturing as a whole even in the absence of productivity growth in the component industries.

For some purposes an overall productivity index should reflect shifts over time in the importance of industries in addition to productivity changes within industries. For other purposes it should not. In any event, it is useful to explore how much of the total productivity change was a result of the contribution of each of these components; that is, to disaggregate the total change into the portion resulting from component industry productivity changes, the portion resulting from shifts in the mix, and the portion resulting from the interaction between productivity changes and changes in the mix.

Since productivity is the ratio of output to input, the relative importance of the industries can be defined in terms of either the numerator or the denominator. Consequently, the total productivity change can be partitioned into the contribution from shifts in the shares of industry output, industry productivity change, and

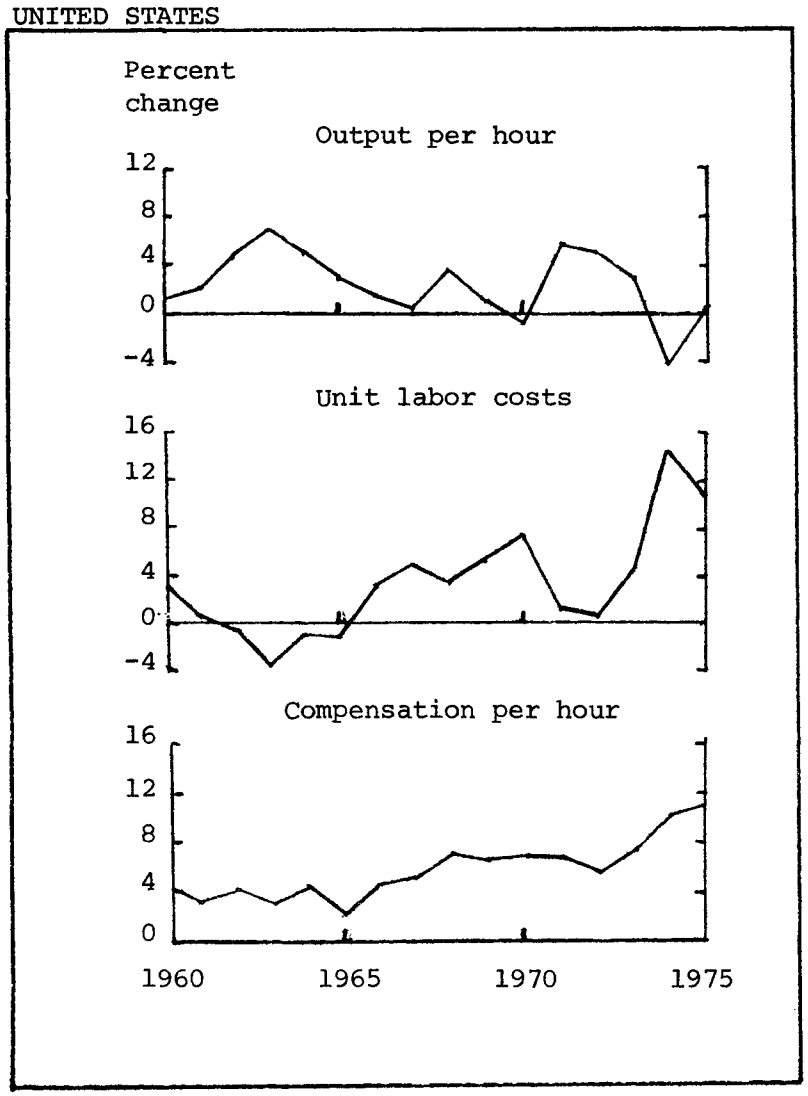
**Table 5. Unit labor costs in manufacturing, based on U.S. dollar values: Average annual rates of change, 12 countries, 1960-75**

(Percent)

| Country | 1960-75 | 1960-65 | 1965-70 | 1970-75 |
|---|---|---|---|---|
| United States | 2.9 | −1.3 | 4.6 | 6.1 |
| Canada | 3.1 | −3.0 | 3.5 | 7.8 |
| Japan | 7.1 | 4.2 | 1.9 | 19.8 |
| Belgium | 6.1 | 4.7 | 1.1 | 16.1 |
| Denmark | 5.4 | 3.9 | 1.6 | 14.7 |
| France | 4.8 | 3.8 | .2 | 17.3 |
| Germany | 7.6 | 3.7 | 4.1 | 17.3 |
| Italy | 6.7 | 6.2 | 3.8 | 14.0 |
| Netherlands | 7.7 | 6.7 | 3.0 | 18.6 |
| Sweden | 5.2 | 3.0 | 2.0 | 13.9 |
| Switzerland | 6.5 | 6.2 | .5 | 20.3 |
| United Kingdom | 4.0 | 2.1 | −.3 | 11.2 |

NOTE: The percent changes are computed from the least squares trend of the logarithms of the index numbers.

**Chart 2. Changes in output per hour and labor costs in manufacturing, 12 countries, 1960-75**



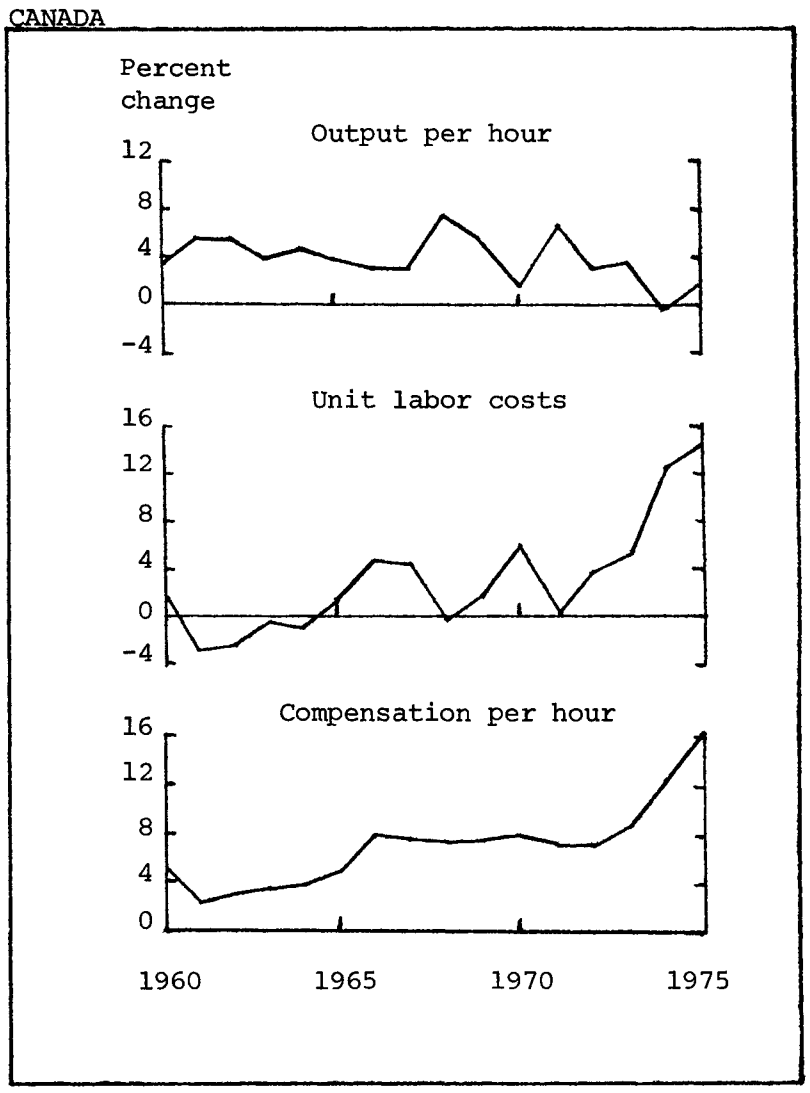
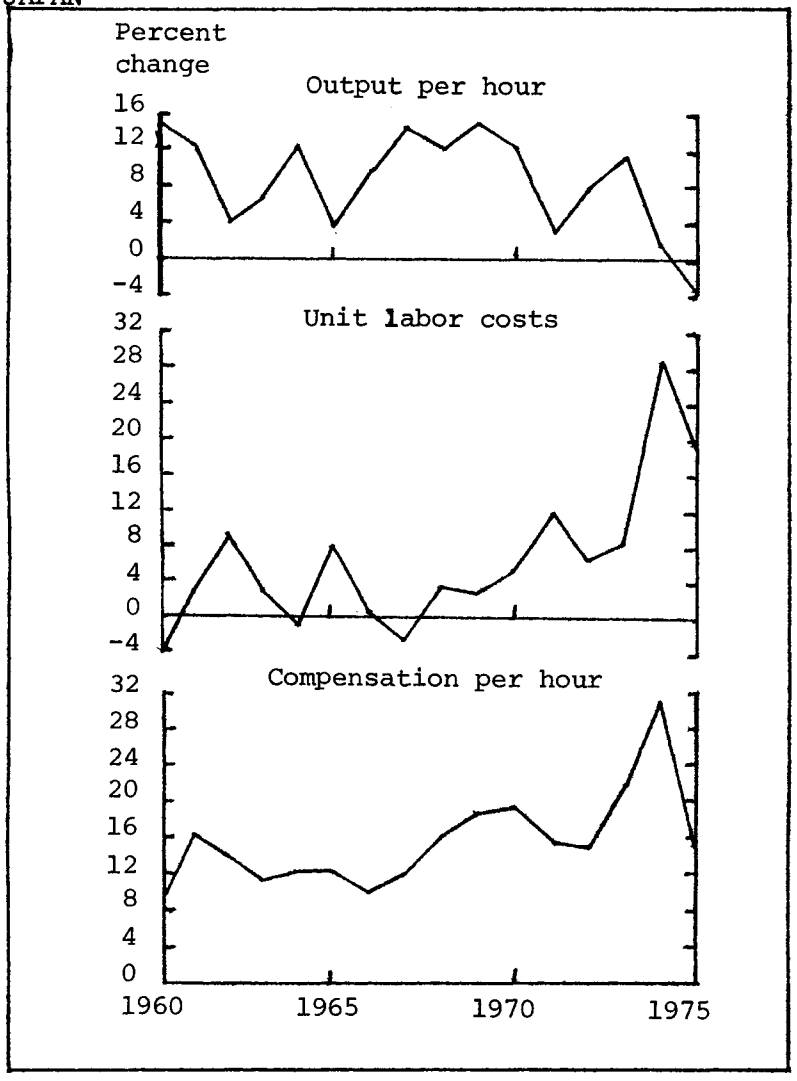



**Chart 2. Changes in output per hour and labor costs in manufacturing, 12 countries, 1960-75—Continued**

JAPAN




BELGIUM

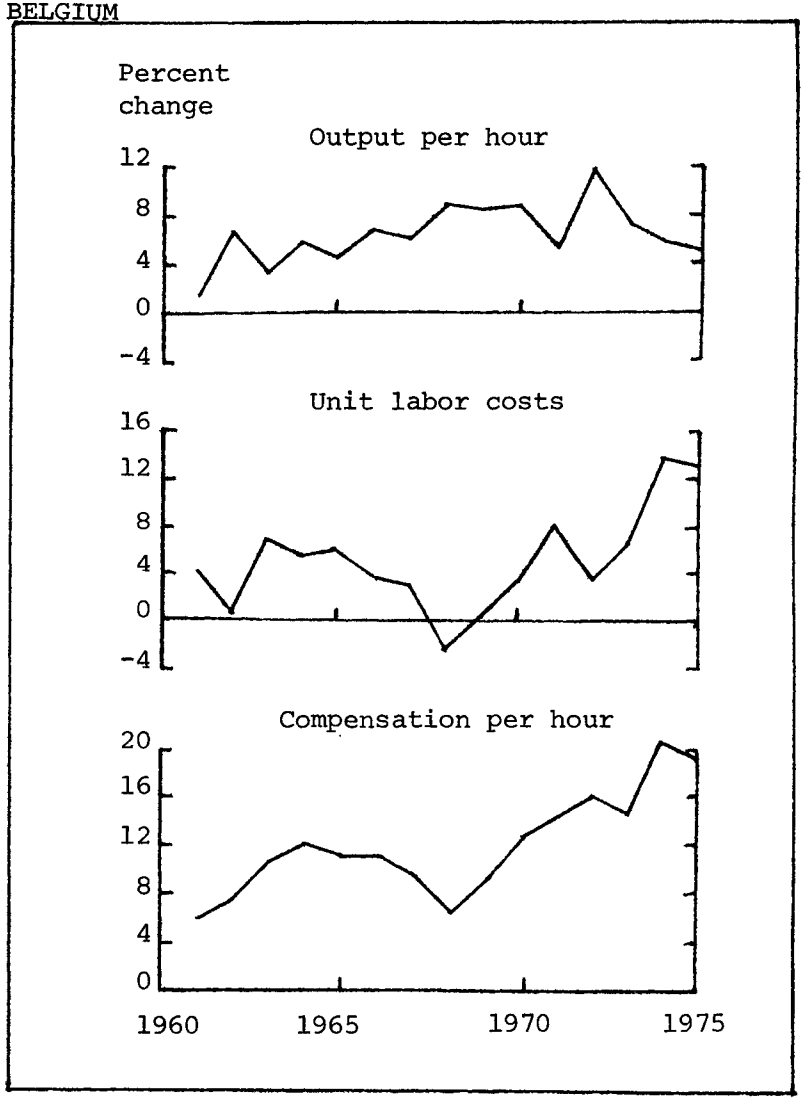
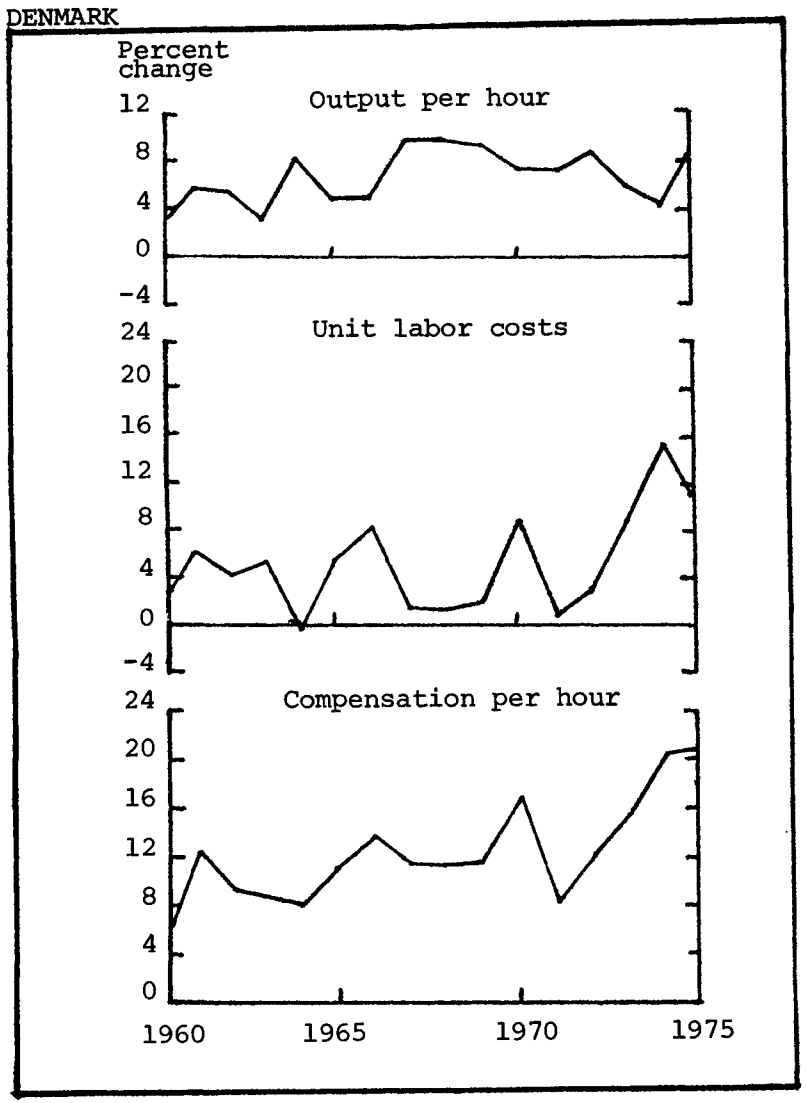


**Chart 2. Changes in output per hour and labor costs in manufacturing, 12 countries, 1960-75—Continued**



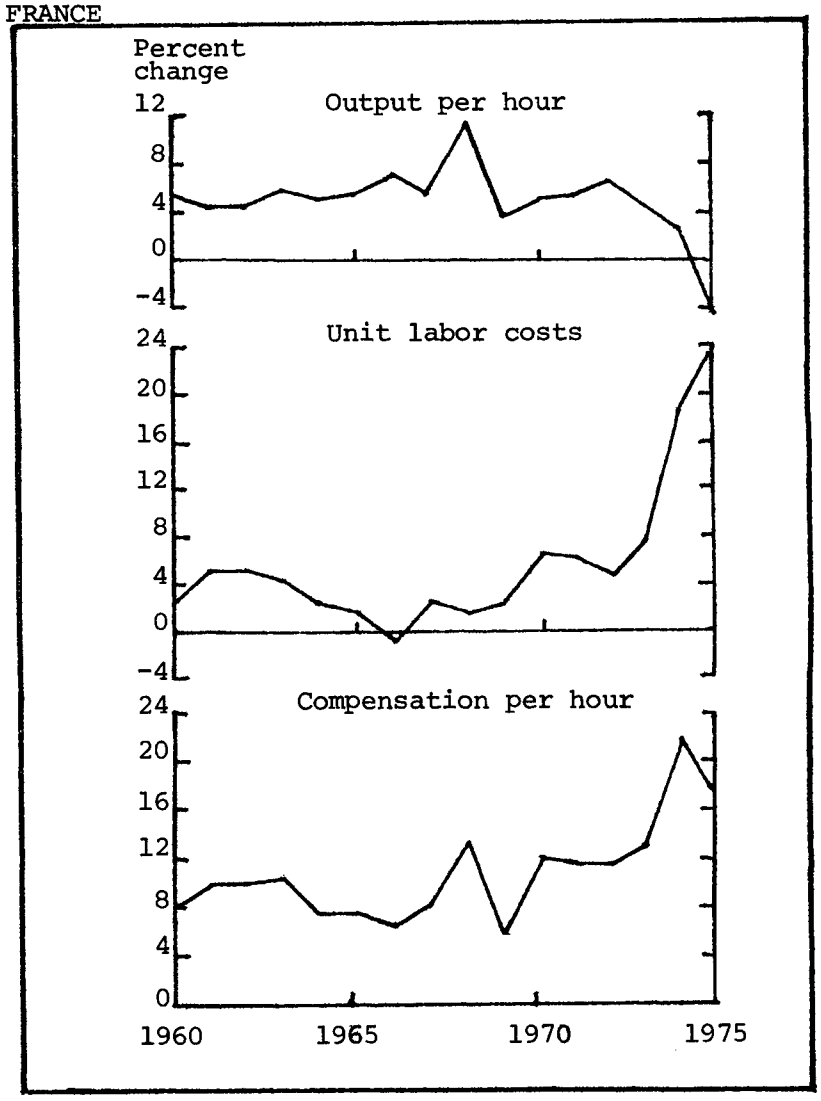
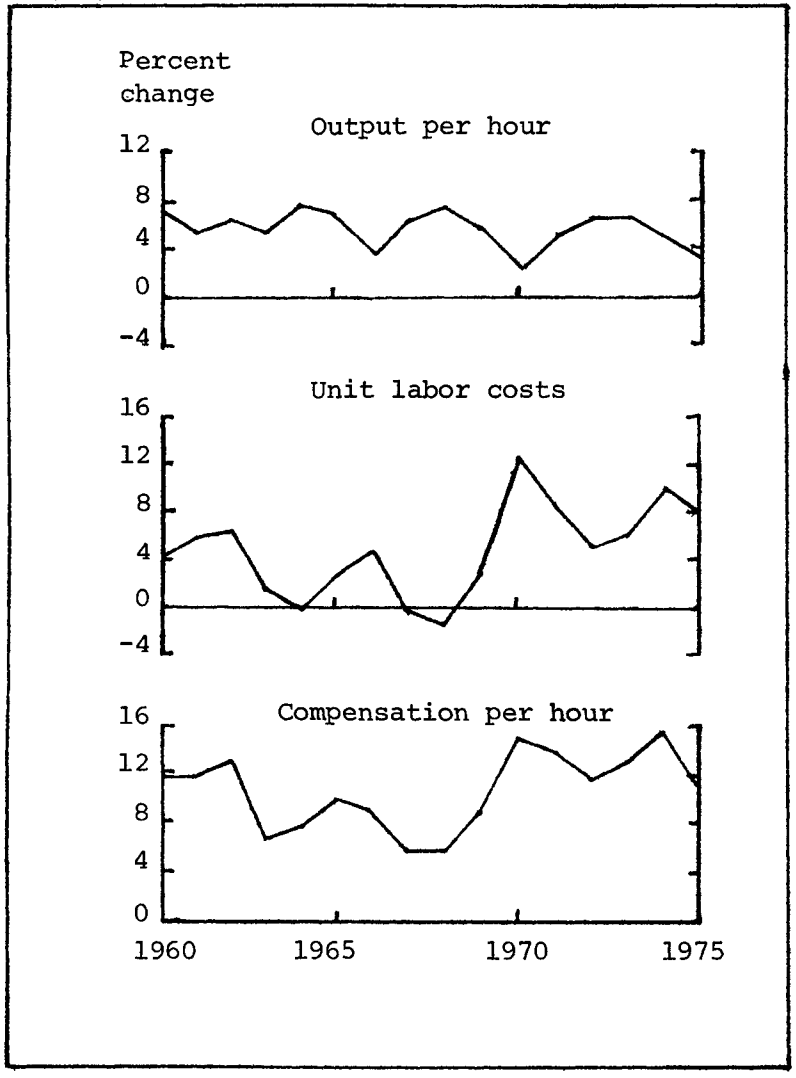



**Chart 2. Changes in output per hour and labor costs in manufacturing, 12 countries, 1960-75—Continued**

GERMANY




ITALY

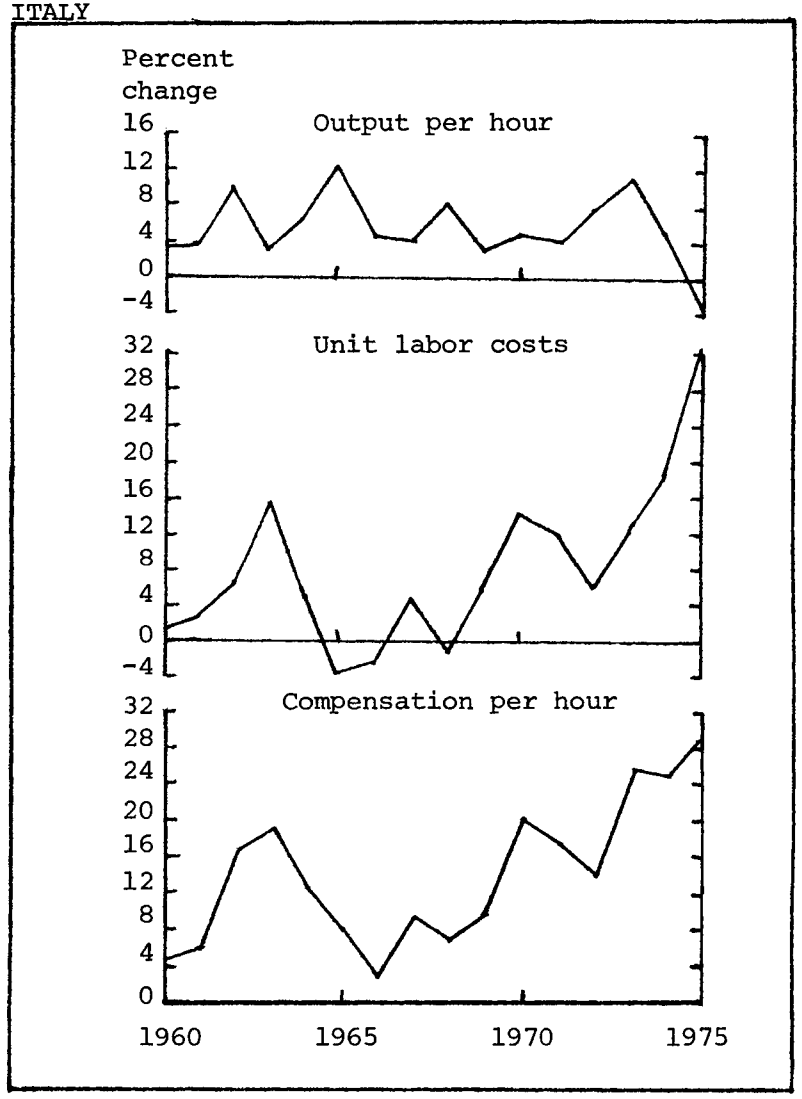
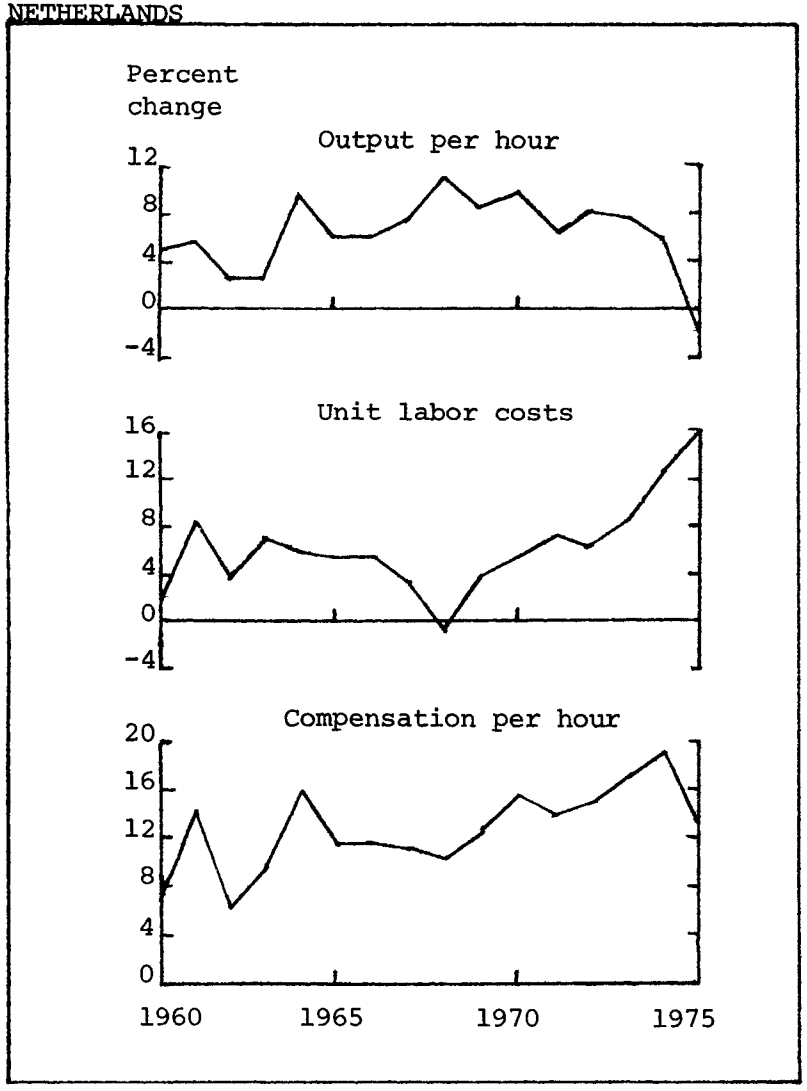


**Chart 2. Changes in output per hour and labor costs in manufacturing, 12 countries, 1960-75—Continued**

NETHERLANDS




SWEDEN

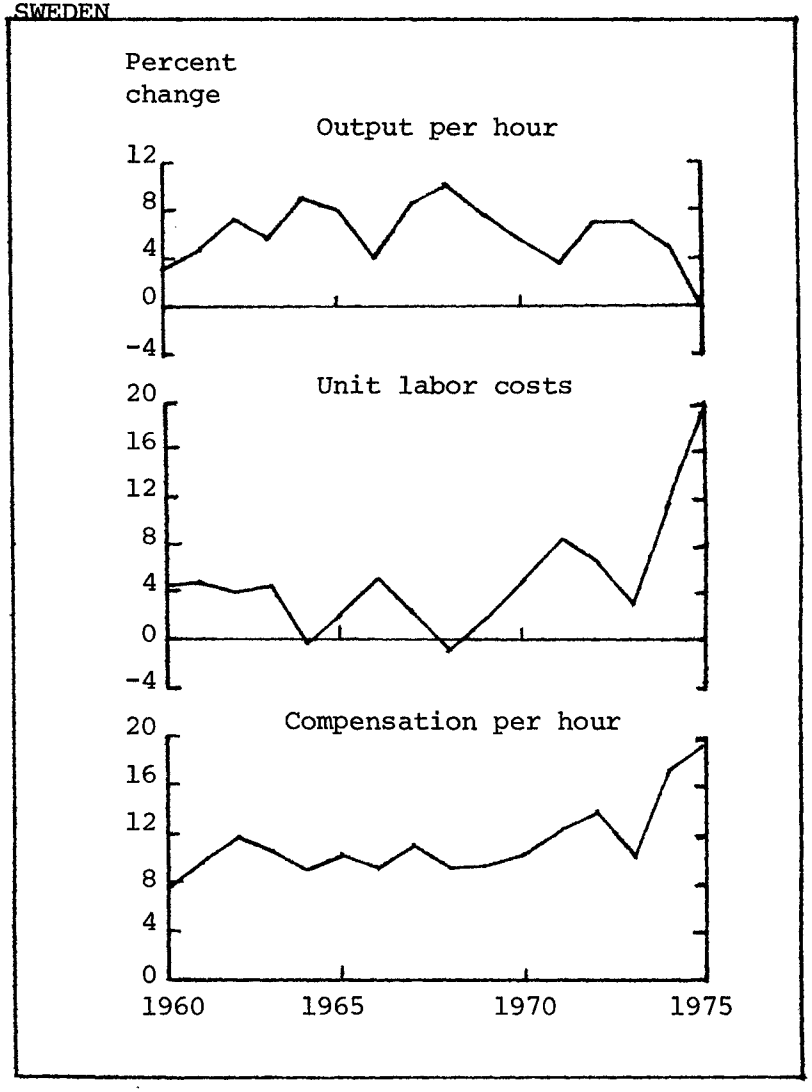
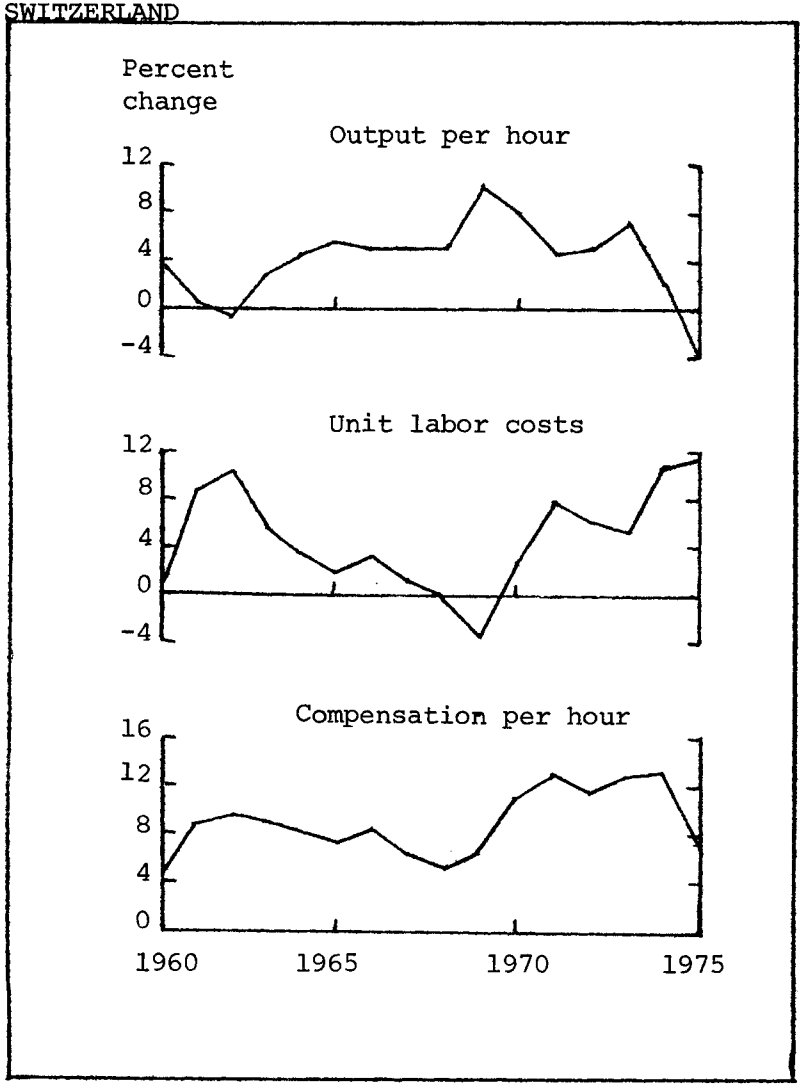
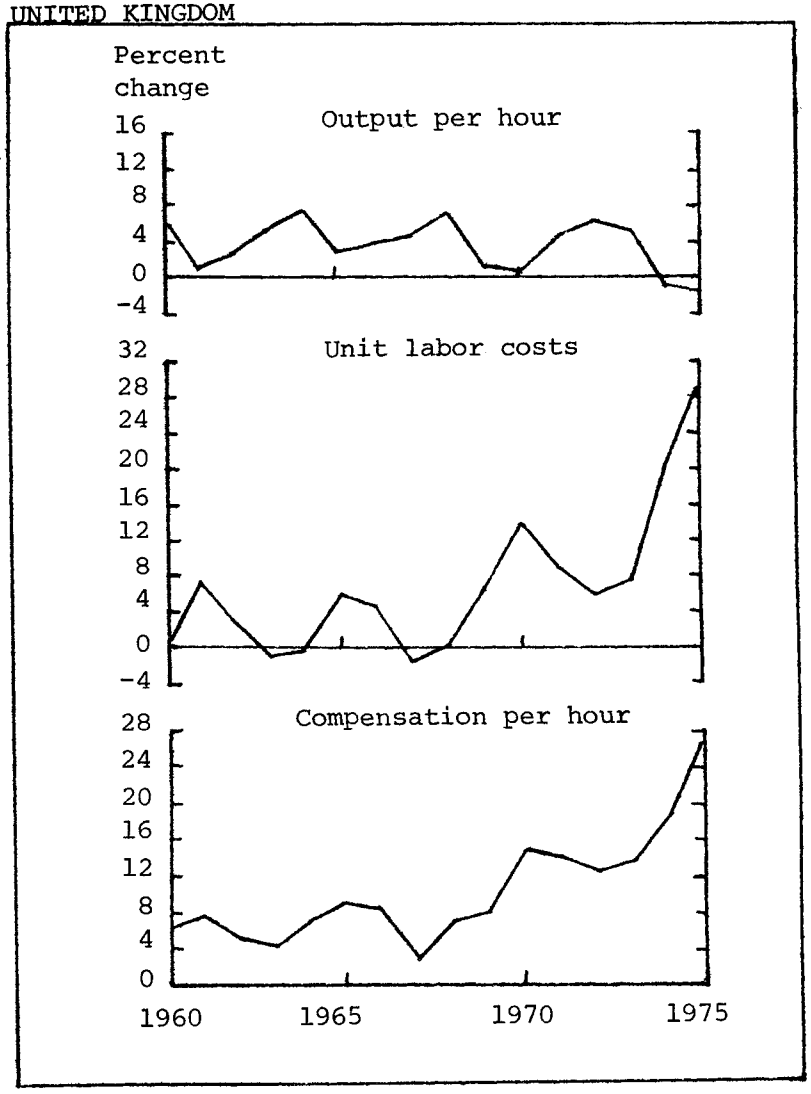


**Chart 2. Changes in output per hour and labor costs in manufacturing, 12 countries, 1960-75—Continued**

SWITZERLAND




UNITED KINGDOM



interaction or into the contribution from shifts in the share of industry hours, industry productivity change, and this interaction.[2]

To estimate these separate effects, the Bureau assembled the necessary disaggregated output and input data for separate groups of industries within manufacturing for four countries—the United States, Germany, the United Kingdom, and Japan. In order to obtain the desired detail, it was necessary to use some data sources other than those used for the all-manufacturing measures. The individual industry measures, therefore, and the resultant all-manufacturing totals should be considered as preliminary estimates compiled primarily for purposes of analyzing the effect of shifts in output or hours.

For the United States, unpublished output data for the U.S. two-digit Standard Industrial Classification industry groups were available from the national accounts. These output figures are entirely consistent with the published all-manufacturing measure. The labor input figures by industry differ slightly, however, because they exclude the hours of self-employed persons. Data that match the published all-manufacturing measures were not available for the other three countries. For Germany, the necessary output figures were not available in sufficient detail from the national accounts so industrial production indexes were used. For the United Kingdom and Japan, it was necessary to substitute alternative measures of labor input.[3] Consequently, the all-manufacturing productivity indexes constructed from data for the component industries differ from the published all-manufacturing measures. However, while there are some significant year-to-year differences in productivity movements, the constructed and published measures for each country show very similar rates of productivity change over the 1960-74 period (1960 to 1972 for Japan). Results of the shift analysis based on the constructed measures, therefore, probably also apply in general to the published all-manufacturing measures.

It would have been desirable to have separate industry data in as fine detail as possible and at the same time roughly comparable among the countries. However, such data are generally available only at the major industry group level. Moreover, since systems of industry classification are not identical from country to country, it is not possible to achieve precisely matched coverage even for some of the major industries. As a result, the Bureau used data for different groupings of industries which comprise all manufacturing in each country.[4]

Table 6 shows the average annual rates of change in manufacturing labor productivity separated into the effects from shifts in the shares of industry hours, industry productivity change, and their interaction in each of these countries. Annual data for the four countries can be found in appendix tables B-18 through B-21. As can be readily seen, shifts in the importance of industries in terms of hours had virtually no impact on the total productivity change in most years. In each country, the few years

**Table 6. Productivity change in manufacturing by source: Average annual rates, 4 countries, 1960-74**

(Percent)

| Country | Change in output per hour | Source of change | | | Number of industry groups |
|---|---|---|---|---|---|
| | | Productivity change[1] | Shift in hours | Interaction: productivity and shift | |
| United States | 2.68 | 2.70 | −0.02 | −0.01 | 20 |
| United Kingdom | 3.67 | 3.59 | .08 | −.01 | 17 |
| Germany | 5.69 | 5.71 | −.01 | −.01 | 33 |
| Japan (1960-72) | 9.46 | 9.30 | .12 | .03 | 17 |

[1] Productivity change excluding change due to shift in hours and interaction.

NOTE: Components may not add to total because of rounding. Percent changes are a simple average of year-to-year changes.

[2] The following formula was used to estimate the separate effects of shifts in the share of industry hours, industry productivity change, and interaction:

$$\Delta P_t = (\Delta P_t^1 \circ S^1_{t-1}) + (\Delta P_t^2 \cdot S^2_{t-1}) + \ldots + (\Delta P_t^n \cdot S^n_{t-1})$$

(Productivity effect)

$$+ (\Delta S_t^1 \cdot P^1_{t-1}) + (\Delta S_t^2 \cdot P^2_{t-1}) + \ldots + (\Delta P_t^n \cdot S^n_{t-1})$$

(Shift effect)

$$+ (\Delta S_t^1 \circ \Delta P_t^1) + (\Delta S_t^2 \circ \Delta P_t^2) + \ldots + (\Delta S_t^n \circ \Delta P_t^n)$$

(Interaction effect)

where:

$P_t$ is output per hour in all manufacturing in year t

$P_t^1$ is output per hour in the first industry group in year t

$P_t^n$ is output per hour in the nth industry group in year t

$S_t^1$ is the share of total manufacturing hours in the first industry group in year t

$S_t^n$ is the share of total manufacturing hours in the nth industry group in year t

t-1 refers to the value of a variable for the previous year

$\Delta$ is a first difference operator:
$\Delta P_t$ denotes $P_t - P_{t-1}$
$\Delta S_t$ denotes $S_t - S_{t-1}$

[3] There are also some differences in the all-manufacturing output measures for the United Kingdom and Japan. This is because a constant set of weights was used to combine the individual manufacturing industries over the entire period for each country whereas the published all-manufacturing production indexes for both countries include shifts in the weights.

[4] For the United States, all manufacturing was divided into 20 industry groups; for the United Kingdom, 17 groups; for Germany, 33 groups; and for Japan, 17 groups. For industry-by-industry comparisons, data for all four countries were combined into 15 industry groups.

in which shifts in hours had any appreciable impact were usually recession years. In Germany, for example, the greatest effect was in 1974, where the contribution of shifts in hours was 0.7 percentage points to the total productivity change of 3.8 percent. In the United States, large effects also took place in 1974 (with 0.3 percentage points and a total change of −3.9 percent) and in 1961 (with −0.3 percentage points and a total change of 2.4 percent). Both were recession years in the United States but the effects were in the opposite direction. The United Kingdom had a very substantial shift effect in 1 year—1961—with 0.15 percentage points and a total change of −0.22 percent. In Japan, the effect of shifts in hours has been rather slight in relation to overall productivity gains. The greatest shift effect in Japan was 0.38 percent in 1968, when the total productivity change was 12 percent.

For the period as a whole, however, in each country the productivity growth within industries was virtually the entire source of the overall productivity change. For the most part this was because in each country industries maintained almost the same proportions of total manufacturing hours over the entire period. In Germany, for example, with the exception of textile mill products, no industry's share of total manufacturing hours changed by more than 2 percentage points, and even textiles changed by only 3 percentage points.

The industry group productivity changes, however, reflect the effects of shifts among the industries comprising the group. We were not able to extend the analysis for any of the countries except the United States, where we had available unpublished measures for 400 manufacturing industries on a gross output basis. The total shift effect based on this additional detail was increased but not appreciably.

With regard to the effects of output shifts on manufacturing productivity, for the period 1960-74 the results for the United States show a slight negative effect, amounting to −0.16 percent per year. For the United Kingdom, the effect of output shifts was negligible for the period. For Germany and Japan, however, the effects were substantial, amounting to 0.45 percent for Germany and 0.82 percent for Japan (1960-72).

### Trends by manufacturing industry

As mentioned earlier, the productivity growth rates for manufacturing in the four countries are almost entirely a reflection of the productivity movements of the component industries. Table 7 summarizes these movements for the 1960-74 period for the 15 industry groups included; appendix tables B-22 through B-45 show annual data.

The results for the period show a low variance among rates of productivity change for individual industries in three of the countries. In other words, the industry rates cluster closely around the mean for all manufacturing. For the United States, the average annual increase for all manufacturing was 2.7 percent, and 14 of the 15 industries showed gains within 2 percentage points of that average, i.e., between 0.7 percent and 4.7 percent. Furthermore, 10 of the 15 industries were within 1 percentage point of the average. For the United Kingdom, the average was 4.1 percent, and 11 of the 15 industries showed gains within 2 points of that average. Similarly, for Germany, the all-manufacturing average gain was 5.8 percent, and 12 of the 15 industries gained within 2 points of that average.

For Japan, the outcome is noticeably different. Japan has six major industries that have been expanding rapidly since 1960—chemicals, petroleum refining, primary

**Table 7. Productivity change in 15 manufacturing industries: Average annual rates, 4 countries, 1960-74**

(Percent)

| U.S. SIC number | Industry | United States | United Kingdom | Germany | Japan (1960-72) |
|---|---|---|---|---|---|
| 20-39 | All manufacturing industries | 2.7 | 4.1 | 5.8 | 9.8 |
| 20, 21 | Food and tobacco | 3.0 | 3.3 | 5.0 | 6.4 |
| 22 | Textile mill products | 4.6 | 6.0 | 6.8 | 4.4 |
| 23, 31 | Apparel and leather goods | 2.9 | 3.7 | 4.4 | 3.5 |
| 24, 25 | Lumber and furniture | 3.8 | 3.6 | 6.7 | [1]4.2 |
| 26, 27 | Paper and printing | 2.3 | 3.0 | 5.4 | [2]8.9 |
| 28 | Chemicals and allied products | 4.5 | 7.1 | 9.2 | 14.0 |
| 29 | Petroleum and coal products | 3.6 | 7.0 | 8.5 | 14.9 |
| 30, 39 | Rubber and miscellaneous manufactures | 2.4 | 4.6 | 6.7 | 7.7 |
| 32 | Stone, clay, glass, and concrete products | 1.4 | 4.9 | [3]5.7 | 7.5 |
| 33 | Primary metals | 1.2 | 2.4 | [4]5.4 | 12.2 |
| 34 | Fabricated metal products | 2.0 | [5]1.8 | 4.4 | 9.6 |
| 35 | Machinery, except electrical | 1.7 | [6]4.2 | [7]2.8 | 11.8 |
| 36 | Electrical equipment and supplies | 5.0 | 5.4 | 6.5 | 12.3 |
| 37 | Transportation equipment | 2.6 | 2.8 | [8]4.5 | 12.6 |
| 38 | Instruments and related products | 2.7 | 6.6 | 4.7 | 8.2 |
| | Standard deviation (unweighted)[9] | 1.134 | 1.641 | 1.607 | 3.533 |

[1] Excludes furniture.
[2] Excludes printing.
[3] Includes quarrying.
[4] Includes railroad and street cars.
[5] Includes jewelry and precious metals.
[6] Includes ordnance and small arms.
[7] Includes locomotives.
[8] Excludes aircraft, railroad rolling stock, and street cars.
[9] For the United States, standard deviations weighted by output or by hours are about the same as the unweighted; for the United Kingdom and Japan, weighted standard deviations are lower; for Germany, the output-weighted standard deviation is higher than the unweighted.

NOTE: The percent changes are computed from the least squares trend of the logarithms of the index numbers. The standard deviations were computed from simple averages of the unweighted industry rates of productivity change: 2.9 percent for the United States; 4.4 percent for the United Kingdom; 5.8 percent for Germany; and 9.2 percent for Japan.

metals, machinery, electrical equipment, and transportation equipment. These industries, combined, accounted for 43 percent of Japan's manufacturing output in 1960, rising to 60 percent of output by 1972. They each achieved productivity gains of over 12 percent per year, compared to a 9.8-percent average gain for all manufacturing. Most of the remaining industries had productivity gains well below 9 percent per year and accounted for a diminishing share of Japanese manufacturing output. Thus the pattern of Japanese productivity improvement does not resemble the cluster pattern found in the other three countries. The structure of Japan's manufacturing output and productivity has undergone profound changes since 1960.

In general, in none of the countries can the overall rate of gain be attributed in large measure to an outstanding performance by just one or two industries.[5] Nor can a relatively low overall rate, such as in the United States, be attributed to a laggard performance by one or two industries.

Although the variance in industry growth rates is low within most of the countries, there appears to be a similarity in the rankings of industry growth rates among countries. For example, chemicals, petroleum, and electrical manufacturing were among the six industries with the largest productivity gains in each country (table 8). On the other hand, primary metals, fabricated metals, machinery, food and tobacco, and paper and printing were among the industries with the smallest rates of gain in all or most cases. With very few exceptions, Japan shows the highest productivity gains in each industry, followed by Germany, then the United Kingdom, and finally the United States. Thus, the ranking of countries by productivity increase in all manufacturing holds true as well for individual industry groups.

**Table 8. Ranking of 15 manufacturing industries by productivity change: Average annual rates, 4 countries, 1960-74**

| U.S. SIC number | Industry | United States | United Kingdom | Germany | Japan (1960-72) |
|---|---|---|---|---|---|
| 36 | Electrical equipment and supplies | 1 | 5 | 6 | 4 |
| 22 | Textile mill products | 2 | 4 | 3 | 13 |
| 28 | Chemicals and allied products | 3 | 1 | 1 | 2 |
| 24, 25 | Lumber and furniture | 4 | 10 | 4 | 14 |
| 29 | Petroleum and coal products | 5 | 2 | 2 | 1 |
| 20, 21 | Food and tobacco | 6 | 11 | 10 | 12 |
| 23, 31 | Apparel and leather goods | 7 | 9 | 13 | 15 |
| 38 | Instruments and related products | 8 | 3 | 11 | 9 |
| 37 | Transportation equipment | 9 | 13 | 12 | 3 |
| 30, 39 | Rubber and miscellaneous manufactures | 10 | 7 | 5 | 10 |
| 26, 27 | Paper and printing | 11 | 12 | 8 | 8 |
| 34 | Fabricated metal products | 12 | 15 | 15 | 7 |
| 35 | Machinery, except electrical | 13 | 8 | 14 | 6 |
| 32 | Stone, clay, glass, and concrete products | 14 | 6 | 7 | 11 |
| 33 | Primary metals | 15 | 14 | 9 | 5 |

### Comparative productivity levels

A number of efforts have been made over the past 30 years to compare levels of output or productivity between major countries. Some have been highly aggregative in coverage, such as the studies undertaken for the Organization for European Economic Co-operation (OEEC) by Milton Gilbert and Irving Kravis during the 1950's. (See appendix C for these and other studies discussed below.) Other studies have been bilateral in nature.

*Bilateral comparisons.* An early bilateral comparison, covering U.S. and U.K. outputs, was conducted by Deborah Paige and Gottfried Bombach for the OEEC. The Economic Commission for Europe (ECE) has contributed significantly as a sponsor of comparative studies among the European countries. More recently, E. C. West has conducted comparisons between U.S. and Canadian manufacturing and K. Yukizawa has conducted Japan-United States comparisons, also for manufacturing.

West's study is based upon a comparison of output and employment in Canada and the United States during 1963. West calculated net output by double deflation for a sample of 30 three-digit manufacturing industries as reported in the Census of Manufactures for each country. In order to estimate relative levels for all manufacturing, he adjusted the Canadian employment data to account for head office employment and he added an adjustment to account for the nonsample industries. His results showed that Canadian output per manufacturing employee was 64.4 percent of the U.S. level, using Canadian price weights, or 68.5 percent using U.S. price weights.

In order to estimate relative levels for more recent years, BLS has made an adjustment to the West estimates to account for a slight difference in average hours worked between the two countries. Then the Canada-to-United States ratios were calculated for other years by using the BLS indexes of manufacturing output per hour for the two countries. The results for 1975, for example, show the ratio of Canadian to U.S. output per hour to be 76 percent, using Canadian weights, and 81 percent, using U.S. weights. The BLS results, presented in table 9, correspons closely with similar estimates made by Professor D. J. Daly of York University, Downsview, Ontario.

[5] The German chemical industry may offer an exception. This major industry has expanded rapidly since 1960 and has shown an average productivity increase of 9.2 percent per year, compared to an all-manufacturing increase of 5.8 percent per year. It has been calculated that, excluding the chemical industry, the rate of increase for all German manufacturing would have been just 5.2 percent, so the influence of the chemical industry was to raise the all-manufacturing rate by 0.6 percent.

**Table 9. Relative output per hour in manufacturing, Canada/United States, 1960-75**

(U.S. = 100)

| Item and year | Ratio in percent | |
|---|---|---|
| | Canadian price weights | U.S. price weights |
| Ratio, Canadian to U.S. net output per employee, 1963[1] | 64.4 | 68.5 |
| Ratio, Canadian to U.S. average annual hours worked per employee, 1963[2] | 101.4 | 101.4 |
| Ratio, Canadian to U.S. net output per hour worked, 1963 | 63.5 | 67.5 |
| Ratio, Canadian to U.S. net output per hour[3]: | | |
| 1960 | 63.1 | 67.1 |
| 1961 | 65.0 | 69.1 |
| 1962 | 65.4 | 69.6 |
| 1963 | 63.5 | 67.5 |
| 1964 | 62.9 | 66.9 |
| 1965 | 63.3 | 67.4 |
| 1966 | 64.2 | 68.3 |
| 1967 | 65.9 | 70.1 |
| 1968 | 68.2 | 72.6 |
| 1969 | 71.2 | 75.7 |
| 1970 | 72.6 | 77.3 |
| 1971 | 73.4 | 78.1 |
| 1972 | 72.1 | 76.7 |
| 1973 | 72.4 | 77.0 |
| 1974 | 75.2 | 80.0 |
| 1975 | 76.3 | 81.2 |

[1] Ratio of Canadian to U.S. net output per employee in total manufacturing, as estimated by E. C. West in *Canada-United States Price and Productivity Differences in Manufacturing Industries, 1963*; Staff Study No. 32 prepared for the Economic Council of Canada, 1971, p. 26.

[2] BLS estimate, calculated after reducing U.S. average paid hours by 7 percent in order to compare with Canadian hours worked series.

[3] Calculated from BLS index series on manufacturing output per hour in the two countries.

A somewhat similar bilateral comparison has been prepared by Professor Kenzo Yukizawa, covering productivity in Japanese and U.S. manufacturing. Yukizawa compared U.S. gross output per employee with Japanese gross output per employee for three time periods, 1958-59, 1963, and 1967, based mainly on physical quantity measures of output for a sampling of matched products. Yukizawa's results for 1967 show Japanese manufacturing output per employee to be 49 percent of the U.S. level, using Japanese price weights, and 58 percent using U.S. price weights. Daly points out that the results may show a higher Japan-to-United States ratio than would be shown if net output data were used. In addition, the comparisons are based on only 60 industries at approximately the 4-digit U.S. level of classification. The industry coverage in 1967 accounted for only 25 percent of U.S. gross value added and 32 percent of Japanese net value added in manufacturing, and for 21 percent of U.S. employment and 24 percent of Japanese employment in manufacturing. The figures therefore are not necessarily representative of all manufacturing industries and appear to cover a higher proportion of relatively efficient industries in Japan than in the United States.

BLS has adjusted Yukizawa's ratios to account for the difference in average hours worked between the two countries and has calculated the ratios for other years on the basis of its trend series on output per hour. These estimates for 1975 show a Japan-to-United States ratio of 65 percent, using Japanese price weights, and 76 percent using U.S. price weights. (table 10).

*Iron and steel industry.* The BLS has undertaken some comparisons of productivity levels with the concentration on selected manufacturing industries. The principal effort has been to compare levels of productivity and labor costs in the iron and steel industry of five countries. The steel industry was selected for the first absolute measurement project because it ranks high among basic industries in terms of size, public interest, and availability and comparability of data. The initial report on iron and steel was issued in 1968, and indexes have been used to keep the comparisons up to date since that time. Just recently the Bureau has introduced more current weights and made other revisions in the data; the preliminary findings are presented here for the first time.

The BLS studies involve one serious technical problem—the weights—and numerous problems that arise from insufficient data or unmatched data. The weights in use until very recently were 1961 unit labor requirements for the industry in the United States, applied to the United States and each of the other countries. These are the same weights that have been used by the ECE in its steel productivity project. The Bureau has recently introduced later U.S. weights, for the year 1967, which were obtained mainly for the domestic measure of steel productivity. The shift from 1961 to 1967 weights did not have an appreciable effect on the international comparisons of productivity levels. The results are about the same, using either set of weights. Nevertheless, the U.S. weights may be inadequate for use in international comparisons.

One reason for being cautious about the use of U.S. weights is that there has been a major expansion of the industry in most countries since 1967, accompanied by widespread introduction of steelmaking innovations that might alter unit labor requirements for certain products. A second reason is that the Bureau has weights from no other country to permit balanced international comparisons.

The absence of complete matching data on steel output and labor input for each country obliges the analyst to make a series of assumptions and extrapolations in order to bridge the data gaps. A few examples will illustrate the nature of the problem. The European data on pipe and tubing are reported in two categories, welded and seamless. The U.S. data system, on the other hand, covers seven categories of pipe and tubing, some with sharply different labor requirement weights. The European data on stainless steel give an overall tonnage figure but no product

**Table 10. Relative output per hour in manufacturing, Japan/United States, 1958-75**

(U.S. = 100)

| Item and year | Ratio in percent | |
|---|---|---|
| | Japanese price weights | U.S. price weights |
| Ratio, Japanese to U.S. output per employee[1]: | | |
| 1958-59[2] | 31.6 | 37.5 |
| 1958[3] | 27.2 | 32.2 |
| 1959[3] | 30.2 | 35.8 |
| 1963 | 34.0 | 39.7 |
| 1967 | 49.3 | 57.8 |
| Ratio, Japanese to U.S. output per hour worked[4]: | | |
| 1958 | 21.3 | 25.2 |
| 1959 | 23.8 | 28.1 |
| 1963 | 27.8 | 32.4 |
| 1967 | 41.0 | 48.1 |
| Ratio, Japanese to U.S. output per hour worked[5]: | | |
| 1958 | 21.6 | 25.3 |
| 1959 | 23.9 | 28.1 |
| 1960 | 27.4 | 32.1 |
| 1961 | 30.1 | 35.4 |
| 1962 | 30.0 | 35.3 |
| 1963 | 30.4 | 35.7 |
| 1964 | 32.7 | 38.4 |
| 1965 | 33.0 | 38.8 |
| 1966 | 35.8 | 42.0 |
| 1967 | 41.0 | 48.1 |
| 1968 | 44.6 | 52.3 |
| 1969 | 50.8 | 59.6 |
| 1970 | 57.5 | 67.5 |
| 1971 | 56.4 | 66.2 |
| 1972 | 58.0 | 68.0 |
| 1973 | 63.4 | 74.3 |
| 1974 | 67.1 | 78.7 |
| 1975 | 64.9 | 76.2 |

[1] (Rates converted to U.S. = 100) from ratios of U.S. gross output per employee to Japanese gross output per employee, as estimated by K. Yukizawa in *Japanese and American Productivity: An International Comparison of Physical Output Per Head*; Discussion Paper No. 087, Kyoto Institute of Economic Research, March 1975, p. 17.

[2] Ratio of Japanese gross output per employee in 1959 to U.S. gross output per employee in 1958.

[3] BLS estimates based on indexes of U.S. and Japanese output and employment in the 2 years.

[4] Based on BLS estimates of annual hours worked per employee in the two countries.

[5] Calculated from BLS index series on manufacturing output per hour in the two countries linked in 1967 by the ratio of U.S. to Japanese output per hour worked.

NOTE: Comparison is based on 60 industries (59 in 1967) at approximately the 4-digit U.S. level of classification.

detail; alloy and stainless tonnage are combined in the product listings. Yet the U.S. weights are vastly different between products of alloy and products of stainless steel. In Japan, there is substantial employment of contract labor in steelmaking activities, and the use of contract labor is said to vary from period to period. The Bureau has not been able to obtain adequate data on how many contract workers are employed or the number of hours or rates of pay for these workers. In each case it is obliged to estimate the output or inputs on the basis of inadequate information.

The initial results therefore contain a degree of uncertainty or variance that reaches beyond any normal amount of statistical discrepancy. The method of dealing with these uncertainties has been to present the results as ranges rather than single best estimates. The Bureau feels reasonably confident that a particular measure of productivity or labor cost falls within the given range, but it does not have the precise measure.

In brief, as indicated in table 11, the findings show some sharp contrasts among the five major countries studied. Preliminary estimates for 1975 show that productivity in the Japanese steel industry is above the U.S. level, ranging between 111 and 132 percent of the United States. The German industry reached a level between 81 and 90 percent of the United States. The French productivity level was about one-half, and the British was less than one-half, the U.S. level.

It should be noted that 1975 was a recession year for the steel industry in all of the countries. Steel output dropped sharply in every country, but most acutely in France (table 12). Productivity showed virtually no change in Japan, but dropped 10 to 11 percent in the United States and Germany, 14 percent in the United Kingdom, and 28 percent in France.

Estimates of growth in steel productivity illustrate very clearly the changes that have occurred since 1964. In the 10 years from 1964 to 1974, productivity in the steel industry increased at a rate of 3 percent per year in the United States, 2 percent per year in the United Kingdom, 5.6 percent per year in France, and 7 percent per year in Germany. The rate for Japan was 11 percent per year.

In order to develop better measures, however, a broader effort seems called for than BLS alone can offer. It is important to obtain weights from the other countries besides the United States. The ECE project of several years ago attempted to do this but was not successful. Also, improved matching of products could be achieved. To do this, however, closer collaboration on a bilateral basis among country statisticians is called for. Or a stronger coordinating effort by international organizations could be undertaken and perhaps would be more successful now because of the greater interest in productivity within nations.

**Table 11. Estimates of relative levels of output per hour, hourly labor costs, and unit labor costs in the iron and steel industry, 5 countries, 1964 and 1972-75**

(United States = 100)

| Year | United States | Japan | | France | | Germany | | United Kingdom | |
|---|---|---|---|---|---|---|---|---|---|
| | | Minimum | Maximum | Minimum | Maximum | Minimum | Maximum | Minimum | Maximum |
| | | | | | Output per hour | | | | |
| 1964 | 100 | 48 | 55 | 48 | 52 | 55 | 63 | 48 | 51 |
| 1972 | 100 | 87 | 103 | 62 | 69 | 77 | 85 | 50 | 53 |
| 1973 | 100 | 98 | 117 | 60 | 67 | 77 | 86 | 48 | 51 |
| 1974 | 100 | 100 | 119 | 61 | 68 | 82 | 91 | 44 | 46 |
| 1975 | 100 | 111 | 132 | 49 | 54 | 81 | 90 | 42 | 45 |
| | | | | | Hourly labor costs [1] | | | | |
| 1964 | 100 | 16 | 16 | 34 | 35 | 37 | 39 | 29 | 30 |
| 1972 | 100 | 33 | 34 | 48 | 48 | 58 | 58 | 33 | 34 |
| 1973 | 100 | 42 | 43 | 60 | 60 | 74 | 74 | 34 | 35 |
| 1974 | 100 | 44 | 46 | 59 | 59 | 76 | 76 | 33 | 34 |
| 1975 | 100 | 44 | 45 | 67 | 67 | 76 | 76 | 35 | 36 |
| | | | | | Unit labor costs [1] | | | | |
| 1964 | 100 | 29 | 33 | 66 | 72 | 60 | 70 | 57 | 61 |
| 1972 | 100 | 32 | 39 | 69 | 77 | 68 | 76 | 62 | 67 |
| 1973 | 100 | 36 | 44 | 89 | 100 | 86 | 96 | 66 | 71 |
| 1974 | 100 | 37 | 46 | 87 | 97 | 84 | 93 | 72 | 78 |
| 1975 | 100 | 33 | 41 | 124 | 138 | 84 | 93 | 79 | 86 |

[1] Labor costs converted to U.S. dollars at the annual average exchange rate for each year.

NOTE: With the exception of a few items (wire and wire products are excluded for the United Kingdom and wheels and axles are excluded for Germany), the estimates for 1964 and 1972 are based on the U.S. definition of the iron and steel industry. In addition, the output of each country's industry has been adjusted for differences in product mix among countries and over time by weighting the component products of the iron and steel industry with U.S. 1967 labor requirements (hours of labor required per ton of each product). The weights used are cumulative, that is, for each end product, they reflect all stages of production within the industry from coke through the end products. No adjustments have been made for possible differences among countries in the degree of vertical integration or the quality of steel produced. The results are presented in ranges because of gaps in the data.

The estimates for 1973-75 were obtained by applying trend indexes for each country—unadjusted for strict comparability among countries—to the 1972 relatives. While the 1973-75 output index for the United States is based on the 1967 labor requirements weights, the output indexes for the other countries are based on the weights underlying their own production indexes.

**Table 12. Estimates of indexes of output per hour, hourly labor costs, and unit labor costs in the iron and steel industry, 5 countries, 1964 and 1972-75**

(1964 = 100)

| Year | Output per hour | Hourly labor costs | | Unit labor costs | | Output | Hours | Total labor costs |
|---|---|---|---|---|---|---|---|---|
| | | Based on national currency values | Based on U.S. dollar values[1] | Based on national currency values | Based on U.S. dollar values[1] | | | |
| | | | | United States | | | | |
| 1964 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1972 | 120.7 | 161.2 | 161.2 | 133.5 | 133.5 | 107.2 | 88.8 | 143.2 |
| 1973 | 133.1 | 173.4 | 173.4 | 130.3 | 130.3 | 127.6 | 95.9 | 166.3 |
| 1974 | 134.2 | 202.1 | 202.1 | 150.6 | 150.6 | 127.5 | 95.0 | 192.0 |
| 1975 | 120.2 | 238.3 | 238.3 | 198.2 | 198.2 | 96.5 | 80.3 | 191.4 |
| | | | | Japan | | | | |
| 1964 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1972 | 221.1 | 277.2 | 331.1 | 125.4 | 149.8 | 253.2 | 114.5 | 317.5 |
| 1973 | 275.8 | 341.5 | 456.3 | 123.8 | 165.5 | 312.4 | 113.3 | 386.9 |
| 1974 | 282.9 | 454.9 | 564.7 | 160.8 | 199.6 | 311.2 | 110.0 | 500.4 |
| 1975 | 281.4 | 539.4 | 658.2 | 191.7 | 233.9 | 270.7 | 96.2 | 518.9 |
| | | | | France | | | | |
| 1964 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1972 | 159.2 | 231.6 | 225.0 | 145.5 | 141.4 | 130.0 | 81.7 | 180.1 |
| 1973 | 169.0 | 272.6 | 301.1 | 161.2 | 178.1 | 137.7 | 81.5 | 222.0 |
| 1974 | 173.0 | 341.3 | 348.0 | 197.3 | 201.2 | 147.2 | 85.1 | 290.4 |
| 1975 | 124.1 | 408.4 | 467.5 | 329.2 | 376.8 | 98.1 | 79.1 | 322.9 |
| | | | | Germany | | | | |
| 1964 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1972 | 166.9 | 198.8 | 247.8 | 119.1 | 148.4 | 143.2 | 85.8 | 170.5 |
| 1973 | 185.4 | 225.5 | 338.5 | 121.6 | 182.5 | 163.1 | 88.0 | 198.4 |
| 1974 | 197.2 | 262.9 | 404.7 | 133.3 | 205.2 | 171.6 | 87.0 | 228.8 |
| 1975 | 175.8 | 295.1 | 477.8 | 167.9 | 271.9 | 134.0 | 76.2 | 225.0 |
| | | | | United Kingdom | | | | |
| 1964 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1972 | 126.4 | 205.5 | 184.0 | 162.6 | 145.6 | 94.4 | 74.7 | 153.5 |
| 1973 | 134.1 | 231.3 | 203.1 | 172.5 | 151.4 | 105.1 | 78.4 | 181.3 |
| 1974 | 122.0 | 277.7 | 232.7 | 227.5 | 190.7 | 93.5 | 76.7 | 212.8 |
| 1975 | 105.5 | 366.0 | 291.2 | 346.8 | 276.0 | 78.6 | 74.5 | 272.6 |

[1] Indexes in national currencies adjusted for changes in prevailing exchange rates.

NOTE: With the exception of a few items, the indexes for 1964 and 1972 are based on the U.S. definition of the iron and steel industry. For the four foreign countries, they are based on the midpoint of minimum and maximum estimates for each year. Indexes for 1973 to 1975—unadjusted for strict comparability among countries—have been linked at 1974. See note to table 11.

# Appendix A. Sources and Methods

The Bureau of Labor Statistics (BLS) compiles and publishes indexes of output per hour, hourly compensation, and unit labor costs in manufacturing for the United States and 11 other industrial countries. The indexes are constructed from three aggregate measures—manufacturing output, total hours, and total compensation. For most countries, the measures refer to total manufacturing as defined by the International Standard Industrial Classification, but some countries depart from these definitions to one degree or another.

The output measures refer to constant value gross product originating or value added in all countries. The methods used to compile the real output measures, however, differ considerably among the 12 countries. In the United States, Belgium, Germany, Italy, and Sweden, the estimation procedure is wholly or primarily that of double deflation, that is, adjustment of both gross outputs and inputs to eliminate price change. In the other countries, the estimation procedure involves some form of extrapolation of base-year value added, using either quantity indicators or deflated values. Canada and France extrapolate both inputs and outputs while the other countries generally use gross output indicators.

The hours and compensation measures refer to all persons engaged in the United States and Canada, wage workers only in Switzerland, and to all employees in the other countries except Germany. For Germany, the compensation data refer to all employees including workers in the handicraft industries while the hours data exclude handicraft workers but include the self-employed. Hours refer to paid hours in the United States and Switzerland, hours worked for the other countries. Compensation includes all wages and salaries paid directly to employees plus employer expenditures for social insurance programs, and—for France, Sweden, and the United Kingdom—employment or payroll taxes that are not compensation to employees but are a labor cost to employers.

The definitions and data sources for the output, hours, and compensation measures used by the Bureau are outlined briefly for each country in this appendix. To simplify the discussion, only the long-term measures used from 1960 are covered. The statistical measures used for the years before 1960 and the statistical series used for recent year estimates—until the long-term measures are available—are not mentioned.

### United States

*Output.* Gross product originating in market prices in 1972 dollars. Obtained by deflation of product originating in current prices based on income statistics by means of implicit price deflators. Deflators computed using value added in current prices, based on production statistics, divided by value added in constant prices, estimated by deflation of the current-price data on both outputs and inputs by wholesale price indexes. Publication: *Survey of Current Business* (U.S. Department of Commerce, Bureau of Economic Analysis, Washington, D.C.)

*Hours.* Total hours paid of all persons engaged. Compiled by BLS as denominator for national productivity index. Based on employment for wage workers and salaried employees and average paid hours for wage workers from BLS monthly establishment survey covering all sizes of establishments; normally scheduled hours (unpublished data) from BLS biennial employee compensation survey; and number of self-employed and average hours from BLS labor force sample survey of households. Publication: *Employment and Earnings* (U.S. Department of Labor, Bureau of Labor Statistics, Washington, D.C.).

*Compensation.* Total compensation of employees from national accounts, adjusted by BLS for estimated compensation of self-employed. Employee compensation compiled on the basis of data from unemployment insurance reports to estimate aggregate wages and salaries, and statistics from the Social Security Administration and other Government insurance agencies and from various tax and insurance reports for private plans to estimate employer insurance contributions. Compensation imputed for self-employed by assuming that hourly compensation of self-employed equals that of employees. Publication: *Survey of Current Business* (U.S. Department of Commerce, Bureau of Economic Analysis, Washington, D.C.).

### Canada

BLS uses productivity, hourly compensation, and unit labor cost data compiled by Input-Output Division, Statistics Canada. Publication: *Aggregate Productivity Measures, 1946-74* (Statistics Canada, Ottawa).

*Output.* Index of real domestic product at 1971 factor costs, linked at 1971 to index at 1961 factor costs, compiled as part of system of national accounts. Index computed monthly as well as annually, and for manufacturing and other industry, also called index of industrial production. Estimation procedure consists of extrapolation of base year value added. Value-added weights derived from detailed input-output tables for base years. Extrapolation primarily by means of volume indexes based on deflated current values. Both inputs and outputs deflated for over 80 percent of value added. Manufacturing census or annual survey provide current value data for annual indexes, other sources for monthly indexes and recent years. Industry selling price indexes are most frequently used deflators. Publications: *Indexes of Real Domestic Product by Industry* or *Canadian Statistical Review* (Statistics Canada, Ottawa).

*Hours.* Total hours worked by all persons engaged. Compiled on basis of data on wage and salary worker employment and average hours worked by wage workers from Annual Census of Manufactures; average hours worked by salary workers, using paid hours from deflated Census salaries, adjusted to hours worked basis using hours structure data from Labour Cost Survey; number of self-employed based on working owners and partners series from Annual Census of Manufactures; and average hours worked by self-employed from Labour Force Survey.

*Compensation.* Total compensation of employees from national accounts, adjusted for estimated compensation of self-employed. Employee compensation compiled on the basis of data from Annual Census of Manufactures for aggregate wages and salaries, and data from various supervisory agencies for employer contributions to pension and other insurance funds. Compensation imputed for self-employed by assuming that hourly compensation of self-employed equals that of employees.

### Japan

*Output.* Index of industrial production, calculated using quantity indicators exclusively, combined with value-added weights for 1960, 1965, and 1970. Printing and publishing, wood furniture and fixtures, and ordnance and accessories not covered by index. Indicators measure directly 65 percent of value added in manufacturing industries covered. Monthly Current Production Survey of Ministry of International Trade and Industry provides most indicators of quantity. Base-year value added at factor costs derived from Census of Manufactures and, for commodity weights, Current Production Survey. Index recalculated back for 2 years preceding new base year. 1970-based index linked to 1965-based index at January 1968 and 1965-based index linked to 1960-based index at January 1963. Publications: *Industry Statistics Monthly* (Ministry of International Trade and Industry, Tokyo), or *Monthly Statistics of Japan* and *Japan Statistical Yearbook* (Bureau of Statistics, Office of the Prime Minister, Tokyo).

*Hours.* BLS estimates of total hours worked by all employees based on employment data published with the national accounts and average monthly hours worked by regular employees from the Monthly Labour Survey. Employment computed by extrapolating manufacturing employment from the population census using data from the Labour Force Survey. Average monthly hours obtained from establishment sample survey and refer to all "regular" employees in establishments with five or more regular employees. Publications: *Annual Report on National Income Statistics* (Economic Planning Agency, Economic Research Institute, Tokyo); *Year Book of Labour Statistics* (Ministry of Labour, Statistics and Information Department, Tokyo).

*Compensation.* Total compensation of employees from Japanese national accounts. Compiled by estimating regular wages and salaries using average per capita wages and employment for various employee and establishment size groups, and estimating value of other pay, allowances, and employer social insurance expenditures. Average wages based on data from Monthly Labour Survey and Enterprise Welfare Facility Survey. Employment estimated from Population Census data extrapolated using Labour Force Survey data; 1966 Business Establishment Statistics for large firm employment, also extrapolated; and Monthly Labour Survey statistics. Other compensation estimated using Dwelling Statistics Survey data, for value of company-supplied housing, and various Government tax statistics. Publication: *Annual Report on National Income Statistics* (Economic Planning Agency, Economic Research Institute, Tokyo).

### Belgium

*Output.* Gross product originating at market prices in 1970 francs, obtained by double deflation of current-price value added. Data calculated using 1970 value-added price weights linked at 1966 to data for previous years calculated using 1963 value-added price weights. Estimating procedure consists of deflation of current price data on both outputs and inputs, these data having been used to compile estimates of value added in current prices. Publication: *Bulletin de Statistique* or *Etudes Economiques* (Institut National de Statistique, Brussels).

*Hours.* BLS estimates of total hours worked by all employees. Calculated using employment statistics published with the national accounts and average hours worked of wage workers and of salary workers. Employment data compiled primarily on basis of social security statistics on covered wage and salary worker employment. Average hours worked of wage workers and average scheduled hours of salary workers obtained from semiannual survey of establishments with 10 or more employees, and benchmarked to annual hours worked for 1966 and 1969 obtained from the EEC harmonized labor cost survey of establishments with 50 or more employees. Publications: *National Accounts Yearbook* (Statistical Office of the European Communities, Luxembourg) and *l'Economie Belge* (Ministere des Affaires Economiques, Direction Generale des Etudes et de la Documentation, Brussels); *Annuaire Statistique de la Belgique* (Ministere des Affaires Economiques, Institute National de Statistique, Brussels); *Statistiques Sociales* or *Bulletin de Statistique* (Institut National de Statistique, Brussels); *Labor Costs in Industry,* Social Statistics series (Statistical Office of the European Communities, Luxembourg).

*Compensation.* BLS estimates of total compensation of all employees. Compiled using total hours worked by wage workers and by salaried workers, explained in previous section, and estimates of average hourly compensation of wage workers and of salaried workers. Average hourly earnings of wage workers obtained from semiannual survey of establishments with 10 or more employees. Average hourly earnings of salary workers estimated by BLS using hourly earnings in 1966, 1969, and 1972 obtained from the EEC harmonized labor cost survey extrapolated on the basis of earnings trend obtained from the index of contractual monthly salaries, converted to an hourly basis and adjusted for estimated wage drift. Earnings adjusted for additional compensation using primarily EEC labor cost survey data. Publications: *Statistiques Sociales* (Institut National de Statistique, Brussels); *Labor Costs in Industry*, Social Statistics series (Statistical Office of the European Communities, Luxembourg); *Revue du Travail* (Ministere de L'Emploi et du Travail, Brussels).

### Denmark

Danish statistics on manufacturing output, total hours, and compensation exclude manufacturing activities classified as handicrafts, including all firms with less than 6 employees and certain manufacturing industries for which statistics do not correspond well with those available for other industry. Those manufacturing activities excluded accounted for approximately 20 percent of production value in manufacturing in 1966.

*Output.* Gross product originating at factor cost in 1955 kroner, obtained by extrapolation of base-year value added using single indicators—output volume indexes compiled from gross output values in current prices deflated by appropriate price indexes. Publication: "Nationalregnskabsstatistik," in *Statistiske Efterretninger* (Danmarks Statistik, Copenhagen).

*Hours.* Total hours worked in manufacturing computed by BLS using wage and salary worker employment and total wage worker hours data from monthly establishment survey, benchmarked to data from annual census of manufacturing establishments employing six or more workers, both conducted by Danmarks Statistik. Homeworkers and persons working less than 15 hours per week excluded. Census statistics linked at 1965 and 1970 to account for sample revisions. Publication: "Industribeskaeftigelsen," in *Statistiske Efterretninger* (Danmarks Statistik, Copenhagen).

*Compensation.* Total compensation of employees, from Danish national accounts. Publication: "Nationalregnskabsstatistik," in *Statistiske Efterretninger* (Danmarks Statistik, Copenhagen).

### France

*Output.* Gross product originating in 1963 market prices from European Economic Community harmonized national accounts for 1960-70, and gross product originating including mining in 1970 market prices from French national accounts for later years. Estimation procedure involves extrapolation of output and inputs within the framework of detailed annual input-output tables. Extrapolation using quantity indicators. Publication: *National Accounts Yearbook* (Statistical Office of the European Communities, Luxembourg) and *Rapport sur les Comptes de la Nation* (Ministere de l'Economie et des Finances, Institut national de la Statistique et des Etudes economiques (INSEE), Paris).

*Hours.* BLS estimate of total hours worked by all employees. Compiled using employment data published with national accounts and adjusted average scheduled hours of wage and salary workers. Employment estimates by INSEE based on population census, annual labor force survey, and quarterly establishment survey. Average scheduled hours obtained from the quarterly survey of establishments with 10 or more employees. Scheduled hours adjusted by BLS for changes in holiday and vacation leave and for time lost due to strikes, using information from various sources. Publications: *National Accounts Yearbook* (Statistical Office of the European Communities, Luxembourg) and *Rapport sur les Comptes de la Nation* (INSEE, Paris); *Bulletin Mensuel et Supplements des Statistiques du Travail* (Ministere du Travail, Division de la Statistique, Paris).

*Compensation.* For 1960-65, total compensation of employees compiled by INSEE for EEC harmonized national accounts; for 1966 and later years, BLS estimates.

Compensation in 1960-68 adjusted by BLS for 5-percent payroll tax for general government revenues. BLS estimates compiled on basis of total employment published with national accounts; annual employment structure survey data; average hourly earnings of wage workers obtained from semiannual surveys of establishments with 10 or more employees; average hours worked by wage workers computed using data sources and procedures cited in previous section; monthly earnings of salary workers obtained from same establishment survey as wage worker earnings; and additional compensation data from EEC labor cost surveys extrapolated to other years on the basis of other information. Publications: *National Accounts Yearbook* (Statistical Office of the European Communities, Luxembourg); *Statistiques du Travail*, selected supplements (Ministere du Travail, Division de la Statistique, Paris); *Labor Costs in Industry*, Social Statistics series (Statistical Office of the European Communities, Luxembourg).

### Germany

*Output.* Gross product originating in market prices in 1962 marks, obtained by double deflation of current-price output and input data which are benchmarked to the 5-year census of manufactures and irregular craft censuses. Ratios of inputs to gross output are obtained from the censuses and from periodic cost structure surveys, and are assumed to be fixed between benchmark years. Constant-price value added estimated by deflating gross output by means of output price indexes and adjusting input ratios for changes in input prices. Publication: *Volkswirtschaftliche Gesamtrechnungen, Konten und Standardtabellen* (Statistisches Bundesamt, Wiesbaden).

*Hours.* Computed by BLS using wage and salary worker and proprietor employment and wage worker average hours from Statistisches Bundesamt's Monthly Industry Report covering manufacturing enterprises, excluding licensed handicrafts, with 10 and more employees.

Total hours exclude employees in handicrafts and small establishments and include the self-employed, while output includes licensed handicrafts and compensation covers all wage and salary workers including those in licensed handicrafts considered manufacturing activity. Preliminary calculations of handicraft worker hours by BLS indicate that this discrepancy has little effect on the productivity or hourly compensation trends over time, although it does affect some year-to-year changes. Publication: *Industrie und Handwerk: Beschaftigung und Umsatz, Brennstoff- und Energieversorgung* (Statistisches Bundesamt, Wiesbaden).

*Compensation.* Total compensation of employees, from German national accounts for 1960-71. Beginning in 1972, BLS estimates of manufacturing wages and salaries plus employer social security contributions linked to natioanl accounts measure at 1971. Aggregate wages and salaries estimated by BLS on basis of wage, salary, and employment data for manufacturing excluding handicrafts from the Monthly Industry Report. Wages and salaries adjusted for changes in employer social insurance contributions using employee compensation data for the total economy from the German national accounts. Publications: *Volkswirtschaftliche Gesamtrechnungen, Konten und Standardtabellen* (Statistisches Bundesamt, Wiesbaden); *Industrie und Handwerk: Beschaftigung und Umsatz, Brennstoff- und Energieversorgung* (Statistisches Bundesamt, Wiesbaden).

### Italy

*Output.* Gross product originating at factor costs in 1963 lire, and for years since 1970, gross product originating, including mining but excluding energy products, at market prices in 1970 lire, linked to manufacturing series. Constant price estimates obtained by deflating current price data on both gross output and inputs, these data having been used to compile the estimates of value added by industry in current prices. Publication: *Annuario di Contabilita Nazionale* (Instituto Centrale di Statistica, Rome).

*Hours.* Total hours worked by manufacturing employees, estimated by BLS using data on total employment and average hours worked by production workers. Beginning in 1965, employment data are from a quarterly survey of establishments with 10 or more employees conducted by the Ministry of Labor and National Insurance, benchmarked to April all-establishment employment estimates made by the Ministry for the Statistical Office of the European Communities. Statistics on the number of permanent employees (employees working more than 32 hours per week) from the quarterly labor force survey are used for the years before 1965 and are linked to the establishment-survey-based data at 1965. Average hours worked by production workers are also obtained form the quarterly establishment survey. Publications: *Rassegna di Statistiche del Lavoro* (Servizio Italiano Publicazioni Internazionali, Rome); *Social Statistics* (Statistical Office of the European Communities, Luxembourg); *Bollettino Mensile di Statistica*, August 1966 supplement (Instituto Centrale di Statistica, Rome).

*Compensation.* Total compensation of employees from Italian national accounts, including mining but excluding energy products from 1970. The Bureau does not have information concerning details of the estimation procedure. Publication: *Annuario di Contabilita Nazional* (Instituto Centrale di Statistica, Rome).

### Netherlands

*Output.* Gross product originating at market prices in 1963 guilders for 1961-69; index of industrial production for 1970 and later years. Real value added compiled within the framework of detailed input-output tables. Preferred method of estimation—extrapolation of base-year value added using single indicators of quantities of gross output. Double deflation of gross output and inputs used for a few industries. Index of industrial production calculated using data on quantities produced, deflated values of deliveries, quantities of materials used, and other estimates, combined with 1970 factor cost value-added weights. Publications: *National Accounts Yearbook* (Statistical Office of the European Communities, Luxembourg); *Maandschrift* (Central Bureau voor de Statistiek, The Hague).

*Hours.* Total hours worked by all employees, estimated by BLS using data on (1) number of employees (in man-years) from Dutch national accounts; and (2) average weekly scheduled hours including overtime of wage and salaried workers in industry, obtained from a semiannual survey of earnings and hours in establishments with 10 or more employees, and adjusted by BLS for changes in holiday, vacation, and personal leave. Published employment statistics are adjusted by BLS, beginning in 1970, to exclude employment in natural gas and oil extraction. Publications: *Nationale Rekiningen* (Centraal Bureau voor de Statistiek, The Hague); *Sociale Maandstatistiek* and *Jaarcifers* (Central Bureau voor de Statistiek, The Hague).

*Compensation.* Total compensation of employees from Dutch national accounts. Published compensation adjusted by BLS, beginning in 1970, to exclude compensation in natural gas and oil extraction. Publication: *Nationale Rekeningen* (Central Bureau voor de Statistiek, The Hague).

### Sweden

*Output.* Gross product originating in 1968 market prices. Constant-price estimates calculated by separately deflating data on gross output and inputs used to compile current price estimates of value added. Current-price data obtained from comprehensive annual industrial surveys. Real gross output estimated using both quantity indicators and price deflation. For inputs, current values deflated by fixed-weight price indexes.

*Hours.* Aggregate hours worked by employees, from Swedish national accounts. Employment data from the quinquennial Census of Population and Housing are adjusted to labor force survey concepts, and extrapolated for other years. Extrapolation of employment and estimating of average hours based on data from the annual survey of manufactures and labor force survey. Publication: *Nationalrakenskaper* (Statistiska Centralbyran, Stockholm).

*Compensation.* Total compensation of employees from Swedish national accounts. Compensation adjusted by BLS for an employment tax for general Government revenues introduced in 1969. Publication: *Nationalrakenskaper* (Statistiska Centralbyran, Stockholm).

### Switzerland

*Output.* Index of industrial production, calculated using quantity indicators primarily, combined using gross value-added weights. Handicrafts and manufacture of transport equipment, musical instruments, and jewelry not covered by index. Indicators used are quantities produced, quantities of materials used, volume of exports, and deflated value of sales, which together measure 85 percent of value added in the manufacturing industries covered. Gross value added in 1964 market prices used to combine the indexes for 1964 and later years; gross value added in 1958 market prices used to combine the indexes for 1958 to 1963. Publication: *La Vie Economique* (Departement Federal de L'Economie Publique, Berne).

*Hours.* Total paid hours of wage workers in manufacturing, excluding handicrafts, computed by BLS using data on wage worker employment and average weekly paid hours from quarterly reports of industrial establishments subject to the "Federal Act respecting work in industry, handicrafts, and commerce" (Labor Act). The reports cover one-third of the establishments subject to the act and two-thirds of all wage workers engaged in manufacturing. Publication: *Yearbook of Labour Statistics* (International Labour Office, Geneva).

*Compensation.* Total compensation of wage workers, calculated by BLS using data on (1) average hourly earnings, obtained from an annual October earnings survey covering establishments employing approximately 85 percent of all workers engaged in manufacturing; (2) additional compensation, estimated by the Swiss Employers' Confederation; and (3) total paid hours. Publications: *La Vie Economique* (Departement Federal de L'Economie Publique, Berne); and *Wages and Total Labour Costs for Workers, International Survey* (Swedish Employers' Confederation, Research Department, Stockholm).

### United Kingdom

*Output.* Index of real output at 1970 factor costs from the British national accounts (also published as annual index of industrial production), obtained by single indi-

cator extrapolation of base-year value added. Indicator most frequently used is deflated value of sales or deliveries. 1970 value-added weights, derived from input-output table compiled using 1968 and 1970 Census of Production data, used to combine index since 1968; other weight bases are 1958 and 1963. At time of each earlier rebasing, estimates of real output revised to take account of Census of Production data. Long-term index linked using coefficients derived from 3-year overlaps. Index for whole period recalculated on 1968 SIC. Publication: *National Income and Expenditure* or *Monthly Digest of Statistics* (Central Statistical Office, London).

*Hours.* Total hours worked by manufacturing employees, estimated by BLS using data on total employment, published with the national accounts, and average weekly hours worked by production workers. Employment figures based on census of production coverage and definitions. Average hours are estimated by applying the monthly index of average weekly hours worked by operatives to 1968 annual hours worked by all employees from the 1968 labor cost survey of manufacturing enterprises in Great Britain with 25 or more employees. Publications: *National Income and Expenditure* (Central Statistical Office, London); *Labour Costs in Great Britain, 1968* (Department of Employment, London); *Department of Employment Gazette* and *British Labour Statistics Year Book* (Department of Employment, London).

*Compensation.* Total compensation of employees from national accounts, adjusted by BLS for net premiums from the selective employment tax (SET) introduced in 1966. Compensation compiled using data on (1) aggregate wages and salaries, obtained primarily from periodic Census of Production statistics, extrapolated to nonsurvey years using annual data on numbers employed and average wages and salaries; and (2) employer expenditures for pay in kind and social insurance programs, estimated on the basis of Government tax statistics, Department of Employment labor cost survey results, and Government surveys of pension programs. Publication: *National Income and Expenditure* (Central Statistical Office, London).

# Appendix B. Reference Tables

## Table B-1. Output per hour in manufacturing, 12 countries, 1950-75

(Indexes, 1967 = 100)

| YEAR | UNITED STATES | CANADA | JAPAN | BEL-GIUM | DEN-MARK | FRANCE | GERMANY | ITALY | NETHER-LANDS | SWEDEN | SWITZ-ERLAND | UNITED KINGDOM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1950 ..... | 64.9 | 51.9 | 21.4 | 0.0 | 50.3 | 43.9 | 36.6 | 36.5 | 42.9 | 45.0 | 0.0 | 61.9 |
| 1951 ..... | 67.0 | 54.0 | 26.8 | 0.0 | 50.9 | 46.2 | 37.7 | 40.7 | 44.4 | 46.3 | 0.0 | 62.5 |
| 1952 ..... | 68.2 | 55.5 | 28.2 | 0.0 | 50.5 | 47.7 | 41.2 | 42.3 | 45.5 | 46.2 | 0.0 | 59.9 |
| 1953 ..... | 69.4 | 57.4 | 32.0 | 0.0 | 51.2 | 50.2 | 44.2 | 44.1 | 49.1 | 48.7 | 0.0 | 62.7 |
| 1954 ..... | 70.5 | 59.8 | 34.3 | 0.0 | 53.4 | 51.6 | 46.0 | 46.6 | 51.0 | 48.7 | 0.0 | 64.8 |
| 1955 ..... | 74.0 | 63.8 | 36.0 | 0.0 | 54.8 | 54.2 | 48.9 | 51.1 | 53.6 | 49.3 | 0.0 | 66.9 |
| 1956 ..... | 73.5 | 66.5 | 38.4 | 0.0 | 56.3 | 57.7 | 50.2 | 54.4 | 56.8 | 52.4 | 0.0 | 66.9 |
| 1957 ..... | 75.0 | 66.9 | 41.9 | 0.0 | 58.4 | 58.6 | 54.6 | 56.5 | 59.0 | 55.1 | 0.0 | 68.5 |
| 1958 ..... | 74.6 | 69.2 | 39.2 | 0.0 | 60.4 | 60.9 | 57.4 | 58.5 | 60.3 | 57.6 | 0.0 | 69.7 |
| 1959 ..... | 78.1 | 73.0 | 45.6 | 0.0 | 64.5 | 65.3 | 62.0 | 62.9 | 64.7 | 61.1 | 77.7 | 72.5 |
| 1960 ..... | 78.8 | 75.5 | 52.6 | 70.5 | 66.6 | 68.7 | 66.4 | 65.1 | 68.1 | 63.1 | 80.4 | 76.8 |
| 1961 ..... | 80.7 | 79.6 | 59.3 | 71.7 | 70.4 | 71.9 | 70.0 | 67.4 | 71.9 | 66.1 | 80.5 | 77.4 |
| 1962 ..... | 84.5 | 83.9 | 61.9 | 76.7 | 74.0 | 75.2 | 74.4 | 74.1 | 73.8 | 71.0 | 79.9 | 79.3 |
| 1963 ..... | 90.4 | 87.1 | 67.1 | 79.3 | 76.4 | 79.7 | 78.4 | 76.5 | 75.7 | 75.1 | 82.2 | 83.6 |
| 1964 ..... | 95.2 | 90.9 | 75.9 | 84.1 | 82.6 | 83.7 | 84.5 | 81.5 | 82.9 | 81.9 | 85.8 | 89.7 |
| 1965 ..... | 98.2 | 94.4 | 79.1 | 88.0 | 86.7 | 88.5 | 90.4 | 91.6 | 87.8 | 88.5 | 90.5 | 92.4 |
| 1966 ..... | 99.7 | 97.2 | 87.1 | 94.2 | 91.1 | 94.7 | 94.0 | 96.0 | 93.1 | 92.1 | 95.2 | 95.7 |
| 1967 ..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1968 ..... | 103.6 | 107.3 | 112.6 | 109.1 | 109.8 | 111.4 | 107.6 | 108.4 | 110.9 | 110.1 | 105.2 | 106.9 |
| 1969 ..... | 104.9 | 113.3 | 130.0 | 118.6 | 120.3 | 115.4 | 113.8 | 112.2 | 120.5 | 118.3 | 116.1 | 108.4 |
| 1970 ..... | 104.5 | 115.2 | 146.5 | 129.2 | 129.3 | 121.2 | 116.6 | 117.8 | 132.2 | 124.5 | 125.5 | 109.1 |
| 1971 ..... | 110.3 | 122.9 | 151.7 | 136.3 | 138.8 | 127.5 | 122.5 | 123.5 | 140.6 | 129.0 | 131.3 | 114.3 |
| 1972 ..... | 116.0 | 126.9 | 163.9 | 152.6 | 150.7 | 135.9 | 130.3 | 132.9 | 152.0 | 137.9 | 137.9 | 121.2 |
| 1973 ..... | 119.4 | 131.1 | 184.3 | 164.2 | 159.8 | 142.2 | 138.6 | 147.8 | 163.9 | 147.4 | 147.7 | 127.9 |
| 1974 ..... | 114.7 | 131.0 | 187.5 | 174.0 | 166.9 | 146.1 | 145.6 | 155.5 | 173.3 | 154.7 | 150.7 | 127.1 |
| 1975p ..... | 114.9 | 133.1 | 181.7 | 183.3 | 180.8 | 139.8 | 150.4 | 150.7 | 169.9 | 154.7 | 144.8 | 125.4 |

p = preliminary.

NOTE: The data relate to all employed persons (wage and salary earners, the self-employed, and unpaid family workers) in the United States and Canada, wage earners in Switzerland, and all employees (wage and salary earners) in the other countries.

## Table B-2. Hourly compensation in manufacturing, 12 countries, 1950-75

(Indexes, 1967 = 100)

| YEAR | UNITED STATES | CANADA | JAPAN | BELGIUM | DENMARK | FRANCE[1] | GERMANY | ITALY | NETHERLANDS | SWEDEN[1] | SWITZERLAND | UNITED KINGDOM[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1950 | 45.0 | 39.3 | 17.7 | 0.0 | 26.6 | 21.6 | 24.0 | 25.8 | 22.7 | 23.1 | 0.0 | 33.6 |
| 1951 | 49.5 | 44.5 | 22.6 | 0.0 | 29.5 | 27.7 | 27.6 | 28.3 | 25.1 | 27.0 | 0.0 | 36.5 |
| 1952 | 52.7 | 48.9 | 26.1 | 0.0 | 32.0 | 32.1 | 29.6 | 30.5 | 26.7 | 31.7 | 0.0 | 40.0 |
| 1953 | 55.7 | 51.3 | 27.4 | 0.0 | 33.0 | 33.0 | 31.0 | 32.5 | 27.5 | 33.5 | 0.0 | 42.0 |
| 1954 | 58.2 | 54.2 | 30.1 | 0.0 | 34.5 | 34.9 | 32.0 | 33.9 | 30.2 | 34.3 | 0.0 | 44.4 |
| 1955 | 60.4 | 55.9 | 31.5 | 0.0 | 36.3 | 37.6 | 34.2 | 37.0 | 33.0 | 36.6 | 0.0 | 47.6 |
| 1956 | 64.3 | 58.9 | 32.8 | 0.0 | 39.0 | 40.5 | 36.9 | 40.3 | 36.6 | 39.3 | 0.0 | 51.7 |
| 1957 | 68.1 | 62.9 | 34.4 | 0.0 | 41.3 | 43.6 | 41.3 | 42.5 | 40.7 | 42.0 | 0.0 | 55.0 |
| 1958 | 71.1 | 66.1 | 35.1 | 0.0 | 43.2 | 48.7 | 44.8 | 45.5 | 42.4 | 45.2 | 0.0 | 58.6 |
| 1959 | 74.0 | 68.7 | 39.1 | 0.0 | 46.2 | 51.8 | 48.6 | 47.1 | 43.4 | 47.2 | 54.4 | 60.4 |
| 1960 | 77.0 | 72.2 | 43.1 | 52.5 | 49.2 | 56.0 | 54.3 | 49.5 | 46.6 | 50.8 | 57.1 | 64.5 |
| 1961 | 79.3 | 74.1 | 50.2 | 55.6 | 55.2 | 61.6 | 60.6 | 52.5 | 53.3 | 55.7 | 62.2 | 69.5 |
| 1962 | 82.5 | 76.3 | 57.3 | 59.8 | 60.5 | 67.8 | 68.5 | 61.5 | 56.7 | 62.2 | 68.1 | 73.1 |
| 1963 | 85.1 | 79.0 | 64.0 | 66.2 | 65.7 | 74.9 | 73.2 | 73.2 | 62.2 | 68.7 | 74.3 | 76.5 |
| 1964 | 88.9 | 82.0 | 71.9 | 74.2 | 71.1 | 80.5 | 78.9 | 82.3 | 72.1 | 74.9 | 80.5 | 82.0 |
| 1965 | 90.9 | 86.1 | 81.0 | 82.3 | 78.9 | 86.7 | 86.7 | 89.0 | 80.5 | 82.5 | 86.6 | 89.7 |
| 1966 | 95.2 | 92.9 | 89.3 | 91.4 | 89.6 | 92.4 | 94.5 | 91.4 | 90.0 | 90.2 | 94.1 | 97.2 |
| 1967 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1968 | 107.0 | 107.3 | 116.3 | 106.3 | 111.2 | 113.3 | 105.9 | 107.2 | 110.4 | 109.2 | 105.2 | 107.2 |
| 1969 | 114.0 | 115.3 | 137.9 | 116.2 | 124.1 | 120.0 | 115.5 | 117.6 | 124.4 | 119.5 | 112.2 | 115.8 |
| 1970 | 121.7 | 124.3 | 164.2 | 130.9 | 145.0 | 134.7 | 133.0 | 141.1 | 143.8 | 131.9 | 124.7 | 132.8 |
| 1971 | 129.8 | 133.1 | 190.2 | 149.7 | 157.2 | 150.6 | 151.5 | 165.9 | 163.8 | 148.2 | 141.1 | 151.7 |
| 1972 | 137.0 | 142.6 | 219.5 | 173.8 | 176.1 | 168.4 | 169.4 | 189.2 | 188.0 | 168.6 | 157.4 | 170.3 |
| 1973 | 147.0 | 155.2 | 267.9 | 199.0 | 203.4 | 190.0 | 191.8 | 237.6 | 220.2 | 185.5 | 177.9 | 193.7 |
| 1974 | 161.7 | 174.4 | 352.2 | 240.4 | 244.9 | 231.2 | 221.9 | 297.3 | 261.8 | 217.2 | 201.4 | 230.0 |
| 1975p | 179.8 | 203.0 | 406.3 | 286.9 | 295.3 | 272.5 | 247.6 | 383.2 | 297.4 | 259.3 | 216.0 | 291.8 |

[1] Compensation adjusted to include changes in employment taxes that are not compensation to employees, but are labor costs to employers.

p = preliminary.

NOTE: The data relate to all employed persons (wage and salary earners, the self-employed, and unpaid family workers) in the United States and Canada, wage earners in Switzerland, and all employees (wage and salary earners) in the other countries.

## Table B-3. Unit labor costs in manufacturing, based on national currency values, 12 countries, 1950-75

(Indexes, 1967 = 100)

| YEAR | UNITED STATES | CANADA | JAPAN | BEL-GIUM | DEN-MARK | FRANCE | GERMANY | ITALY | NETHER-LANDS | SWEDEN | SWITZ-ERLAND | UNITED KINGDOM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1950 ..... | 69.4 | 75.8 | 82.7 | 0.0 | 52.8 | 49.2 | 65.7 | 70.7 | 52.9 | 51.3 | 0.0 | 54.3 |
| 1951 ..... | 73.9 | 82.4 | 84.5 | 0.0 | 57.8 | 60.0 | 73.4 | 69.5 | 56.6 | 58.3 | 0.0 | 58.4 |
| 1952 ..... | 77.3 | 88.1 | 92.7 | 0.0 | 63.4 | 67.2 | 71.7 | 72.0 | 58.6 | 68.7 | 0.0 | 66.8 |
| 1953 ..... | 80.2 | 89.4 | 85.5 | 0.0 | 64.5 | 65.8 | 70.2 | 73.7 | 56.0 | 68.7 | 0.0 | 67.0 |
| 1954 ..... | 82.5 | 90.5 | 87.6 | 0.0 | 64.6 | 67.6 | 69.6 | 72.8 | 59.2 | 70.3 | 0.0 | 68.5 |
| 1955 ..... | 81.6 | 87.6 | 87.4 | 0.0 | 66.2 | 69.3 | 69.9 | 72.4 | 61.6 | 74.1 | 0.0 | 71.2 |
| 1956 ..... | 87.5 | 88.6 | 85.4 | 0.0 | 69.2 | 70.1 | 73.6 | 74.0 | 64.5 | 75.1 | 0.0 | 77.3 |
| 1957 ..... | 90.8 | 93.9 | 82.2 | 0.0 | 70.8 | 74.4 | 75.6 | 75.3 | 68.9 | 76.2 | 0.0 | 80.3 |
| 1958 ..... | 95.4 | 95.6 | 89.6 | 0.0 | 71.5 | 80.0 | 78.1 | 77.8 | 70.3 | 78.4 | 0.0 | 84.1 |
| 1959 ..... | 94.8 | 94.1 | 85.6 | 0.0 | 71.6 | 79.2 | 78.4 | 74.8 | 67.0 | 77.2 | 70.1 | 83.3 |
| 1960 ..... | 97.7 | 95.6 | 82.0 | 74.5 | 73.8 | 81.4 | 81.8 | 76.1 | 68.4 | 80.6 | 71.0 | 84.0 |
| 1961 ..... | 98.3 | 93.0 | 84.5 | 77.6 | 78.4 | 85.7 | 86.5 | 78.0 | 74.1 | 84.2 | 77.3 | 89.8 |
| 1962 ..... | 97.7 | 90.9 | 92.5 | 78.0 | 81.7 | 90.1 | 92.0 | 82.9 | 76.8 | 87.6 | 85.3 | 92.2 |
| 1963 ..... | 94.2 | 90.7 | 95.4 | 83.4 | 86.0 | 94.0 | 93.3 | 95.7 | 82.2 | 91.5 | 90.5 | 91.5 |
| 1964 ..... | 93.4 | 90.2 | 94.8 | 88.2 | 86.0 | 96.2 | 93.3 | 101.0 | 87.0 | 91.4 | 93.8 | 91.4 |
| 1965 ..... | 92.6 | 91.3 | 102.3 | 93.5 | 91.0 | 98.0 | 95.8 | 97.2 | 91.7 | 93.2 | 95.6 | 97.1 |
| 1966 ..... | 95.4 | 95.6 | 102.5 | 97.0 | 98.4 | 97.5 | 100.5 | 95.2 | 96.6 | 97.9 | 98.9 | 101.6 |
| 1967 ..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1968 ..... | 103.3 | 99.9 | 103.4 | 97.4 | 101.3 | 101.7 | 98.5 | 98.9 | 99.6 | 99.2 | 100.0 | 100.2 |
| 1969 ..... | 108.7 | 101.7 | 106.1 | 97.9 | 103.2 | 104.0 | 101.4 | 104.8 | 103.3 | 101.0 | 96.7 | 106.8 |
| 1970 ..... | 116.5 | 107.9 | 112.1 | 101.4 | 112.2 | 111.1 | 114.0 | 119.8 | 108.8 | 105.9 | 99.4 | 121.7 |
| 1971 ..... | 117.6 | 108.3 | 125.4 | 109.8 | 113.3 | 118.2 | 123.7 | 134.3 | 116.5 | 114.8 | 107.4 | 132.6 |
| 1972 ..... | 118.1 | 112.3 | 134.0 | 113.9 | 116.8 | 123.9 | 130.0 | 142.4 | 123.7 | 122.2 | 114.2 | 140.5 |
| 1973 ..... | 123.2 | 118.4 | 145.4 | 121.2 | 127.3 | 133.6 | 138.4 | 160.8 | 134.4 | 125.8 | 120.4 | 151.4 |
| 1974 ..... | 140.9 | 133.1 | 187.8 | 138.1 | 146.7 | 158.3 | 152.4 | 191.2 | 151.1 | 140.4 | 133.7 | 180.9 |
| 1975p ..... | 156.4 | 152.6 | 223.5 | 156.5 | 163.3 | 195.0 | 164.6 | 254.2 | 175.0 | 167.6 | 149.2 | 232.7 |

p = preliminary.

NOTE: The data relate to all employed persons (wage and salary earners, the self-employed, and unpaid family workers) in the United States and Canada, wage earners in Switzerland, and all employees (wage and salary earners) in the other countries.

## Table B-4. Unit labor costs in manufacturing, based on U.S. dollar values, 12 countries, 1950-75

(Indexes, 1967 = 100)

| YEAR | UNITED STATES | CANADA | JAPAN | BELGIUM | DENMARK | FRANCE | GERMANY | ITALY | NETHERLANDS | SWEDEN | SWITZERLAND | UNITED KINGDOM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1950 ..... | 69.4 | 74.8 | 83.2 | 0.0 | 53.4 | 69.2 | 62.4 | 70.6 | 50.0 | 51.2 | 0.0 | 55.2 |
| 1951 ..... | 73.9 | 84.4 | 85.0 | 0.0 | 58.5 | 84.3 | 69.7 | 69.4 | 53.5 | 58.2 | 0.0 | 59.4 |
| 1952 ..... | 77.3 | 97.0 | 93.3 | 0.0 | 64.2 | 94.5 | 68.2 | 71.9 | 55.6 | 68.5 | 0.0 | 67.8 |
| 1953 ..... | 80.2 | 98.0 | 86.1 | 0.0 | 65.3 | 92.5 | 66.8 | 73.6 | 53.1 | 68.5 | 0.0 | 68.6 |
| 1954 ..... | 82.5 | 100.3 | 88.1 | 0.0 | 65.3 | 94.9 | 66.1 | 72.7 | 56.3 | 70.2 | 0.0 | 70.0 |
| 1955 ..... | 81.6 | 95.8 | 87.9 | 0.0 | 66.9 | 97.4 | 66.2 | 72.3 | 58.2 | 74.0 | 0.0 | 72.3 |
| 1956 ..... | 87.5 | 97.1 | 85.9 | 0.0 | 70.0 | 98.5 | 69.7 | 73.9 | 60.6 | 74.9 | 0.0 | 78.6 |
| 1957 ..... | 90.8 | 105.7 | 82.7 | 0.0 | 71.5 | 87.0 | 71.7 | 75.2 | 65.0 | 76.0 | 0.0 | 81.5 |
| 1958 ..... | 95.4 | 106.2 | 90.1 | 0.0 | 72.3 | 81.7 | 74.2 | 77.8 | 66.9 | 78.2 | 0.0 | 85.9 |
| 1959 ..... | 94.8 | 105.8 | 86.1 | 0.0 | 72.5 | 79.5 | 74.7 | 75.2 | 64.0 | 77.0 | 70.2 | 85.1 |
| 1960 ..... | 97.7 | 106.3 | 82.5 | 74.2 | 74.7 | 81.7 | 78.1 | 76.5 | 65.4 | 80.5 | 71.1 | 85.7 |
| 1961 ..... | 98.3 | 99.1 | 84.8 | 77.3 | 79.2 | 85.9 | 85.9 | 78.3 | 73.6 | 84.1 | 77.4 | 91.4 |
| 1962 ..... | 97.7 | 91.8 | 92.8 | 77.9 | 82.6 | 90.5 | 91.7 | 83.4 | 76.8 | 87.7 | 85.4 | 94.1 |
| 1963 ..... | 94.2 | 90.7 | 95.6 | 83.1 | 87.0 | 94.3 | 93.3 | 96.1 | 82.2 | 91.0 | 90.6 | 93.1 |
| 1964 ..... | 93.4 | 90.2 | 94.8 | 88.1 | 86.8 | 96.6 | 93.6 | 101.0 | 86.9 | 91.6 | 93.9 | 92.8 |
| 1965 ..... | 92.6 | 91.3 | 102.5 | 93.6 | 91.8 | 98.3 | 95.7 | 97.1 | 91.8 | 93.3 | 95.6 | 98.7 |
| 1966 ..... | 95.4 | 95.7 | 102.4 | 96.8 | 99.5 | 97.6 | 100.2 | 95.1 | 96.2 | 97.8 | 98.9 | 103.1 |
| 1967 ..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1968 ..... | 103.3 | 100.1 | 103.8 | 96.9 | 101.5 | 101.1 | 98.3 | 99.0 | 99.1 | 99.1 | 100.3 | 87.2 |
| 1969 ..... | 108.7 | 101.9 | 107.2 | 97.0 | 95.8 | 98.8 | 103.1 | 104.3 | 102.7 | 100.8 | 97.1 | 92.8 |
| 1970 ..... | 116.5 | 111.5 | 113.3 | 101.5 | 104.4 | 98.9 | 124.6 | 119.2 | 108.4 | 105.4 | 99.7 | 106.0 |
| 1971 ..... | 117.6 | 115.7 | 130.7 | 112.4 | 106.8 | 105.5 | 141.8 | 135.6 | 120.3 | 116.1 | 113.1 | 117.9 |
| 1972 ..... | 118.1 | 122.3 | 160.1 | 128.5 | 117.3 | 120.8 | 162.5 | 152.2 | 138.9 | 132.6 | 129.5 | 127.7 |
| 1973 ..... | 123.2 | 127.7 | 194.3 | 155.2 | 147.6 | 148.1 | 208.3 | 172.5 | 174.1 | 149.2 | 165.2 | 134.9 |
| 1974 ..... | 140.9 | 146.9 | 233.4 | 176.5 | 168.4 | 162.0 | 235.2 | 183.4 | 202.8 | 163.6 | 194.9 | 153.9 |
| 1975p ..... | 156.4 | 161.8 | 272.9 | 211.9 | 198.8 | 224.1 | 267.3 | 243.2 | 249.8 | 208.9 | 250.2 | 187.9 |

p = preliminary

NOTE: The data relate to all employed persons (wage and salary earners, the self-employed, and unpaid family workers) in the United States and Canada, wage earners in Switzerland, and all employees (wage and salary earners) in the other countries.

## Table B-5. Output in manufacturing, 12 countries, 1950-75

(Indexes, 1967 = 100)

| YEAR | UNITED STATES | CANADA | JAPAN | BELGIUM | DENMARK | FRANCE | GERMANY | ITALY | NETHERLANDS | SWEDEN | SWITZERLAND | UNITED KINGDOM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1950 | 51.7 | 41.4 | 8.6 | 0.0 | 45.0 | 37.6 | 26.9 | 26.4 | 36.4 | 44.3 | 0.0 | 60.9 |
| 1951 | 57.5 | 44.9 | 12.1 | 0.0 | 45.4 | 41.2 | 30.9 | 30.2 | 38.0 | 47.2 | 0.0 | 63.3 |
| 1952 | 59.3 | 46.6 | 13.1 | 0.0 | 43.2 | 41.9 | 35.1 | 31.4 | 38.0 | 46.0 | 0.0 | 60.1 |
| 1953 | 63.4 | 50.0 | 16.2 | 0.0 | 44.8 | 43.1 | 39.1 | 34.0 | 42.0 | 47.0 | 0.0 | 64.4 |
| 1954 | 58.9 | 48.9 | 17.8 | 0.0 | 48.5 | 45.0 | 43.5 | 37.5 | 45.9 | 49.1 | 0.0 | 67.9 |
| 1955 | 65.3 | 53.6 | 19.2 | 0.0 | 49.4 | 47.7 | 50.7 | 40.9 | 49.9 | 51.3 | 0.0 | 72.2 |
| 1956 | 65.7 | 58.6 | 23.7 | 0.0 | 50.1 | 52.2 | 54.4 | 44.1 | 53.8 | 54.0 | 0.0 | 72.0 |
| 1957 | 66.1 | 58.5 | 28.1 | 0.0 | 53.1 | 55.2 | 57.9 | 47.0 | 56.2 | 56.8 | 0.0 | 73.7 |
| 1958 | 60.3 | 57.4 | 27.6 | 0.0 | 55.3 | 57.1 | 60.3 | 48.0 | 56.2 | 58.0 | 0.0 | 72.9 |
| 1959 | 67.2 | 61.6 | 33.5 | 0.0 | 62.0 | 59.5 | 65.5 | 53.3 | 61.8 | 61.2 | 68.5 | 77.2 |
| 1960 | 67.7 | 62.7 | 42.0 | 69.6 | 68.5 | 64.5 | 73.5 | 60.2 | 68.9 | 65.9 | 74.8 | 83.4 |
| 1961 | 67.4 | 65.2 | 50.3 | 72.7 | 72.2 | 68.7 | 78.7 | 66.3 | 71.3 | 70.4 | 80.0 | 83.5 |
| 1962 | 73.3 | 71.3 | 54.6 | 78.4 | 78.4 | 73.3 | 82.3 | 73.4 | 74.8 | 75.8 | 83.5 | 83.7 |
| 1963 | 79.1 | 76.1 | 61.0 | 82.3 | 79.4 | 79.1 | 84.9 | 78.2 | 77.6 | 79.5 | 87.0 | 86.7 |
| 1964 | 84.9 | 83.4 | 70.8 | 89.8 | 88.7 | 84.9 | 92.5 | 79.2 | 85.4 | 87.2 | 91.3 | 94.8 |
| 1965 | 92.5 | 91.0 | 73.5 | 93.2 | 94.6 | 88.4 | 100.3 | 83.3 | 91.3 | 94.0 | 93.9 | 97.6 |
| 1966 | 100.0 | 97.4 | 83.3 | 98.6 | 96.5 | 95.8 | 102.3 | 91.0 | 96.2 | 96.7 | 96.5 | 99.3 |
| 1967 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1968 | 105.6 | 106.7 | 115.4 | 107.2 | 107.0 | 106.4 | 111.5 | 109.3 | 109.5 | 106.1 | 104.3 | 106.8 |
| 1969 | 108.7 | 114.4 | 134.3 | 119.7 | 120.7 | 116.2 | 124.8 | 116.4 | 120.1 | 114.2 | 114.8 | 110.9 |
| 1970 | 102.6 | 112.9 | 152.9 | 131.3 | 127.7 | 123.7 | 132.2 | 125.6 | 129.5 | 122.1 | 123.5 | 111.4 |
| 1971 | 103.9 | 119.6 | 157.0 | 136.6 | 132.2 | 130.6 | 134.7 | 126.0 | 134.6 | 122.0 | 127.0 | 110.9 |
| 1972 | 113.6 | 127.5 | 168.7 | 148.3 | 142.5 | 138.8 | 138.8 | 131.1 | 138.5 | 124.7 | 129.6 | 114.0 |
| 1973 | 123.2 | 137.8 | 195.4 | 158.8 | 148.2 | 146.6 | 147.9 | 145.3 | 145.6 | 132.8 | 136.5 | 123.5 |
| 1974 | 116.8 | 141.7 | 189.3 | 165.6 | 152.7 | 150.1 | 146.9 | 154.4 | 148.9 | 140.3 | 138.3 | 120.0 |
| 1975p | 106.3 | 134.8 | 168.3 | 149.0 | 142.0 | 136.7 | 137.1 | 139.4 | 138.5 | 137.1 | 118.3 | 112.9 |

p = preliminary.

## Table B-6. Output per hour, hourly compensation, and unit labor costs in manufacturing, United States, 1950-75

(Indexes, 1967 = 100)

| YEAR | OUTPUT | HOURS | COMPEN-SATION | OUTPUT PER HOUR | HOURLY COMPENSATION | | UNIT LABOR COSTS | |
|---|---|---|---|---|---|---|---|---|
| | | | | | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS |
| 1950 ..... | 51.7 | 79.6 | 35.8 | 64.9 | 45.0 | 45.0 | 69.4 | 69.4 |
| 1951 ..... | 57.5 | 85.7 | 42.5 | 67.0 | 49.5 | 49.5 | 73.9 | 73.9 |
| 1952 ..... | 59.3 | 87.0 | 45.9 | 68.2 | 52.7 | 52.7 | 77.3 | 77.3 |
| 1953 ..... | 63.4 | 91.4 | 50.9 | 69.4 | 55.7 | 55.7 | 80.2 | 80.2 |
| 1954 ..... | 58.9 | 83.5 | 48.6 | 70.5 | 58.2 | 58.2 | 82.5 | 82.5 |
| 1955 ..... | 65.3 | 88.1 | 53.3 | 74.0 | 60.4 | 60.4 | 81.6 | 81.6 |
| 1956 ..... | 65.7 | 89.4 | 57.5 | 73.5 | 64.3 | 64.3 | 87.5 | 87.5 |
| 1957 ..... | 66.1 | 88.1 | 60.0 | 75.0 | 68.1 | 68.1 | 90.8 | 90.8 |
| 1958 ..... | 60.3 | 80.9 | 57.5 | 74.6 | 71.1 | 71.1 | 95.4 | 95.4 |
| 1959 ..... | 67.2 | 86.0 | 63.7 | 78.1 | 74.0 | 74.0 | 94.8 | 94.8 |
| 1960 ..... | 67.7 | 85.9 | 66.1 | 78.8 | 77.0 | 77.0 | 97.7 | 97.7 |
| 1961 ..... | 67.4 | 83.5 | 66.3 | 80.7 | 79.3 | 79.3 | 98.3 | 98.3 |
| 1962 ..... | 73.3 | 86.8 | 71.6 | 84.5 | 82.5 | 82.5 | 97.7 | 97.7 |
| 1963 ..... | 79.1 | 87.6 | 74.5 | 90.4 | 85.1 | 85.1 | 94.2 | 94.2 |
| 1964 ..... | 84.9 | 89.2 | 79.3 | 95.2 | 88.9 | 88.9 | 93.4 | 93.4 |
| 1965 ..... | 92.5 | 94.3 | 85.7 | 98.2 | 90.9 | 90.9 | 92.6 | 92.6 |
| 1966 ..... | 100.0 | 100.3 | 95.4 | 99.7 | 95.2 | 95.2 | 95.4 | 95.4 |
| 1967 ..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1968 ..... | 105.6 | 101.9 | 109.1 | 103.6 | 107.0 | 107.0 | 103.3 | 103.3 |
| 1969 ..... | 108.7 | 103.7 | 118.2 | 104.9 | 114.0 | 114.0 | 108.7 | 108.7 |
| 1970 ..... | 102.6 | 98.2 | 119.5 | 104.5 | 121.7 | 121.7 | 116.5 | 116.5 |
| 1971 ..... | 103.9 | 94.2 | 122.3 | 110.3 | 129.8 | 129.8 | 117.6 | 117.6 |
| 1972 ..... | 113.6 | 98.0 | 134.2 | 116.0 | 137.0 | 137.0 | 118.1 | 118.1 |
| 1973 ..... | 123.2 | 103.2 | 151.8 | 119.4 | 147.0 | 147.0 | 123.2 | 123.2 |
| 1974 ..... | 116.8 | 101.8 | 164.6 | 114.7 | 161.7 | 161.7 | 140.9 | 140.9 |
| 1975p ..... | 106.3 | 92.5 | 166.3 | 114.9 | 179.8 | 179.8 | 156.4 | 156.4 |

p = preliminary.

## Table B-7. Output per hour, hourly compensation, and unit labor costs in manufacturing, Canada, 1950-75

(Indexes, 1967 = 100)

| YEAR | OUTPUT | HOURS | COMPEN-SATION | OUTPUT PER HOUR | HOURLY COMPENSATION | | UNIT LABOR COSTS | | EXCHANGE RATE[1] |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | |
| 1950 ..... | 41.4 | 79.6 | 31.3 | 51.9 | 39.3 | 38.8 | 75.8 | 74.8 | 98.7 |
| 1951 ..... | 44.9 | 83.2 | 37.0 | 54.0 | 44.5 | 45.6 | 82.4 | 84.4 | 102.4 |
| 1952 ..... | 46.6 | 84.0 | 41.1 | 55.5 | 48.9 | 53.9 | 88.1 | 97.0 | 110.2 |
| 1953 ..... | 50.0 | 87.1 | 44.7 | 57.4 | 51.3 | 56.3 | 89.4 | 98.0 | 109.7 |
| 1954 ..... | 48.9 | 81.6 | 44.2 | 59.8 | 54.2 | 60.0 | 90.5 | 100.3 | 110.8 |
| 1955 ..... | 53.6 | 84.0 | 47.0 | 63.8 | 55.9 | 61.2 | 87.6 | 95.8 | 109.4 |
| 1956 ..... | 58.6 | 88.2 | 52.0 | 66.5 | 58.9 | 64.6 | 88.6 | 97.1 | 109.6 |
| 1957 ..... | 58.5 | 87.4 | 55.0 | 66.9 | 62.9 | 70.7 | 93.9 | 105.7 | 112.5 |
| 1958 ..... | 57.4 | 83.0 | 54.9 | 69.2 | 66.1 | 73.5 | 95.6 | 106.2 | 111.2 |
| 1959 ..... | 61.6 | 84.4 | 58.0 | 73.0 | 68.7 | 77.2 | 94.1 | 105.8 | 112.5 |
| 1960 ..... | 62.7 | 83.0 | 59.9 | 75.5 | 72.2 | 80.3 | 95.6 | 106.3 | 111.3 |
| 1961 ..... | 65.2 | 81.9 | 60.7 | 79.6 | 74.1 | 78.9 | 93.0 | 99.1 | 106.5 |
| 1962 ..... | 71.3 | 85.0 | 64.8 | 83.9 | 76.3 | 77.0 | 90.9 | 91.8 | 100.9 |
| 1963 ..... | 76.1 | 87.4 | 69.1 | 87.1 | 79.0 | 79.0 | 90.7 | 90.7 | 100.0 |
| 1964 ..... | 83.4 | 91.7 | 75.3 | 90.9 | 82.0 | 82.0 | 90.2 | 90.2 | 100.0 |
| 1965 ..... | 91.0 | 96.4 | 83.0 | 94.4 | 86.1 | 86.2 | 91.3 | 91.3 | 100.1 |
| 1966 ..... | 97.4 | 100.2 | 93.1 | 97.2 | 92.9 | 93.0 | 95.6 | 95.7 | 100.1 |
| 1967 ..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1968 ..... | 106.7 | 99.4 | 106.7 | 107.3 | 107.3 | 107.4 | 99.9 | 100.1 | 100.1 |
| 1969 ..... | 114.4 | 101.0 | 116.4 | 113.3 | 115.3 | 115.5 | 101.7 | 101.9 | 100.2 |
| 1970 ..... | 112.9 | 98.0 | 121.8 | 115.2 | 124.3 | 128.5 | 107.9 | 111.5 | 103.4 |
| 1971 ..... | 119.6 | 97.3 | 129.5 | 122.9 | 133.1 | 142.2 | 108.3 | 115.7 | 106.8 |
| 1972 ..... | 127.5 | 100.4 | 143.2 | 126.9 | 142.6 | 155.3 | 112.3 | 122.3 | 108.9 |
| 1973 ..... | 137.8 | 105.1 | 163.1 | 131.1 | 155.2 | 167.4 | 118.4 | 127.7 | 107.9 |
| 1974 ..... | 141.7 | 108.2 | 188.6 | 131.0 | 174.4 | 192.4 | 133.1 | 146.9 | 110.3 |
| 1975 ..... | 134.8 | 101.3 | 205.6 | 133.1 | 203.0 | 215.3 | 152.6 | 161.8 | 106.1 |

[1] Value of foreign currency in U.S. dollars.

p = preliminary.

## Table B-8. Output per hour, hourly compensation, and unit labor costs in manufacturing, Japan, 1950-75

(Indexes, 1967 = 100)

| YEAR | OUTPUT | HOURS | COMPEN-SATION | OUTPUT PER HOUR | HOURLY COMPENSATION | | UNIT LABOR COSTS | | EXCHANGE RATE[1] |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | |
| 1950 ..... | 8.6 | 40.0 | 7.1 | 21.4 | 17.7 | 17.8 | 82.7 | 83.2 | 100.6 |
| 1951 ..... | 12.1 | 45.2 | 10.2 | 26.8 | 22.6 | 22.8 | 84.5 | 85.0 | 100.6 |
| 1952 ..... | 13.1 | 46.4 | 12.1 | 28.2 | 26.1 | 26.3 | 92.7 | 93.3 | 100.6 |
| 1953 ..... | 16.2 | 50.5 | 13.8 | 32.0 | 27.4 | 27.6 | 85.5 | 86.1 | 100.6 |
| 1954 ..... | 17.8 | 51.7 | 15.5 | 34.3 | 30.1 | 30.2 | 87.6 | 88.1 | 100.6 |
| 1955 ..... | 19.2 | 53.3 | 16.8 | 36.0 | 31.5 | 31.7 | 87.4 | 87.9 | 100.6 |
| 1956 ..... | 23.7 | 61.7 | 20.3 | 38.4 | 32.8 | 33.0 | 85.4 | 85.9 | 100.6 |
| 1957 ..... | 28.1 | 67.1 | 23.1 | 41.9 | 34.4 | 34.7 | 82.2 | 82.7 | 100.6 |
| 1958 ..... | 27.6 | 70.5 | 24.7 | 39.2 | 35.1 | 35.3 | 89.6 | 90.1 | 100.6 |
| 1959 ..... | 33.5 | 73.3 | 28.6 | 45.6 | 39.1 | 39.3 | 85.6 | 86.1 | 100.6 |
| 1960 ..... | 42.0 | 80.0 | 34.5 | 52.6 | 43.1 | 43.4 | 82.0 | 82.5 | 100.6 |
| 1961 ..... | 50.3 | 84.8 | 42.5 | 59.3 | 50.2 | 50.3 | 84.5 | 84.8 | 100.3 |
| 1962 ..... | 54.6 | 88.1 | 50.5 | 61.9 | 57.3 | 57.5 | 92.5 | 92.8 | 100.4 |
| 1963 ..... | 61.0 | 91.0 | 58.2 | 67.1 | 64.0 | 64.1 | 95.4 | 95.6 | 100.2 |
| 1964 ..... | 70.8 | 93.2 | 67.1 | 75.9 | 71.9 | 72.0 | 94.8 | 94.9 | 100.0 |
| 1965 ..... | 73.5 | 93.0 | 75.3 | 79.1 | 81.0 | 81.1 | 102.3 | 102.5 | 100.2 |
| 1966 ..... | 83.3 | 95.7 | 85.4 | 87.1 | 89.3 | 89.2 | 102.5 | 102.4 | 99.9 |
| 1967 ..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1968 ..... | 115.4 | 102.6 | 119.3 | 112.6 | 116.3 | 116.9 | 103.4 | 103.8 | 100.4 |
| 1969 ..... | 134.3 | 103.3 | 142.4 | 130.0 | 137.9 | 139.3 | 106.1 | 107.2 | 101.1 |
| 1970 ..... | 152.9 | 104.4 | 171.4 | 146.5 | 164.2 | 166.0 | 112.1 | 113.3 | 101.1 |
| 1971 ..... | 157.0 | 103.5 | 196.9 | 151.7 | 190.2 | 198.2 | 125.4 | 130.7 | 104.2 |
| 1972 ..... | 168.7 | 102.9 | 225.9 | 163.9 | 219.5 | 262.3 | 134.0 | 160.1 | 119.5 |
| 1973 ..... | 195.4 | 106.0 | 284.1 | 184.3 | 267.9 | 358.2 | 145.4 | 194.3 | 133.7 |
| 1974 ..... | 189.3 | 101.0 | 355.6 | 187.5 | 352.2 | 437.6 | 187.8 | 233.4 | 124.2 |
| 1975p..... | 168.3 | 92.6 | 376.3 | 181.7 | 406.3 | 495.9 | 223.5 | 272.9 | 122.1 |

[1] Value of foreign currency in U.S. dollars.

p = preliminary.

## Table B-9. Output per hour, hourly compensation, and unit labor costs in manufacturing, Belgium, 1960-75

(Indexes, 1967 = 100)

| YEAR | OUTPUT | HOURS | COMPEN-SATION | OUTPUT PER HOUR | HOURLY COMPENSATION | | UNIT LABOR COSTS | | EXCHANGE RATE[1] |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | |
| 1960 ..... | 69.6 | 98.7 | 51.8 | 70.5 | 52.5 | 52.3 | 74.5 | 74.2 | 99.6 |
| 1961 ..... | 72.7 | 101.4 | 56.4 | 71.7 | 55.6 | 55.4 | 77.6 | 77.3 | 99.6 |
| 1962 ..... | 78.4 | 102.2 | 61.2 | 76.7 | 59.8 | 59.7 | 78.0 | 77.9 | 99.8 |
| 1963 ..... | 82.3 | 103.8 | 68.7 | 79.3 | 66.2 | 65.9 | 83.4 | 83.1 | 99.6 |
| 1964 ..... | 89.8 | 106.7 | 79.2 | 84.1 | 74.2 | 74.1 | 88.2 | 88.1 | 99.9 |
| 1965 ..... | 93.2 | 105.8 | 87.1 | 88.0 | 82.3 | 82.4 | 93.5 | 93.6 | 100.1 |
| 1966 ..... | 98.6 | 104.7 | 95.7 | 94.2 | 91.4 | 91.1 | 97.0 | 96.8 | 99.7 |
| 1967 ..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1968 ..... | 107.2 | 98.2 | 104.4 | 109.1 | 106.3 | 105.7 | 97.4 | 96.9 | 99.5 |
| 1969 ..... | 119.7 | 100.9 | 117.2 | 118.6 | 116.2 | 115.1 | 97.9 | 97.0 | 99.1 |
| 1970 ..... | 131.3 | 101.7 | 133.1 | 129.2 | 130.9 | 131.0 | 101.4 | 101.5 | 100.1 |
| 1971 ..... | 136.6 | 100.2 | 150.0 | 136.3 | 149.7 | 153.2 | 109.8 | 112.4 | 102.4 |
| 1972 ..... | 148.3 | 97.2 | 168.9 | 152.6 | 173.8 | 196.2 | 113.9 | 128.5 | 112.9 |
| 1973 ..... | 158.8 | 96.8 | 192.6 | 164.2 | 199.0 | 254.8 | 121.2 | 155.2 | 128.0 |
| 1974 ..... | 165.6 | 95.1 | 228.7 | 174.0 | 240.4 | 307.1 | 138.1 | 176.5 | 127.8 |
| 1975[p] ..... | 149.0 | 81.3 | 233.2 | 183.3 | 286.9 | 388.5 | 156.5 | 211.9 | 135.4 |

[1] Value of foreign currency in U.S. dollars.

p = preliminary.

## Table B-10. Output per hour, hourly compensation, and unit labor costs in manufacturing, Denmark, 1950-75

(Indexes, 1967 = 100)

| YEAR | OUTPUT | HOURS | COMPENSATION | OUTPUT PER HOUR | HOURLY COMPENSATION | | UNIT LABOR COSTS | | EXCHANGE RATE[1] |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | |
| 1950 | 45.0 | 89.4 | 23.7 | 50.3 | 26.6 | 26.9 | 52.8 | 53.4 | 101.2 |
| 1951 | 45.4 | 89.1 | 26.3 | 50.9 | 29.5 | 29.8 | 57.8 | 58.5 | 101.2 |
| 1952 | 43.2 | 85.6 | 27.4 | 50.5 | 32.0 | 32.4 | 63.4 | 64.2 | 101.2 |
| 1953 | 44.8 | 87.4 | 28.9 | 51.2 | 33.0 | 33.4 | 64.5 | 65.3 | 101.2 |
| 1954 | 48.5 | 90.9 | 31.4 | 53.4 | 34.5 | 34.9 | 64.6 | 65.3 | 101.1 |
| 1955 | 49.4 | 90.2 | 32.7 | 54.8 | 36.3 | 36.7 | 66.2 | 66.9 | 101.1 |
| 1956 | 50.1 | 88.9 | 34.7 | 56.3 | 39.0 | 39.4 | 69.2 | 70.0 | 101.1 |
| 1957 | 53.1 | 91.0 | 37.6 | 58.4 | 41.3 | 41.8 | 70.8 | 71.5 | 101.1 |
| 1958 | 55.3 | 91.6 | 39.6 | 60.4 | 43.2 | 43.7 | 71.5 | 72.3 | 101.1 |
| 1959 | 62.0 | 96.1 | 44.4 | 64.5 | 46.2 | 46.8 | 71.6 | 72.5 | 101.3 |
| 1960 | 68.5 | 102.8 | 50.5 | 66.6 | 49.2 | 49.8 | 73.8 | 74.7 | 101.3 |
| 1961 | 72.2 | 102.5 | 56.6 | 70.4 | 55.2 | 55.8 | 78.4 | 79.2 | 101.1 |
| 1962 | 78.4 | 105.9 | 64.0 | 74.0 | 60.5 | 61.2 | 81.7 | 82.6 | 101.2 |
| 1963 | 79.4 | 103.9 | 68.3 | 76.4 | 65.7 | 66.5 | 86.0 | 87.0 | 101.1 |
| 1964 | 88.7 | 107.4 | 76.3 | 82.6 | 71.1 | 71.7 | 86.0 | 86.8 | 100.9 |
| 1965 | 94.6 | 109.0 | 86.0 | 86.7 | 78.9 | 79.6 | 91.0 | 91.8 | 100.9 |
| 1966 | 96.5 | 106.0 | 95.0 | 91.1 | 89.6 | 90.6 | 98.4 | 99.5 | 101.0 |
| 1967 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1968 | 107.0 | 97.4 | 108.4 | 109.8 | 111.2 | 111.5 | 101.3 | 101.5 | 100.3 |
| 1969 | 120.7 | 100.3 | 124.5 | 120.3 | 124.1 | 115.2 | 103.2 | 95.8 | 92.8 |
| 1970 | 127.7 | 98.8 | 143.2 | 129.3 | 145.0 | 135.0 | 112.2 | 104.4 | 93.1 |
| 1971 | 132.2 | 95.2 | 149.7 | 138.8 | 157.2 | 148.3 | 113.3 | 106.8 | 94.3 |
| 1972 | 142.5 | 94.6 | 166.5 | 150.7 | 176.1 | 176.8 | 116.8 | 117.3 | 100.4 |
| 1973 | 148.2 | 92.7 | 188.7 | 159.8 | 203.4 | 235.8 | 127.3 | 147.6 | 115.9 |
| 1974 | 152.7 | 91.5 | 224.0 | 166.9 | 244.9 | 281.1 | 146.7 | 168.4 | 114.8 |
| 1975p | 142.0 | 78.5 | 231.8 | 180.8 | 295.3 | 359.4 | 163.3 | 198.8 | 121.7 |

[1] Value of foreign currency in U.S. dollars.

p = preliminary.

## Table B-11. Output per hour, hourly compensation, and unit labor costs in manufacturing, France, 1950-75

(Indexes, 1967 = 100)

| YEAR | OUTPUT | HOURS | COMPENSATION[1] | OUTPUT PER HOUR | HOURLY COMPENSATION | | UNIT LABOR COSTS | | EXCHANGE RATE[2] |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | |
| 1950 ..... | 37.6 | 85.8 | 18.5 | 43.9 | 21.6 | 30.4 | 49.2 | 69.2 | 140.6 |
| 1951 ..... | 41.2 | 89.2 | 24.7 | 46.2 | 27.7 | 38.9 | 60.0 | 84.3 | 140.5 |
| 1952 ..... | 41.9 | 87.8 | 28.1 | 47.7 | 32.1 | 45.0 | 67.2 | 94.5 | 140.5 |
| 1953 ..... | 43.1 | 85.8 | 28.3 | 50.2 | 33.0 | 46.4 | 65.8 | 92.5 | 140.5 |
| 1954 ..... | 45.0 | 87.1 | 30.4 | 51.6 | 34.9 | 49.0 | 67.6 | 94.9 | 140.5 |
| 1955 ..... | 47.7 | 88.0 | 33.0 | 54.2 | 37.6 | 52.8 | 69.3 | 97.4 | 140.5 |
| 1956 ..... | 52.2 | 90.4 | 36.6 | 57.7 | 40.5 | 56.8 | 70.1 | 98.5 | 140.5 |
| 1957 ..... | 55.2 | 94.1 | 41.1 | 58.6 | 43.6 | 51.0 | 74.4 | 87.0 | 116.9 |
| 1958 ..... | 57.1 | 93.7 | 45.7 | 60.9 | 48.7 | 49.7 | 80.0 | 81.7 | 102.1 |
| 1959 ..... | 59.5 | 91.0 | 47.1 | 65.3 | 51.8 | 51.9 | 79.2 | 79.5 | 100.3 |
| 1960 ..... | 64.5 | 93.8 | 52.5 | 68.7 | 56.0 | 56.1 | 81.4 | 81.7 | 100.3 |
| 1961 ..... | 68.7 | 95.5 | 58.8 | 71.9 | 61.6 | 61.8 | 85.7 | 85.9 | 100.3 |
| 1962 ..... | 73.3 | 97.5 | 66.1 | 75.2 | 67.8 | 68.1 | 90.1 | 90.5 | 100.4 |
| 1963 ..... | 79.1 | 99.2 | 74.3 | 79.7 | 74.9 | 75.2 | 94.0 | 94.3 | 100.4 |
| 1964 ..... | 84.9 | 101.4 | 81.6 | 83.7 | 80.5 | 80.9 | 96.2 | 96.6 | 100.4 |
| 1965 ..... | 88.4 | 99.9 | 86.6 | 88.5 | 86.7 | 87.0 | 98.0 | 98.3 | 100.4 |
| 1966 ..... | 95.8 | 101.2 | 93.4 | 94.7 | 92.4 | 92.5 | 97.5 | 97.6 | 100.1 |
| 1967 ..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1968 ..... | 106.4 | 95.6 | 108.2 | 111.4 | 113.3 | 112.5 | 101.7 | 101.1 | 99.4 |
| 1969 ..... | 116.2 | 100.6 | 120.8 | 115.4 | 120.0 | 114.0 | 104.0 | 98.8 | 95.0 |
| 1970 ..... | 123.7 | 102.0 | 137.4 | 121.2 | 134.7 | 119.9 | 111.1 | 98.9 | 89.0 |
| 1971 ..... | 130.6 | 102.5 | 154.3 | 127.5 | 150.6 | 134.5 | 118.2 | 105.5 | 89.3 |
| 1972 ..... | 138.8 | 102.1 | 172.0 | 135.9 | 168.4 | 164.3 | 123.9 | 120.8 | 97.5 |
| 1973 ..... | 146.6 | 103.0 | 195.8 | 142.2 | 190.0 | 210.7 | 133.6 | 148.1 | 110.9 |
| 1974 ..... | 150.1 | 102.8 | 237.7 | 146.1 | 231.2 | 236.7 | 158.3 | 162.0 | 102.4 |
| 1975p ..... | 136.7 | 97.8 | 266.5 | 139.8 | 272.5 | 313.2 | 195.0 | 224.1 | 114.9 |

[1] Compensation adjusted to include changes in employment taxes that are not compensation to employees, but are labor costs to employers.

[2] Value of foreign currency in U.S. dollars.

p = preliminary.

## Table B-12. Output per hour, hourly compensation. and unit labor costs in manufacturing, Germany, 1950-75

(Indexes, 1967 = 100)

| YEAR | OUTPUT | HOURS | COMPEN-SATION | OUTPUT PER HOUR | HOURLY COMPENSATION | | UNIT LABOR COSTS | | EXCHANGE RATE[1] |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | |
| 1950 | 26.9 | 73.7 | 17.7 | 36.6 | 24.0 | 22.8 | 65.7 | 62.4 | 95.0 |
| 1951 | 30.9 | 82.0 | 22.7 | 37.7 | 27.6 | 26.3 | 73.4 | 69.7 | 95.0 |
| 1952 | 35.1 | 85.0 | 25.1 | 41.2 | 29.6 | 28.1 | 71.7 | 68.2 | 95.0 |
| 1953 | 39.1 | 88.6 | 27.5 | 44.2 | 31.0 | 29.5 | 70.2 | 66.8 | 95.0 |
| 1954 | 43.5 | 94.7 | 30.3 | 46.0 | 32.0 | 30.4 | 69.6 | 66.1 | 95.0 |
| 1955 | 50.7 | 103.5 | 35.4 | 48.9 | 34.2 | 32.4 | 69.9 | 66.2 | 94.7 |
| 1956 | 54.4 | 108.2 | 40.0 | 50.2 | 36.9 | 35.0 | 73.6 | 69.7 | 94.8 |
| 1957 | 57.9 | 106.0 | 43.8 | 54.6 | 41.3 | 39.2 | 75.6 | 71.7 | 94.9 |
| 1958 | 60.3 | 105.0 | 47.0 | 57.4 | 44.8 | 42.6 | 78.1 | 74.2 | 95.1 |
| 1959 | 65.5 | 105.6 | 51.3 | 62.0 | 48.6 | 46.4 | 78.4 | 74.7 | 95.4 |
| 1960 | 73.5 | 110.7 | 60.1 | 66.4 | 54.3 | 51.9 | 81.8 | 78.1 | 95.6 |
| 1961 | 78.7 | 112.3 | 68.1 | 70.0 | 60.6 | 60.2 | 86.5 | 85.9 | 99.3 |
| 1962 | 82.3 | 110.5 | 75.6 | 74.4 | 68.5 | 68.3 | 92.0 | 91.7 | 99.7 |
| 1963 | 84.9 | 108.2 | 79.2 | 78.4 | 73.2 | 73.2 | 93.3 | 93.3 | 100.0 |
| 1964 | 92.5 | 109.5 | 86.3 | 84.5 | 78.9 | 79.1 | 93.3 | 93.6 | 100.3 |
| 1965 | 100.3 | 111.0 | 96.2 | 90.4 | 86.7 | 86.5 | 95.8 | 95.7 | 99.8 |
| 1966 | 102.3 | 108.8 | 102.7 | 94.0 | 94.5 | 94.2 | 100.5 | 100.2 | 99.7 |
| 1967 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1968 | 111.5 | 103.6 | 109.8 | 107.6 | 105.9 | 105.8 | 98.5 | 98.3 | 99.9 |
| 1969 | 124.8 | 109.7 | 126.6 | 113.8 | 115.5 | 117.4 | 101.4 | 103.1 | 101.6 |
| 1970 | 132.2 | 113.4 | 150.7 | 116.6 | 133.0 | 145.4 | 114.0 | 124.6 | 109.3 |
| 1971 | 134.7 | 109.9 | 166.6 | 122.5 | 151.5 | 173.8 | 123.7 | 141.8 | 114.7 |
| 1972 | 138.8 | 106.5 | 180.4 | 130.3 | 169.4 | 211.7 | 130.0 | 162.5 | 125.0 |
| 1973 | 147.9 | 106.7 | 204.6 | 138.6 | 191.8 | 288.7 | 138.4 | 208.3 | 150.5 |
| 1974 | 146.9 | 100.9 | 223.8 | 145.6 | 221.9 | 342.5 | 152.4 | 235.2 | 154.4 |
| 1975p | 137.1 | 91.2 | 225.8 | 150.4 | 247.6 | 402.0 | 164.6 | 267.3 | 162.4 |

[1] Value of foreign currency in U.S. dollars.

p = preliminary.

## Table B-13. Output per hour, hourly compensation, and unit labor costs in manufacturing, Italy, 1950-75

(Indexes, 1967 = 100)

| YEAR | OUTPUT | HOURS | COMPENSATION | OUTPUT PER HOUR | HOURLY COMPENSATION | | UNIT LABOR COSTS | | EXCHANGE RATE[1] |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | |
| 1950 ..... | 26.4 | 72.5 | 18.7 | 36.5 | 25.8 | 25.7 | 70.7 | 70.6 | 99.9 |
| 1951 ..... | 30.2 | 74.2 | 21.0 | 40.7 | 28.3 | 28.2 | 69.5 | 69.4 | 99.9 |
| 1952 ..... | 31.4 | 74.2 | 22.6 | 42.3 | 30.5 | 30.4 | 72.0 | 71.9 | 99.9 |
| 1953 ..... | 34.0 | 77.1 | 25.0 | 44.1 | 32.5 | 32.4 | 73.7 | 73.6 | 99.9 |
| 1954 ..... | 37.5 | 80.6 | 27.3 | 46.6 | 33.9 | 33.9 | 72.8 | 72.7 | 99.9 |
| 1955 ..... | 40.9 | 80.0 | 29.6 | 51.1 | 37.0 | 36.9 | 72.4 | 72.3 | 99.9 |
| 1956 ..... | 44.1 | 81.0 | 32.6 | 54.4 | 40.3 | 40.2 | 74.0 | 73.9 | 99.9 |
| 1957 ..... | 47.0 | 83.2 | 35.4 | 56.5 | 42.5 | 42.5 | 75.3 | 75.2 | 99.9 |
| 1958 ..... | 48.0 | 82.1 | 37.4 | 58.5 | 45.5 | 45.5 | 77.8 | 77.8 | 99.9 |
| 1959 ..... | 53.3 | 84.7 | 39.9 | 62.9 | 47.1 | 47.3 | 74.8 | 75.2 | 100.5 |
| 1960 ..... | 60.2 | 92.4 | 45.8 | 65.1 | 49.5 | 49.8 | 76.1 | 76.5 | 100.5 |
| 1961 ..... | 66.3 | 98.4 | 51.7 | 67.4 | 52.5 | 52.8 | 78.0 | 78.3 | 100.5 |
| 1962 ..... | 73.4 | 99.1 | 60.9 | 74.1 | 61.5 | 61.8 | 82.9 | 83.4 | 100.5 |
| 1963 ..... | 78.2 | 102.3 | 74.9 | 76.5 | 73.2 | 73.5 | 95.7 | 96.1 | 100.4 |
| 1964 ..... | 79.2 | 97.2 | 80.0 | 81.5 | 82.3 | 82.3 | 101.0 | 101.0 | 100.0 |
| 1965 ..... | 83.3 | 91.0 | 81.0 | 91.6 | 89.0 | 88.9 | 97.2 | 97.1 | 99.9 |
| 1966 ..... | 91.0 | 94.7 | 86.6 | 96.0 | 91.4 | 91.3 | 95.2 | 95.1 | 100.0 |
| 1967 ..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1968 ..... | 109.3 | 100.9 | 108.1 | 108.4 | 107.2 | 107.3 | 98.9 | 99.0 | 100.1 |
| 1969 ..... | 116.4 | 103.7 | 122.0 | 112.2 | 117.6 | 117.0 | 104.8 | 104.3 | 99.5 |
| 1970 ..... | 125.6 | 106.6 | 150.5 | 117.8 | 141.1 | 140.4 | 119.8 | 119.2 | 99.5 |
| 1971 ..... | 126.0 | 102.0 | 169.3 | 123.5 | 165.9 | 167.5 | 134.3 | 135.6 | 100.9 |
| 1972 ..... | 131.1 | 98.7 | 186.7 | 132.9 | 189.2 | 202.3 | 142.4 | 152.2 | 106.9 |
| 1973 ..... | 145.3 | 98.3 | 233.6 | 147.8 | 237.6 | 255.0 | 160.8 | 172.5 | 107.3 |
| 1974 ..... | 154.4 | 99.3 | 295.1 | 155.5 | 297.3 | 285.3 | 191.2 | 183.4 | 95.9 |
| 1975p ..... | 139.4 | 92.4 | 354.3 | 150.7 | 383.2 | 366.6 | 254.2 | 243.2 | 95.7 |

[1] Value of foreign currency in U.S. dollars.

p = preliminary.

## Table B-14. Output per hour, hourly compensation. and unit labor costs in manufacturing, Netherlands, 1950-75

(Indexes, 1967 = 100)

| YEAR | OUTPUT | HOURS | COMPEN-SATION | OUTPUT PER HOUR | HOURLY COMPENSATION | | UNIT LABOR COSTS | | EXCHANGE RATE[1] |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | |
| 1950 ..... | 36.4 | 85.0 | 19.2 | 42.9 | 22.7 | 21.4 | 52.9 | 50.0 | 94.6 |
| 1951 ..... | 38.0 | 85.6 | 21.5 | 44.4 | 25.1 | 23.8 | 56.6 | 53.5 | 94.6 |
| 1952 ..... | 38.0 | 83.6 | 22.3 | 45.5 | 26.7 | 25.3 | 58.6 | 55.6 | 94.8 |
| 1953 ..... | 42.0 | 85.5 | 23.5 | 49.1 | 27.5 | 26.1 | 56.0 | 53.1 | 94.9 |
| 1954 ..... | 45.9 | 90.1 | 27.2 | 51.0 | 30.2 | 28.7 | 59.2 | 56.3 | 95.0 |
| 1955 ..... | 49.9 | 93.1 | 30.7 | 53.6 | 33.0 | 31.2 | 61.6 | 58.2 | 94.5 |
| 1956 ..... | 53.8 | 94.8 | 34.7 | 56.8 | 36.6 | 34.4 | 64.5 | 60.6 | 94.1 |
| 1957 ..... | 56.2 | 95.3 | 38.7 | 59.0 | 40.7 | 38.3 | 68.9 | 65.0 | 94.3 |
| 1958 ..... | 56.2 | 93.2 | 39.5 | 60.3 | 42.4 | 40.4 | 70.3 | 66.9 | 95.2 |
| 1959 ..... | 61.8 | 95.4 | 41.4 | 64.7 | 43.4 | 41.4 | 67.0 | 64.0 | 95.4 |
| 1960 ..... | 68.9 | 101.2 | 47.1 | 68.1 | 46.6 | 44.5 | 68.4 | 65.4 | 95.5 |
| 1961 ..... | 71.3 | 99.1 | 52.8 | 71.9 | 53.3 | 52.9 | 74.1 | 73.6 | 99.3 |
| 1962 ..... | 74.8 | 101.4 | 57.5 | 73.8 | 56.7 | 56.7 | 76.8 | 76.8 | 100.0 |
| 1963 ..... | 77.6 | 102.4 | 63.7 | 75.7 | 62.2 | 62.2 | 82.2 | 82.2 | 100.0 |
| 1964 ..... | 85.4 | 103.0 | 74.2 | 82.9 | 72.1 | 72.0 | 87.0 | 86.9 | 99.9 |
| 1965 ..... | 91.3 | 103.9 | 83.7 | 87.8 | 80.5 | 80.6 | 91.7 | 91.8 | 100.1 |
| 1966 ..... | 96.2 | 103.3 | 93.0 | 93.1 | 90.0 | 89.5 | 96.6 | 96.2 | 99.5 |
| 1967 ..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1968 ..... | 109.5 | 98.8 | 109.1 | 110.9 | 110.4 | 109.9 | 99.6 | 99.1 | 99.5 |
| 1969 ..... | 120.1 | 99.7 | 124.0 | 120.5 | 124.4 | 123.7 | 103.3 | 102.7 | 99.4 |
| 1970 ..... | 129.5 | 98.0 | 140.8 | 132.2 | 143.8 | 143.2 | 108.8 | 108.4 | 99.6 |
| 1971 ..... | 134.6 | 95.8 | 156.9 | 140.6 | 163.8 | 169.1 | 116.5 | 120.3 | 103.2 |
| 1972 ..... | 138.5 | 91.2 | 171.4 | 152.0 | 188.0 | 211.0 | 123.7 | 138.9 | 112.2 |
| 1973 ..... | 145.6 | 88.9 | 195.7 | 163.9 | 220.2 | 285.4 | 134.4 | 174.1 | 129.6 |
| 1974 ..... | 148.9 | 85.9 | 224.9 | 173.3 | 261.8 | 351.5 | 151.1 | 202.8 | 134.3 |
| 1975p ..... | 138.5 | 81.5 | 242.4 | 169.9 | 297.4 | 424.6 | 175.0 | 249.8 | 142.8 |

[1] Value of foreign currency in U.S. dollars.

p = preliminary.

## Table B-15. Output per hour, hourly compensation, and unit labor costs in manufacturing, Sweden, 1950-75

(Indexes, 1967 = 100)

| YEAR | OUTPUT | HOURS | COMPENSATION[1] | OUTPUT PER HOUR | HOURLY COMPENSATION | | UNIT LABOR COSTS | | EXCHANGE RATE[2] |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | |
| 1950 ..... | 44.3 | 98.4 | 22.7 | 45.0 | 23.1 | 23.0 | 51.3 | 51.2 | 99.8 |
| 1951 ..... | 47.2 | 101.9 | 27.6 | 46.3 | 27.0 | 27.0 | 58.3 | 58.2 | 99.8 |
| 1952 ..... | 46.0 | 99.5 | 31.6 | 46.2 | 31.7 | 31.7 | 68.7 | 68.5 | 99.8 |
| 1953 ..... | 47.0 | 96.4 | 32.3 | 48.7 | 33.5 | 33.4 | 68.7 | 68.5 | 99.7 |
| 1954 ..... | 49.1 | 100.8 | 34.5 | 48.7 | 34.3 | 34.2 | 70.3 | 70.2 | 99.8 |
| 1955 ..... | 51.3 | 103.9 | 38.0 | 49.3 | 36.6 | 36.5 | 74.1 | 74.0 | 99.8 |
| 1956 ..... | 54.0 | 103.1 | 40.5 | 52.4 | 39.3 | 39.2 | 75.1 | 74.9 | 99.8 |
| 1957 ..... | 56.8 | 103.0 | 43.3 | 55.1 | 42.0 | 41.9 | 76.2 | 76.0 | 99.8 |
| 1958 ..... | 58.0 | 100.6 | 45.5 | 57.6 | 45.2 | 45.1 | 78.4 | 78.2 | 99.8 |
| 1959 ..... | 61.2 | 100.2 | 47.3 | 61.1 | 47.2 | 47.1 | 77.2 | 77.0 | 99.7 |
| 1960 ..... | 65.9 | 104.5 | 53.1 | 63.1 | 50.8 | 50.8 | 80.6 | 80.5 | 99.9 |
| 1961 ..... | 70.4 | 106.5 | 59.3 | 66.1 | 55.7 | 55.6 | 84.2 | 84.1 | 99.9 |
| 1962 ..... | 75.8 | 106.8 | 66.4 | 71.0 | 62.2 | 62.2 | 87.6 | 87.7 | 100.1 |
| 1963 ..... | 79.5 | 105.9 | 72.7 | 75.1 | 68.7 | 68.3 | 91.5 | 91.0 | 99.5 |
| 1964 ..... | 87.2 | 106.4 | 79.7 | 81.9 | 74.9 | 75.0 | 91.4 | 91.6 | 100.2 |
| 1965 ..... | 94.0 | 106.2 | 87.6 | 88.5 | 82.5 | 82.6 | 93.2 | 93.3 | 100.1 |
| 1966 ..... | 96.7 | 105.0 | 94.6 | 92.1 | 90.2 | 90.1 | 97.9 | 97.8 | 99.9 |
| 1967 ..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1968 ..... | 106.1 | 96.4 | 105.3 | 110.1 | 109.2 | 109.1 | 99.2 | 99.1 | 99.9 |
| 1969 ..... | 114.2 | 96.6 | 115.4 | 118.3 | 119.5 | 119.3 | 101.0 | 100.8 | 99.8 |
| 1970 ..... | 122.1 | 98.1 | 129.3 | 124.5 | 131.9 | 131.3 | 105.9 | 105.4 | 99.5 |
| 1971 ..... | 122.0 | 94.6 | 140.1 | 129.0 | 148.2 | 149.8 | 114.8 | 116.1 | 101.1 |
| 1972 ..... | 124.7 | 90.4 | 152.4 | 137.9 | 168.6 | 182.9 | 122.2 | 132.6 | 108.5 |
| 1973 ..... | 132.8 | 90.0 | 167.1 | 147.4 | 185.5 | 220.0 | 125.8 | 149.2 | 118.6 |
| 1974 ..... | 140.3 | 90.7 | 197.0 | 154.7 | 217.2 | 253.0 | 140.4 | 163.6 | 116.5 |
| 1975p ..... | 137.1 | 88.6 | 229.9 | 154.7 | 259.3 | 323.1 | 167.6 | 208.9 | 124.6 |

[1] Compensation adjusted to include changes in employment taxes that are not compensation to employees, but are labor costs to employers.

[2] Value of foreign currency in U.S. dollars.
p = preliminary.

## Table B-16. Output per hour, hourly compensation, and unit labor costs in manufacturing, Switzerland, 1960-75

(Indexes, 1967 = 100)

| YEAR | OUTPUT | HOURS | COMPENSATION | OUTPUT PER HOUR | HOURLY COMPENSATION | | UNIT LABOR COSTS | | EXCHANGE RATE[1] |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | |
| 1960 | 74.8 | 93.0 | 53.1 | 80.4 | 57.1 | 57.2 | 71.0 | 71.1 | 100.2 |
| 1961 | 80.0 | 99.4 | 61.8 | 80.5 | 62.2 | 62.3 | 77.3 | 77.4 | 100.2 |
| 1962 | 83.5 | 104.5 | 71.2 | 79.9 | 68.1 | 68.2 | 85.3 | 85.4 | 100.1 |
| 1963 | 87.0 | 105.9 | 78.7 | 82.2 | 74.3 | 74.5 | 90.5 | 90.6 | 100.2 |
| 1964 | 91.3 | 106.4 | 85.6 | 85.8 | 80.5 | 80.6 | 93.8 | 93.9 | 100.2 |
| 1965 | 93.9 | 103.7 | 89.8 | 90.5 | 86.6 | 86.6 | 95.6 | 95.6 | 100.0 |
| 1966 | 96.5 | 101.4 | 95.4 | 95.2 | 94.1 | 94.1 | 98.9 | 98.9 | 100.0 |
| 1967 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1968 | 104.3 | 99.1 | 104.3 | 105.2 | 105.2 | 105.6 | 100.0 | 100.3 | 100.3 |
| 1969 | 114.8 | 98.9 | 111.0 | 116.1 | 112.2 | 112.7 | 96.7 | 97.1 | 100.4 |
| 1970 | 123.5 | 98.4 | 122.7 | 125.5 | 124.7 | 125.2 | 99.4 | 99.7 | 100.4 |
| 1971 | 127.0 | 96.7 | 136.4 | 131.3 | 141.1 | 148.5 | 107.4 | 113.1 | 105.3 |
| 1972 | 129.6 | 94.0 | 148.0 | 137.9 | 157.4 | 178.5 | 114.2 | 129.5 | 113.4 |
| 1973 | 136.5 | 92.4 | 164.4 | 147.7 | 177.9 | 244.1 | 120.4 | 165.2 | 137.2 |
| 1974 | 138.3 | 91.8 | 184.9 | 150.7 | 201.4 | 293.7 | 133.7 | 194.9 | 145.8 |
| 1975p | 118.3 | 81.7 | 176.5 | 144.8 | 216.0 | 362.3 | 149.2 | 250.2 | 167.7 |

[1] Value of foreign currency in U.S. dollars.

p = preliminary.

## Table B-17. Output per hour, hourly compensation, and unit labor costs in manufacturing, United Kingdom, 1950-75

(Indexes, 1967 = 100)

| YEAR | OUTPUT | HOURS | COMPEN-SATION[1] | OUTPUT PER HOUR | HOURLY COMPENSATION | | UNIT LABOR COSTS | | EXCHANGE RATE[2] |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | NATIONAL CURRENCY BASIS | U.S. DOLLAR BASIS | |
| 1950 ..... | 60.9 | 98.4 | 33.0 | 61.9 | 33.6 | 34.2 | 54.3 | 55.2 | 101.8 |
| 1951 ..... | 63.3 | 101.3 | 36.9 | 62.5 | 36.5 | 37.1 | 58.4 | 59.4 | 101.8 |
| 1952 ..... | 60.1 | 100.4 | 40.2 | 59.9 | 40.0 | 40.6 | 66.8 | 67.8 | 101.5 |
| 1953 ..... | 64.4 | 102.6 | 43.2 | 62.7 | 42.0 | 43.0 | 67.0 | 68.6 | 102.3 |
| 1954 ..... | 67.9 | 104.8 | 46.5 | 64.8 | 44.4 | 45.3 | 68.5 | 70.0 | 102.1 |
| 1955 ..... | 72.2 | 107.9 | 51.4 | 66.9 | 47.6 | 48.3 | 71.2 | 72.3 | 101.5 |
| 1956 ..... | 72.0 | 107.7 | 55.7 | 66.9 | 51.7 | 52.6 | 77.3 | 78.6 | 101.6 |
| 1957 ..... | 73.7 | 107.6 | 59.2 | 68.5 | 55.0 | 55.9 | 80.3 | 81.5 | 101.6 |
| 1958 ..... | 72.9 | 104.7 | 61.4 | 69.7 | 58.6 | 59.9 | 84.1 | 85.9 | 102.2 |
| 1959 ..... | 77.2 | 106.4 | 64.3 | 72.5 | 60.4 | 61.7 | 83.3 | 85.1 | 102.1 |
| 1960 ..... | 83.4 | 108.6 | 70.0 | 76.8 | 64.5 | 65.9 | 84.0 | 85.7 | 102.1 |
| 1961 ..... | 83.5 | 107.9 | 75.0 | 77.4 | 69.5 | 70.8 | 89.8 | 91.4 | 101.9 |
| 1962 ..... | 83.7 | 105.6 | 77.2 | 79.3 | 73.1 | 74.6 | 92.2 | 94.1 | 102.1 |
| 1963 ..... | 86.7 | 103.7 | 79.3 | 83.6 | 76.5 | 77.9 | 91.5 | 93.1 | 101.8 |
| 1964 ..... | 94.8 | 105.7 | 86.6 | 89.7 | 82.0 | 83.2 | 91.4 | 92.8 | 101.5 |
| 1965 ..... | 97.6 | 105.6 | 94.7 | 92.4 | 89.7 | 91.2 | 97.1 | 98.7 | 101.7 |
| 1966 ..... | 99.3 | 103.7 | 100.9 | 95.7 | 97.2 | 98.7 | 101.6 | 103.1 | 101.5 |
| 1967 ..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1968 ..... | 106.8 | 99.9 | 107.0 | 106.9 | 107.2 | 93.3 | 100.2 | 87.2 | 87.0 |
| 1969 ..... | 110.9 | 102.4 | 118.5 | 108.4 | 115.8 | 100.6 | 106.8 | 92.8 | 86.9 |
| 1970 ..... | 111.4 | 102.1 | 135.5 | 109.1 | 132.8 | 115.6 | 121.7 | 106.0 | 87.1 |
| 1971 ..... | 110.9 | 97.0 | 147.1 | 114.3 | 151.7 | 134.8 | 132.6 | 117.9 | 88.9 |
| 1972 ..... | 114.0 | 94.1 | 160.2 | 121.2 | 170.3 | 154.8 | 140.5 | 127.7 | 90.9 |
| 1973 ..... | 123.5 | 96.5 | 187.0 | 127.9 | 193.7 | 172.6 | 151.4 | 134.9 | 89.1 |
| 1974 ..... | 120.0 | 94.4 | 217.2 | 127.1 | 230.0 | 195.7 | 180.9 | 153.9 | 85.1 |
| 1975p ..... | 112.9 | 90.0 | 262.7 | 125.4 | 291.8 | 235.7 | 232.7 | 187.9 | 80.8 |

[1] Compensation adjusted to include changes in employment taxes that are not compensation to employees, but are labor costs to employers.

[2] Value of foreign currency in U.S. dollars.

p = preliminary.

**Table B-18. Productivity changes in manufacturing[1] by source, United States, 1960-74**
(Percent)

| Period | Change in output per hour | Source of change | | |
|---|---|---|---|---|
| | | Productivity change[2] | Shift in hours | Interaction: productivity and shift |
| 1961 | 2.39 | 2.72 | −0.33 | 0.01 |
| 1962 | 4.40 | 4.54 | −.15 | .01 |
| 1963 | 6.86 | 6.69 | −.19 | −.02 |
| 1964 | 5.10 | 5.06 | .04 | .00 |
| 1965 | 3.34 | 3.34 | −.09 | .00 |
| 1966 | 1.19 | 1.25 | −.02 | −.04 |
| 1967 | .26 | .11 | .15 | −.01 |
| 1968 | 3.59 | 3.54 | .02 | .04 |
| 1969 | 1.15 | 1.15 | −.02 | .01 |
| 1970 | −.23 | −.28 | −.02 | .07 |
| 1971 | 5.43 | 5.66 | −1.89 | −.05 |
| 1972 | 5.00 | 5.35 | −.31 | −.03 |
| 1973 | 2.91 | 2.76 | .18 | −.03 |
| 1974 | −3.85 | −4.14 | .31 | −.03 |
| Average annual rate: | | | | |
| 1960-74 | 2.68 | 2.70 | −.02 | −.01 |
| 1970-74 | 2.37 | 2.41 | .00 | −.04 |
| 1965-70 | 1.19 | 1.15 | .02 | .01 |
| 1960-65 | 4.42 | 4.42 | −.07 | .00 |

[1] Based on 20 industry groups.
[2] Productivity change excluding change due to shift in hours and interaction.
NOTE: Components may not add to total because of rounding.

**Table B-19. Productivity change in manufacturing[1] by source, United Kingdom, 1960-74**
(Percent)

| Period | Change in output per hour | Source of change | | |
|---|---|---|---|---|
| | | Productivity change[2] | Shift in hours | Interaction: productivity and shift |
| 1961 | −0.22 | −0.36 | 0.15 | −0.01 |
| 1962 | 2.08 | 2.10 | .00 | −.02 |
| 1963 | 4.09 | 3.88 | .20 | .00 |
| 1964 | 7.62 | 7.65 | −.04 | .01 |
| 1965 | 3.68 | 3.59 | .10 | .00 |
| 1966 | 3.63 | 3.56 | .06 | .01 |
| 1967 | 3.04 | 2.82 | .23 | −.01 |
| 1968 | 6.29 | 6.37 | −.04 | −.04 |
| 1969 | 2.92 | 2.79 | .13 | .00 |
| 1970 | 2.34 | 2.14 | .22 | −.02 |
| 1971 | 5.04 | 5.04 | .03 | −.02 |
| 1972 | 5.47 | 5.50 | −.06 | .03 |
| 1973 | 7.34 | 7.41 | −.04 | −.03 |
| 1974 | −1.96 | −2.22 | .25 | .00 |
| Average annual rate: | | | | |
| 1960-74 | 3.67 | 3.59 | .08 | −.01 |
| 1970-74 | 3.97 | 3.93 | .04 | −.01 |
| 1965-70 | 3.64 | 3.54 | .12 | −.01 |
| 1960-65 | 3.45 | 3.37 | .08 | .00 |

[1] Based on 17 industry groups.
[2] Productivity change excluding change due to shift in hours and interaction.
NOTE: Components may not add to total because of rounding.

## Table B-20. Productivity change in manufacturing[1] by source, Germany, 1960-74

(Percent)

| Period | Change in output per hour | Source of change | | |
|---|---|---|---|---|
| | | Productivity change[1] | Shift in hours | Interaction: productivity and shift |
| 1961 | 4.61 | 4.94 | −0.24 | −0.09 |
| 1962 | 5.80 | 5.79 | .08 | −.06 |
| 1963 | 4.99 | 4.99 | .01 | .00 |
| 1964 | 8.53 | 8.57 | −.04 | .00 |
| 1965 | 4.94 | 5.29 | −.30 | −.05 |
| 1966 | 3.57 | 3.58 | −.01 | .00 |
| 1967 | 5.91 | 5.03 | .76 | .12 |
| 1968 | 8.47 | 9.07 | −.56 | −.05 |
| 1969 | 7.09 | 7.72 | −.60 | −.03 |
| 1970 | 2.91 | 3.21 | −.28 | −.03 |
| 1971 | 5.27 | 5.04 | .20 | .03 |
| 1972 | 7.05 | 6.73 | .31 | .02 |
| 1973 | 6.82 | 6.89 | −.11 | .03 |
| 1974 | 3.76 | 3.06 | .67 | .03 |
| Average annual rate: | | | | |
| 1960-74 | 5.69 | 5.71 | −.01 | −.01 |
| 1970-74 | 5.72 | 5.43 | .27 | .03 |
| 1965-70 | 5.59 | 5.72 | −.14 | .00 |
| 1960-65 | 5.77 | 5.92 | −.10 | −.04 |

[1] Based on 33 industry groups.
[2] Productivity change excluding change due to shift in hours and interaction.
NOTE: Components may not add to total because of rounding.

## Table B-21. Productivity change in manufacturing[1] by source, Japan, 1960-72

(Percent)

| Period | Change in output per hour | Source of change | | |
|---|---|---|---|---|
| | | Productivity change[2] | Shift in hours | Interaction: productivity and shift |
| 1961 | 9.00 | 8.84 | 0.05 | 0.12 |
| 1962 | 5.84 | 5.63 | .12 | .08 |
| 1963 | 7.26 | 7.35 | .04 | −.13 |
| 1964 | 11.15 | 11.08 | .03 | .03 |
| 1965 | 4.86 | 4.74 | .06 | .05 |
| 1966 | 10.20 | 10.38 | −.16 | −.03 |
| 1967 | 14.71 | 14.60 | .06 | .05 |
| 1968 | 12.04 | 11.54 | .38 | .11 |
| 1969 | 12.76 | 12.32 | .31 | .13 |
| 1970 | 11.16 | 10.87 | .29 | .01 |
| 1971 | 3.80 | 3.93 | −.10 | −.03 |
| 1972 | 10.70 | 10.32 | .35 | .03 |
| Average annual rate: | | | | |
| 1960-72 | 9.46 | 9.30 | .12 | .03 |
| 1970-72 | 7.25 | 7.13 | .12 | .00 |
| 1965-70 | 12.17 | 11.94 | .17 | .05 |
| 1960-65 | 7.62 | 7.53 | .06 | .03 |

[1] Based on 17 industry groups.
[2] Productivity change excluding change due to shift in hours and interaction.
NOTE: Components may not add to total because of rounding.

## Table B-22. Output per hour, 15 manufacturing industries, United States, 1960-74

(Indexes, 1967 = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 79.4 | 81.3 | 84.9 | 90.8 | 95.4 | 98.6 | 99.7 | 100.0 | 103.6 | 104.8 | 104.5 | 110.2 | 115.7 | 119.1 | 114.5 |
| FOOD AND TOBACCO | 80.1 | 82.4 | 86.1 | 91.9 | 93.2 | 94.8 | 99.5 | 100.0 | 101.9 | 104.8 | 109.5 | 112.1 | 118.8 | 119.8 | 121.8 |
| TEXTILE MILL PRODUCTS | 63.3 | 65.6 | 68.3 | 88.1 | 92.3 | 95.9 | 100.7 | 100.0 | 100.8 | 102.3 | 112.1 | 114.5 | 117.8 | 115.5 | 124.2 |
| APPAREL AND LEATHER GOODS | 86.9 | 86.9 | 88.5 | 91.0 | 94.2 | 96.5 | 100.4 | 100.0 | 104.0 | 103.6 | 104.9 | 108.0 | 115.3 | 128.6 | 134.8 |
| LUMBER AND FURNITURE | 70.2 | 70.7 | 70.5 | 80.2 | 91.0 | 98.2 | 95.7 | 100.0 | 102.8 | 103.2 | 108.9 | 107.3 | 111.8 | 110.8 | 114.9 |
| PAPER AND PRINTING | 84.6 | 86.7 | 89.2 | 93.7 | 99.9 | 100.8 | 102.0 | 100.0 | 103.7 | 107.6 | 101.4 | 108.0 | 114.6 | 123.2 | 117.7 |
| CHEMICALS AND ALLIED PRODUCTS | 75.4 | 78.5 | 82.4 | 90.1 | 96.1 | 101.3 | 102.0 | 100.0 | 110.1 | 112.7 | 115.4 | 124.2 | 134.7 | 142.5 | 135.2 |
| PETROLEUM AND COAL PRODUCTS | 69.3 | 75.8 | 83.8 | 89.8 | 93.9 | 98.5 | 100.0 | 100.0 | 106.0 | 110.0 | 111.4 | 113.6 | 116.1 | 122.7 | 116.3 |
| RUBBER AND MISCELLANEOUS MFRS | 82.0 | 86.3 | 89.1 | 94.1 | 96.2 | 95.9 | 97.7 | 100.0 | 104.9 | 110.1 | 105.7 | 113.8 | 117.9 | 121.3 | 107.3 |
| STONE, CLAY, GLASS, AND CONCRETE | 86.7 | 89.7 | 92.4 | 97.9 | 101.7 | 102.5 | 100.6 | 100.0 | 101.7 | 104.2 | 102.7 | 104.9 | 111.0 | 112.8 | 104.2 |
| PRIMARY METALS | 83.3 | 83.9 | 86.8 | 90.7 | 95.8 | 98.0 | 100.8 | 100.0 | 99.0 | 94.5 | 91.6 | 92.6 | 97.4 | 103.2 | 104.1 |
| FABRICATED METAL PRODUCTS | 85.2 | 86.8 | 89.5 | 90.6 | 94.7 | 99.0 | 99.6 | 100.0 | 102.5 | 104.7 | 102.7 | 106.6 | 112.8 | 117.1 | 107.0 |
| MACHINERY, EXCEPT ELECTRICAL | 85.4 | 88.6 | 93.0 | 94.3 | 99.1 | 99.8 | 99.9 | 100.0 | 101.0 | 101.5 | 104.6 | 108.7 | 113.9 | 115.2 | 105.4 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 66.0 | 69.2 | 73.4 | 82.0 | 87.5 | 95.9 | 97.2 | 100.0 | 104.5 | 109.5 | 109.9 | 119.6 | 128.2 | 130.4 | 126.5 |
| TRANSPORTATION EQUIPMENT | 77.6 | 79.0 | 85.5 | 92.4 | 97.8 | 101.7 | 100.2 | 100.0 | 106.2 | 102.8 | 98.8 | 114.4 | 118.2 | 117.6 | 105.1 |
| INSTRUMENTS AND RELATED PRODUCTS | 82.4 | 81.9 | 87.5 | 91.5 | 91.8 | 99.5 | 102.1 | 100.0 | 106.0 | 114.7 | 106.8 | 111.0 | 115.5 | 117.9 | 115.7 |

## Table B-23. Output, 15 manufacturing industries, United States, 1960-74

(Indexes, 1967 = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 67.7 | 67.4 | 73.3 | 79.1 | 84.9 | 92.5 | 100.0 | 100.0 | 105.6 | 108.7 | 102.6 | 103.9 | 113.6 | 123.2 | 116.8 |
| FOOD AND TOBACCO | 80.9 | 82.3 | 85.3 | 90.4 | 91.7 | 93.5 | 99.3 | 100.0 | 101.3 | 104.6 | 108.4 | 108.6 | 114.0 | 114.0 | 115.6 |
| TEXTILE MILL PRODUCTS | 59.3 | 59.8 | 63.9 | 80.9 | 86.3 | 94.4 | 103.5 | 100.0 | 105.2 | 106.9 | 111.7 | 113.8 | 123.4 | 123.6 | 123.9 |
| APPAREL AND LEATHER GOODS | 78.2 | 77.0 | 82.4 | 84.8 | 88.5 | 94.5 | 102.4 | 100.0 | 104.9 | 103.2 | 99.3 | 100.6 | 110.5 | 124.0 | 122.6 |
| LUMBER AND FURNITURE | 66.1 | 63.0 | 65.0 | 75.0 | 88.0 | 98.6 | 99.4 | 100.0 | 105.4 | 106.9 | 105.0 | 106.3 | 120.9 | 124.2 | 122.4 |
| PAPER AND PRINTING | 74.2 | 76.2 | 79.5 | 84.1 | 91.4 | 95.0 | 100.4 | 100.0 | 105.5 | 112.6 | 104.7 | 108.2 | 117.1 | 128.2 | 122.1 |
| CHEMICALS AND ALLIED PRODUCTS | 62.6 | 65.0 | 69.9 | 77.9 | 84.4 | 92.4 | 98.7 | 100.0 | 113.6 | 119.7 | 120.8 | 125.1 | 135.9 | 147.7 | 142.7 |
| PETROLEUM AND COAL PRODUCTS | 78.8 | 82.1 | 88.0 | 91.2 | 93.1 | 97.6 | 100.0 | 100.0 | 108.0 | 109.4 | 116.0 | 119.1 | 122.4 | 129.0 | 125.9 |
| RUBBER AND MISCELLANEOUS MFRS | 65.8 | 68.1 | 75.1 | 79.8 | 84.9 | 91.4 | 98.8 | 100.0 | 110.6 | 120.3 | 110.6 | 117.7 | 132.0 | 144.1 | 125.5 |
| STONE, CLAY, GLASS, AND CONCRETE | 81.7 | 81.6 | 86.0 | 93.1 | 99.6 | 103.2 | 104.0 | 100.0 | 103.4 | 109.6 | 104.0 | 105.9 | 117.2 | 125.5 | 114.0 |
| PRIMARY METALS | 74.4 | 70.3 | 75.2 | 80.3 | 90.6 | 98.4 | 105.1 | 100.0 | 99.5 | 98.6 | 89.9 | 85.0 | 92.3 | 106.0 | 107.0 |
| FABRICATED METAL PRODUCTS | 68.6 | 67.6 | 73.5 | 76.1 | 81.8 | 90.8 | 98.5 | 100.0 | 105.3 | 110.0 | 99.9 | 98.2 | 109.8 | 122.7 | 110.8 |
| MACHINERY, EXCEPT ELECTRICAL | 62.6 | 62.1 | 69.5 | 72.2 | 80.8 | 88.8 | 98.9 | 100.0 | 99.9 | 104.5 | 102.7 | 96.7 | 108.2 | 122.3 | 118.0 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 49.2 | 52.1 | 59.1 | 65.2 | 69.3 | 82.3 | 96.3 | 100.0 | 105.5 | 113.3 | 106.9 | 107.6 | 121.6 | 135.0 | 130.2 |
| TRANSPORTATION EQUIPMENT | 61.2 | 58.0 | 68.7 | 77.1 | 80.9 | 91.6 | 99.5 | 100.0 | 112.8 | 108.3 | 88.4 | 97.9 | 105.4 | 112.5 | 93.2 |
| INSTRUMENTS AND RELATED PRODUCTS | 64.1 | 62.6 | 69.2 | 73.6 | 74.8 | 86.2 | 99.0 | 100.0 | 107.5 | 120.3 | 107.2 | 105.4 | 116.3 | 129.0 | 131.2 |

## Table B-24. Hours, 15 manufacturing industries, United States, 1960-74

(Indexes, 1967 = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 85.2 | 82.9 | 86.3 | 87.2 | 89.0 | 93.9 | 100.2 | 100.0 | 102.0 | 103.8 | 98.1 | 94.3 | 98.2 | 103.4 | 102.0 |
| FOOD AND TOBACCO | 101.0 | 99.9 | 99.0 | 98.3 | 98.4 | 98.6 | 99.8 | 100.0 | 99.4 | 99.8 | 99.0 | 96.9 | 96.0 | 95.2 | 94.9 |
| TEXTILE MILL PRODUCTS | 93.7 | 91.2 | 93.6 | 91.8 | 93.4 | 98.4 | 102.8 | 100.0 | 104.3 | 104.5 | 99.6 | 99.4 | 104.7 | 107.0 | 99.8 |
| APPAREL AND LEATHER GOODS | 90.0 | 88.6 | 93.1 | 93.3 | 94.0 | 98.3 | 102.0 | 100.0 | 100.9 | 99.6 | 94.6 | 93.2 | 95.8 | 96.5 | 90.9 |
| LUMBER AND FURNITURE | 94.1 | 89.0 | 92.3 | 93.6 | 96.8 | 100.4 | 104.0 | 100.0 | 102.5 | 103.6 | 96.4 | 99.0 | 108.1 | 112.1 | 106.5 |
| PAPER AND PRINTING | 87.7 | 87.9 | 89.1 | 89.7 | 91.5 | 94.2 | 98.4 | 100.0 | 101.7 | 104.6 | 103.3 | 100.2 | 102.1 | 104.1 | 103.7 |
| CHEMICALS AND ALLIED PRODUCTS | 83.0 | 82.8 | 84.8 | 86.5 | 87.8 | 91.2 | 96.7 | 100.0 | 103.2 | 106.1 | 104.6 | 100.7 | 100.9 | 103.6 | 105.5 |
| PETROLEUM AND COAL PRODUCTS | 113.8 | 108.3 | 105.0 | 101.6 | 99.1 | 99.1 | 100.1 | 100.0 | 101.9 | 99.4 | 104.1 | 104.9 | 105.4 | 105.1 | 108.2 |
| RUBBER AND MISCELLANEOUS MFRS | 80.2 | 79.0 | 84.3 | 84.8 | 88.2 | 95.2 | 101.2 | 100.0 | 105.4 | 109.2 | 104.6 | 103.5 | 111.9 | 118.8 | 117.0 |
| STONE, CLAY, GLASS, AND CONCRETE | 94.3 | 91.0 | 93.1 | 95.2 | 97.9 | 100.7 | 103.4 | 100.0 | 101.7 | 105.2 | 101.2 | 100.9 | 105.5 | 111.2 | 109.5 |
| PRIMARY METALS | 89.2 | 83.8 | 86.6 | 88.5 | 94.5 | 100.5 | 104.3 | 100.0 | 100.5 | 104.4 | 98.2 | 91.8 | 94.8 | 102.7 | 102.8 |
| FABRICATED METAL PRODUCTS | 80.6 | 77.9 | 82.1 | 83.9 | 86.3 | 91.7 | 98.9 | 100.0 | 102.8 | 105.0 | 97.2 | 92.1 | 97.3 | 104.8 | 103.5 |
| MACHINERY, EXCEPT ELECTRICAL | 73.3 | 70.1 | 74.7 | 76.6 | 81.5 | 89.0 | 99.1 | 100.0 | 98.9 | 103.0 | 98.1 | 88.9 | 94.9 | 106.2 | 111.9 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 74.6 | 75.2 | 80.5 | 79.5 | 79.2 | 85.8 | 99.1 | 100.0 | 101.0 | 103.5 | 97.3 | 90.0 | 94.8 | 103.6 | 102.9 |
| TRANSPORTATION EQUIPMENT | 78.9 | 73.4 | 80.3 | 83.4 | 82.7 | 90.1 | 99.3 | 100.0 | 106.2 | 105.3 | 89.5 | 85.6 | 89.2 | 95.7 | 88.7 |
| INSTRUMENTS AND RELATED PRODUCTS | 77.8 | 76.5 | 79.2 | 80.4 | 81.5 | 86.6 | 97.0 | 100.0 | 101.4 | 104.9 | 100.4 | 95.0 | 100.7 | 109.3 | 113.4 |

## Table B-25. Relative levels of output per hour, 15 manufacturing industries, United States, 1960-74

(Indexes, all manufacturing = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| FOOD AND TOBACCO | 115.2 | 115.7 | 115.8 | 115.7 | 111.6 | 109.9 | 114.0 | 114.2 | 112.4 | 114.3 | 119.7 | 116.2 | 117.2 | 114.9 | 121.5 |
| TEXTILE MILL PRODUCTS | 47.7 | 48.3 | 48.2 | 58.2 | 58.0 | 58.3 | 60.5 | 59.9 | 58.3 | 58.5 | 64.2 | 62.2 | 61.0 | 58.1 | 65.0 |
| APPAREL AND LEATHER GOODS | 57.5 | 56.1 | 54.7 | 52.6 | 51.8 | 51.4 | 52.9 | 52.5 | 52.7 | 51.9 | 52.7 | 51.4 | 52.3 | 56.7 | 61.8 |
| LUMBER AND FURNITURE | 72.8 | 71.6 | 68.3 | 72.7 | 78.5 | 82.0 | 79.0 | 82.3 | 81.7 | 81.1 | 85.8 | 80.2 | 79.6 | 76.6 | 82.6 |
| PAPER AND PRINTING | 104.0 | 104.1 | 102.5 | 100.8 | 102.3 | 99.8 | 99.8 | 97.6 | 97.7 | 100.2 | 94.7 | 95.7 | 96.7 | 101.0 | 100.4 |
| CHEMICALS AND ALLIED PRODUCTS | 113.9 | 115.9 | 116.5 | 119.2 | 120.9 | 123.4 | 122.8 | 120.0 | 127.6 | 129.1 | 132.5 | 135.2 | 139.7 | 143.6 | 141.7 |
| PETROLEUM AND COAL PRODUCTS | 219.8 | 235.0 | 248.8 | 249.4 | 248.2 | 252.0 | 252.6 | 252.1 | 258.0 | 264.8 | 268.8 | 259.8 | 252.8 | 259.8 | 256.1 |
| RUBBER AND MISCELLANEOUS MFRS | 88.1 | 90.5 | 89.6 | 88.5 | 86.1 | 83.1 | 83.6 | 85.4 | 86.5 | 89.7 | 86.4 | 88.1 | 87.0 | 87.0 | 80.0 |
| STONE, CLAY, GLASS, AND CONCRETE | 109.4 | 110.6 | 109.1 | 108.2 | 106.9 | 104.3 | 101.1 | 100.3 | 98.5 | 99.8 | 98.6 | 95.5 | 96.2 | 95.0 | 91.2 |
| PRIMARY METALS | 140.4 | 138.0 | 136.7 | 133.8 | 134.4 | 133.0 | 135.2 | 133.8 | 127.8 | 120.7 | 117.2 | 112.4 | 112.6 | 115.9 | 121.7 |
| FABRICATED METAL PRODUCTS | 92.9 | 92.5 | 91.3 | 86.5 | 86.0 | 87.0 | 86.5 | 86.6 | 85.7 | 86.6 | 85.1 | 83.8 | 84.5 | 85.1 | 81.0 |
| MACHINERY, EXCEPT ELECTRICAL | 113.4 | 114.9 | 115.5 | 109.6 | 109.7 | 106.8 | 105.6 | 105.5 | 102.9 | 102.2 | 105.6 | 104.1 | 103.9 | 102.0 | 97.2 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 71.5 | 73.2 | 74.3 | 77.7 | 78.9 | 83.7 | 83.8 | 86.0 | 86.8 | 89.9 | 90.5 | 93.4 | 95.3 | 94.2 | 95.1 |
| TRANSPORTATION EQUIPMENT | 128.5 | 127.7 | 132.4 | 133.9 | 134.8 | 135.6 | 132.1 | 131.5 | 134.9 | 129.1 | 124.3 | 136.5 | 134.3 | 129.8 | 120.7 |
| INSTRUMENTS AND RELATED PRODUCTS | 102.4 | 99.5 | 101.8 | 99.7 | 95.1 | 99.8 | 101.2 | 98.8 | 101.1 | 108.2 | 100.9 | 99.5 | 98.6 | 97.9 | 99.8 |

## Table B-26. Percent distribution of output, 15 manufacturing industries, United States, 1960-74

(Indexes, all manufacturing = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 |
| FOOD AND TOBACCO | 13.121 | 13.405 | 12.775 | 12.548 | 11.868 | 11.096 | 10.909 | 10.984 | 10.535 | 10.567 | 11.609 | 11.481 | 11.018 | 10.164 | 10.865 |
| TEXTILE MILL PRODUCTS | 2.614 | 2.647 | 2.600 | 3.049 | 3.029 | 3.042 | 3.086 | 2.982 | 2.969 | 2.931 | 3.247 | 3.264 | 3.238 | 2.990 | 3.164 |
| APPAREL AND LEATHER GOODS | 4.979 | 4.922 | 4.841 | 4.619 | 4.492 | 4.416 | 4.412 | 4.307 | 4.279 | 4.088 | 4.170 | 4.169 | 4.187 | 4.335 | 4.521 |
| LUMBER AND FURNITURE | 4.343 | 4.154 | 3.943 | 4.217 | 4.611 | 4.736 | 4.423 | 4.446 | 4.437 | 4.374 | 4.551 | 4.547 | 4.731 | 4.484 | 4.657 |
| PAPER AND PRINTING | 9.426 | 9.719 | 9.317 | 9.130 | 9.253 | 8.821 | 8.632 | 8.556 | 8.587 | 8.899 | 8.778 | 8.953 | 8.857 | 8.945 | 8.984 |
| CHEMICALS AND ALLIED PRODUCTS | 5.757 | 6.002 | 5.934 | 6.129 | 6.185 | 6.211 | 6.143 | 6.223 | 6.694 | 6.848 | 7.329 | 7.488 | 7.441 | 7.459 | 7.601 |
| PETROLEUM AND COAL PRODUCTS | 2.836 | 2.967 | 2.925 | 2.807 | 2.671 | 2.570 | 2.437 | 2.436 | 2.490 | 2.451 | 2.755 | 2.791 | 2.623 | 2.550 | 2.626 |
| RUBBER AND MISCELLANEOUS MFRS | 4.025 | 4.187 | 4.246 | 4.178 | 4.140 | 4.089 | 4.093 | 4.142 | 4.338 | 4.583 | 4.468 | 4.693 | 4.812 | 4.846 | 4.450 |
| STONE, CLAY, GLASS, AND CONCRETE | 4.005 | 4.015 | 3.890 | 3.903 | 3.889 | 3.697 | 3.448 | 3.316 | 3.245 | 3.344 | 3.361 | 3.377 | 3.419 | 3.377 | 3.237 |
| PRIMARY METALS | 10.128 | 9.614 | 9.448 | 9.351 | 9.831 | 9.802 | 9.690 | 9.216 | 8.679 | 8.360 | 8.081 | 7.535 | 7.484 | 7.928 | 8.443 |
| FABRICATED METAL PRODUCTS | 7.004 | 6.933 | 6.931 | 6.642 | 6.656 | 6.780 | 6.810 | 6.910 | 6.890 | 6.990 | 6.729 | 6.530 | 6.673 | 6.883 | 6.553 |
| MACHINERY, EXCEPT ELECTRICAL | 10.226 | 10.195 | 10.482 | 10.097 | 10.529 | 10.608 | 10.945 | 11.059 | 10.461 | 10.629 | 11.068 | 10.284 | 10.527 | 10.974 | 11.172 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 6.267 | 6.654 | 6.941 | 7.095 | 7.035 | 7.664 | 8.297 | 8.614 | 8.607 | 8.977 | 8.979 | 8.920 | 9.214 | 9.441 | 9.601 |
| TRANSPORTATION EQUIPMENT | 13.078 | 12.437 | 13.544 | 14.083 | 13.773 | 14.314 | 14.384 | 14.457 | 15.437 | 14.402 | 12.457 | 13.622 | 13.411 | 13.201 | 11.530 |
| INSTRUMENTS AND RELATED PRODUCTS | 2.190 | 2.149 | 2.184 | 2.151 | 2.038 | 2.153 | 2.291 | 2.312 | 2.352 | 2.558 | 2.417 | 2.346 | 2.366 | 2.420 | 2.597 |

## Table B-27. Percent distribution of hours, 15 manufacturing industries, United States, 1960-74

(Indexes, all manufacturing = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 |
| FOOD AND TOBACCO | 11.394 | 11.587 | 11.031 | 10.845 | 10.634 | 10.100 | 9.573 | 9.616 | 9.374 | 9.249 | 9.700 | 9.883 | 9.399 | 8.845 | 8.943 |
| TEXTILE MILL PRODUCTS | 5.475 | 5.480 | 5.399 | 5.241 | 5.225 | 5.218 | 5.103 | 4.977 | 5.092 | 5.011 | 5.054 | 5.247 | 5.309 | 5.148 | 4.870 |
| APPAREL AND LEATHER GOODS | 8.666 | 8.774 | 8.844 | 8.773 | 8.666 | 8.590 | 8.348 | 8.203 | 8.118 | 7.875 | 7.911 | 8.105 | 8.007 | 7.649 | 7.312 |
| LUMBER AND FURNITURE | 5.966 | 5.803 | 5.772 | 5.798 | 5.871 | 5.773 | 5.602 | 5.401 | 5.428 | 5.391 | 5.306 | 5.671 | 5.946 | 5.854 | 5.639 |
| PAPER AND PRINTING | 9.067 | 9.338 | 9.090 | 9.058 | 9.049 | 8.835 | 8.648 | 8.806 | 8.785 | 8.879 | 9.269 | 9.358 | 9.161 | 8.858 | 8.950 |
| CHEMICALS AND ALLIED PRODUCTS | 5.054 | 5.181 | 5.095 | 5.142 | 5.115 | 5.035 | 5.003 | 5.185 | 5.246 | 5.304 | 5.529 | 5.539 | 5.328 | 5.193 | 5.362 |
| PETROLEUM AND COAL PRODUCTS | 1.291 | 1.263 | 1.176 | 1.126 | 1.076 | 1.020 | 0.965 | 0.966 | 0.965 | 0.926 | 1.025 | 1.075 | 1.037 | 0.982 | 1.025 |
| RUBBER AND MISCELLANEOUS MFRS | 4.570 | 4.625 | 4.740 | 4.720 | 4.807 | 4.923 | 4.898 | 4.853 | 5.016 | 5.107 | 5.174 | 5.325 | 5.532 | 5.572 | 5.563 |
| STONE, CLAY, GLASS, AND CONCRETE | 3.660 | 3.631 | 3.564 | 3.608 | 3.637 | 3.545 | 3.410 | 3.306 | 3.296 | 3.352 | 3.409 | 3.536 | 3.553 | 3.554 | 3.547 |
| PRIMARY METALS | 7.214 | 6.966 | 6.912 | 6.991 | 7.314 | 7.370 | 7.166 | 6.887 | 6.789 | 6.929 | 6.896 | 6.701 | 6.647 | 6.840 | 6.940 |
| FABRICATED METAL PRODUCTS | 7.541 | 7.497 | 7.589 | 7.679 | 7.735 | 7.793 | 7.873 | 7.976 | 8.038 | 8.073 | 7.905 | 7.791 | 7.901 | 8.083 | 8.094 |
| MACHINERY, EXCEPT ELECTRICAL | 9.018 | 8.872 | 9.076 | 9.212 | 9.602 | 9.934 | 10.362 | 10.482 | 10.168 | 10.400 | 10.483 | 9.879 | 10.134 | 10.757 | 11.498 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 8.768 | 9.087 | 9.339 | 9.129 | 8.912 | 9.152 | 9.899 | 10.011 | 9.913 | 9.981 | 9.923 | 9.551 | 9.666 | 10.023 | 10.098 |
| TRANSPORTATION EQUIPMENT | 10.177 | 9.738 | 10.228 | 10.519 | 10.216 | 10.554 | 10.887 | 10.992 | 11.447 | 11.157 | 10.022 | 9.981 | 9.982 | 10.168 | 9.557 |
| INSTRUMENTS AND RELATED PRODUCTS | 2.137 | 2.159 | 2.146 | 2.159 | 2.142 | 2.158 | 2.264 | 2.340 | 2.326 | 2.365 | 2.395 | 2.358 | 2.400 | 2.473 | 2.602 |

## Table B-28. Output per hour, 15 manufacturing industries, United Kingdom, 1960-74

(Indexes, 1967 = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 79.2 | 79.0 | 80.6 | 83.9 | 90.3 | 93.7 | 97.1 | 100.0 | 106.3 | 109.4 | 112.0 | 117.6 | 124.0 | 133.1 | 130.5 |
| FOOD AND TOBACCO | 80.7 | 82.7 | 84.1 | 87.1 | 90.0 | 93.3 | 97.1 | 100.0 | 104.7 | 107.1 | 108.3 | 112.3 | 119.4 | 124.5 | 125.3 |
| TEXTILE MILL PRODUCTS | 73.7 | 74.4 | 75.0 | 82.7 | 87.3 | 92.0 | 94.6 | 100.0 | 116.5 | 118.5 | 125.2 | 137.4 | 144.4 | 154.8 | 145.8 |
| APPAREL AND LEATHER GOODS | 81.9 | 83.3 | 81.5 | 83.0 | 88.4 | 94.8 | 98.8 | 100.0 | 104.9 | 103.7 | 108.7 | 115.5 | 119.6 | 130.2 | 133.0 |
| LUMBER AND FURNITURE | 74.8 | 78.7 | 78.4 | 81.1 | 92.5 | 92.1 | 94.1 | 100.0 | 101.0 | 99.2 | 103.8 | 109.3 | 117.2 | 129.5 | 116.1 |
| PAPER AND PRINTING | 87.5 | 85.7 | 85.9 | 87.8 | 95.2 | 96.2 | 99.3 | 100.0 | 103.3 | 105.7 | 107.2 | 110.9 | 119.5 | 132.3 | 127.3 |
| CHEMICALS AND ALLIED PRODUCTS | 64.5 | 66.0 | 69.5 | 74.7 | 82.6 | 88.8 | 93.5 | 100.0 | 112.3 | 114.4 | 123.0 | 129.2 | 140.3 | 157.3 | 163.5 |
| PETROLEUM AND COAL PRODUCTS | 55.7 | 60.1 | 67.3 | 72.7 | 82.8 | 89.4 | 97.4 | 100.0 | 101.5 | 108.6 | 110.8 | 126.1 | 133.6 | 148.4 | 141.9 |
| RUBBER AND MISCELLANEOUS MFRS | 69.8 | 68.9 | 72.6 | 75.8 | 84.6 | 88.9 | 94.7 | 100.0 | 106.1 | 108.1 | 108.4 | 111.4 | 115.8 | 124.4 | 122.1 |
| STONE, CLAY, GLASS, AND CONCRETE | 72.3 | 74.8 | 75.9 | 79.9 | 88.6 | 90.3 | 93.4 | 100.0 | 103.6 | 106.0 | 106.2 | 119.5 | 128.7 | 141.6 | 135.5 |
| PRIMARY METALS | 91.9 | 85.5 | 88.1 | 90.6 | 98.2 | 102.4 | 101.0 | 100.0 | 104.8 | 108.7 | 108.5 | 109.9 | 115.5 | 124.4 | 117.6 |
| FABRICATED METAL PRODUCTS[1] | 97.7 | 90.5 | 89.9 | 92.3 | 103.0 | 105.4 | 99.9 | 100.0 | 107.2 | 112.4 | 108.6 | 108.3 | 112.8 | 118.5 | 117.2 |
| MACHINERY, EXCEPT ELECTRICAL[2] | 77.4 | 80.5 | 81.1 | 82.9 | 88.2 | 92.3 | 97.6 | 100.0 | 105.3 | 106.6 | 111.3 | 121.3 | 123.0 | 132.1 | 132.1 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 74.8 | 75.8 | 78.0 | 81.7 | 85.1 | 84.8 | 92.0 | 100.0 | 104.3 | 111.4 | 117.1 | 123.3 | 135.8 | 153.2 | 141.8 |
| TRANSPORTATION EQUIPMENT | 83.0 | 80.8 | 84.8 | 87.6 | 94.0 | 96.6 | 101.3 | 100.0 | 106.9 | 110.7 | 108.0 | 111.9 | 117.3 | 116.0 | 113.4 |
| INSTRUMENTS AND RELATED PRODUCTS | 64.6 | 64.9 | 69.9 | 73.5 | 84.6 | 94.7 | 98.6 | 100.0 | 114.7 | 126.4 | 134.4 | 133.7 | 129.5 | 139.8 | 147.6 |

[1] Includes jewelry and precious metals

[2] Includes ordnance and small arms.

## Table B-29. Output, 15 manufacturing industries, United Kingdom, 1960-74

(Indexes, 1967 = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 84.3 | 84.3 | 84.4 | 87.1 | 95.2 | 98.0 | 99.6 | 100.0 | 106.2 | 110.3 | 110.9 | 110.6 | 113.5 | 123.0 | 119.6 |
| FOOD AND TOBACCO | 83.9 | 86.5 | 88.1 | 90.9 | 92.9 | 95.3 | 98.2 | 100.0 | 102.8 | 106.0 | 107.5 | 108.2 | 112.9 | 117.6 | 118.3 |
| TEXTILE MILL PRODUCTS | 94.2 | 91.0 | 89.3 | 93.8 | 99.5 | 102.4 | 102.1 | 100.0 | 115.5 | 119.1 | 118.9 | 119.7 | 122.6 | 129.1 | 118.0 |
| APPAREL AND LEATHER GOODS | 99.7 | 100.1 | 95.4 | 95.4 | 100.6 | 104.3 | 104.2 | 100.0 | 104.6 | 103.1 | 102.4 | 107.6 | 110.0 | 115.6 | 112.7 |
| LUMBER AND FURNITURE | 79.7 | 82.6 | 80.9 | 84.1 | 98.1 | 99.1 | 97.1 | 100.0 | 107.8 | 100.9 | 101.2 | 104.3 | 114.9 | 134.2 | 113.9 |
| PAPER AND PRINTING | 86.6 | 85.2 | 85.1 | 87.7 | 95.7 | 97.7 | 100.3 | 100.0 | 104.0 | 107.4 | 108.1 | 105.2 | 110.9 | 121.2 | 117.6 |
| CHEMICALS AND ALLIED PRODUCTS | 67.0 | 68.0 | 70.6 | 75.9 | 83.6 | 89.4 | 94.5 | 100.0 | 107.8 | 113.9 | 119.9 | 122.4 | 129.6 | 145.3 | 153.1 |
| PETROLEUM AND COAL PRODUCTS | 79.6 | 83.0 | 81.4 | 84.0 | 92.1 | 98.2 | 104.3 | 100.0 | 109.9 | 120.5 | 130.9 | 135.3 | 134.3 | 144.0 | 138.7 |
| RUBBER AND MISCELLANEOUS MFRS | 67.6 | 67.1 | 70.5 | 75.1 | 86.9 | 92.3 | 96.1 | 100.0 | 112.3 | 116.8 | 117.4 | 117.0 | 122.3 | 136.7 | 134.2 |
| STONE, CLAY, GLASS, AND CONCRETE | 75.8 | 79.0 | 80.5 | 83.0 | 95.8 | 97.0 | 96.3 | 100.0 | 104.6 | 106.1 | 102.4 | 110.2 | 116.9 | 130.9 | 120.3 |
| PRIMARY METALS | 101.8 | 95.9 | 90.5 | 94.8 | 107.6 | 112.5 | 106.2 | 100.0 | 106.4 | 109.0 | 108.7 | 99.2 | 99.3 | 108.7 | 99.7 |
| FABRICATED METAL PRODUCTS[1] | 96.7 | 92.4 | 89.2 | 92.0 | 106.4 | 110.4 | 104.3 | 100.0 | 109.0 | 115.4 | 110.9 | 103.8 | 106.1 | 114.3 | 113.7 |
| MACHINERY, EXCEPT ELECTRICAL[2] | 75.3 | 81.7 | 81.2 | 81.1 | 88.7 | 93.7 | 99.4 | 100.0 | 104.2 | 109.9 | 113.3 | 113.4 | 107.6 | 117.1 | 117.1 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 70.0 | 72.8 | 76.0 | 79.9 | 86.8 | 85.6 | 93.4 | 100.0 | 103.4 | 110.1 | 113.4 | 116.3 | 124.9 | 142.0 | 136.4 |
| TRANSPORTATION EQUIPMENT | 98.2 | 92.7 | 94.3 | 95.9 | 102.7 | 101.9 | 101.4 | 100.0 | 105.6 | 110.2 | 106.1 | 104.9 | 107.8 | 109.6 | 104.8 |
| INSTRUMENTS AND RELATED PRODUCTS | 61.9 | 65.5 | 70.0 | 74.8 | 83.2 | 94.0 | 97.5 | 100.0 | 111.8 | 120.2 | 130.0 | 131.1 | 120.9 | 132.2 | 136.4 |

[1] Includes jewelry and precious metals.

[2] Includes ordnance and small arms.

## Table B-30. Hours, 15 manufacturing industries, United Kingdom, 1960-74

(Indexes, 1967 = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 106.5 | 106.7 | 104.7 | 103.8 | 105.4 | 104.7 | 102.6 | 100.0 | 99.9 | 100.8 | 99.1 | 94.0 | 91.5 | 92.4 | 91.6 |
| FOOD AND TOBACCO | 103.9 | 104.6 | 104.8 | 104.3 | 103.2 | 102.1 | 101.1 | 100.0 | 98.2 | 99.0 | 99.3 | 96.3 | 94.5 | 94.5 | 94.4 |
| TEXTILE MILL PRODUCTS | 127.7 | 122.2 | 119.0 | 113.4 | 114.0 | 111.3 | 108.0 | 100.0 | 99.1 | 100.5 | 95.0 | 87.2 | 84.9 | 83.4 | 80.9 |
| APPAREL AND LEATHER GOODS | 121.7 | 120.2 | 117.0 | 115.0 | 113.8 | 110.0 | 105.5 | 100.0 | 99.7 | 99.4 | 94.2 | 93.2 | 91.9 | 88.8 | 84.7 |
| LUMBER AND FURNITURE | 106.5 | 105.0 | 103.2 | 103.7 | 106.0 | 107.6 | 103.2 | 100.0 | 106.8 | 101.7 | 97.5 | 95.4 | 98.1 | 103.6 | 98.1 |
| PAPER AND PRINTING | 98.9 | 99.4 | 99.1 | 99.8 | 100.5 | 101.6 | 101.1 | 100.0 | 100.6 | 101.5 | 100.9 | 94.9 | 92.8 | 91.6 | 92.4 |
| CHEMICALS AND ALLIED PRODUCTS | 104.0 | 103.0 | 101.7 | 101.7 | 101.2 | 100.7 | 101.1 | 100.0 | 96.0 | 99.6 | 97.5 | 94.7 | 92.4 | 92.4 | 93.6 |
| PETROLEUM AND COAL PRODUCTS | 142.9 | 138.2 | 120.9 | 115.6 | 111.3 | 109.8 | 107.1 | 100.0 | 108.3 | 111.0 | 118.2 | 107.3 | 100.5 | 97.0 | 97.8 |
| RUBBER AND MISCELLANEOUS MFRS | 96.9 | 97.4 | 97.2 | 99.1 | 102.7 | 103.8 | 101.5 | 100.0 | 105.9 | 108.1 | 108.3 | 105.1 | 105.6 | 109.9 | 109.9 |
| STONE, CLAY, GLASS, AND CONCRETE | 104.9 | 105.6 | 106.0 | 104.0 | 108.1 | 107.4 | 103.2 | 100.0 | 100.9 | 100.1 | 96.4 | 92.2 | 90.8 | 92.5 | 88.8 |
| PRIMARY METALS | 110.9 | 112.1 | 102.7 | 104.6 | 109.6 | 109.9 | 105.2 | 100.0 | 101.6 | 100.3 | 100.2 | 90.3 | 86.0 | 87.4 | 84.7 |
| FABRICATED METAL PRODUCTS[1] | 99.0 | 102.0 | 99.2 | 99.7 | 103.3 | 104.7 | 104.4 | 100.0 | 101.7 | 102.7 | 102.1 | 95.8 | 94.1 | 96.5 | 97.1 |
| MACHINERY, EXCEPT ELECTRICAL[2] | 97.3 | 101.5 | 100.1 | 97.8 | 100.6 | 101.5 | 101.9 | 100.0 | 98.9 | 103.0 | 101.8 | 93.4 | 87.5 | 88.6 | 88.6 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 93.5 | 96.0 | 97.4 | 97.8 | 102.1 | 101.0 | 101.6 | 100.0 | 99.1 | 98.9 | 96.8 | 94.3 | 92.0 | 92.6 | 96.2 |
| TRANSPORTATION EQUIPMENT | 118.4 | 114.8 | 111.2 | 109.6 | 109.3 | 105.5 | 100.1 | 100.0 | 98.8 | 99.6 | 98.2 | 93.8 | 91.8 | 94.5 | 92.4 |
| INSTRUMENTS AND RELATED PRODUCTS | 95.8 | 101.0 | 100.1 | 101.8 | 98.4 | 99.3 | 98.9 | 100.0 | 97.5 | 95.1 | 96.7 | 98.0 | 93.4 | 94.6 | 92.4 |

[1] Includes jewelry and precious metals.

[2] Includes ordnance and small arms.

## Table B-31. Relative levels of output per hour, 15 manufacturing industries, United Kingdom, 1960-74

(Indexes, all manufacturing = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| FOOD AND TOBACCO | 128.3 | 131.7 | 131.2 | 130.6 | 125.5 | 125.4 | 125.9 | 125.9 | 124.0 | 123.2 | 121.8 | 120.2 | 121.2 | 117.7 | 120.9 |
| TEXTILE MILL PRODUCTS | 70.7 | 71.5 | 70.6 | 74.8 | 73.3 | 74.5 | 74.0 | 75.9 | 83.1 | 82.2 | 84.8 | 88.6 | 88.3 | 88.2 | 84.7 |
| APPAREL AND LEATHER GOODS | 72.0 | 73.4 | 70.3 | 68.8 | 68.1 | 70.4 | 70.8 | 69.6 | 68.7 | 66.0 | 67.5 | 68.4 | 67.1 | 68.0 | 70.9 |
| LUMBER AND FURNITURE | 86.7 | 91.4 | 89.2 | 88.7 | 94.0 | 90.2 | 89.0 | 91.8 | 87.2 | 83.2 | 85.1 | 85.3 | 86.7 | 89.3 | 81.6 |
| PAPER AND PRINTING | 129.9 | 127.5 | 125.1 | 122.9 | 123.9 | 120.7 | 120.2 | 117.5 | 114.3 | 113.6 | 112.5 | 110.8 | 113.2 | 116.8 | 114.6 |
| CHEMICALS AND ALLIED PRODUCTS | 108.5 | 111.3 | 114.8 | 118.6 | 121.9 | 126.4 | 128.3 | 133.3 | 140.9 | 139.4 | 146.5 | 146.5 | 150.8 | 157.5 | 167.0 |
| PETROLEUM AND COAL PRODUCTS | 116.8 | 126.2 | 138.6 | 143.8 | 152.1 | 156.4 | 166.6 | 166.0 | 158.5 | 164.8 | 164.2 | 178.0 | 178.8 | 185.1 | 180.5 |
| RUBBER AND MISCELLANEOUS MFRS | 93.6 | 92.6 | 95.6 | 95.9 | 99.4 | 100.7 | 103.6 | 106.2 | 106.0 | 104.9 | 102.8 | 100.9 | 99.1 | 99.2 | 99.3 |
| STONE, CLAY, GLASS, AND CONCRETE | 84.9 | 88.0 | 87.5 | 88.4 | 91.2 | 89.6 | 89.4 | 93.0 | 90.6 | 90.1 | 88.1 | 94.5 | 96.4 | 98.8 | 96.5 |
| PRIMARY METALS | 120.8 | 112.6 | 113.8 | 112.4 | 113.1 | 113.8 | 108.3 | 104.1 | 102.6 | 103.4 | 100.9 | 97.3 | 96.9 | 97.3 | 93.8 |
| FABRICATED METAL PRODUCTS[1] | 114.8 | 106.6 | 103.8 | 102.3 | 106.1 | 104.7 | 95.7 | 93.0 | 93.8 | 95.6 | 90.2 | 85.7 | 84.6 | 82.8 | 83.5 |
| MACHINERY, EXCEPT ELECTRICAL[2] | 95.6 | 99.6 | 98.4 | 96.6 | 95.5 | 96.4 | 98.4 | 97.8 | 96.9 | 95.3 | 97.2 | 100.9 | 97.0 | 97.1 | 99.0 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 85.9 | 87.2 | 87.9 | 88.5 | 85.6 | 82.3 | 86.1 | 90.9 | 89.2 | 92.5 | 95.1 | 95.3 | 99.5 | 104.6 | 98.8 |
| TRANSPORTATION EQUIPMENT | 102.7 | 100.2 | 103.0 | 102.2 | 102.0 | 101.1 | 102.3 | 98.0 | 98.6 | 99.2 | 94.6 | 93.2 | 92.7 | 85.4 | 85.1 |
| INSTRUMENTS AND RELATED PRODUCTS | 72.4 | 72.8 | 76.8 | 77.6 | 83.0 | 89.6 | 90.0 | 88.6 | 95.7 | 102.4 | 106.4 | 100.8 | 92.5 | 93.1 | 100.2 |

[1] Includes jewelry and precious metals

[2] Includes ordnance and small arms.

## Table B-32. Percent distribution of output, 15 manufacturing industries, United Kingdom, 1960-74

(Indexes, all manufacturing = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 |
| FOOD AND TOBACCO | 11.614 | 11.970 | 12.182 | 12.171 | 11.393 | 11.347 | 11.507 | 11.674 | 11.300 | 11.226 | 11.315 | 11.421 | 11.608 | 11.164 | 11.549 |
| TEXTILE MILL PRODUCTS | 6.841 | 6.606 | 6.480 | 6.592 | 6.402 | 6.397 | 6.280 | 6.124 | 6.658 | 6.618 | 6.564 | 6.631 | 6.612 | 6.429 | 6.041 |
| APPAREL AND LEATHER GOODS | 4.677 | 4.698 | 4.470 | 4.331 | 4.181 | 4.209 | 4.137 | 3.955 | 3.895 | 3.700 | 3.651 | 3.850 | 3.830 | 3.717 | 3.727 |
| LUMBER AND FURNITURE | 3.030 | 3.141 | 3.073 | 3.095 | 3.304 | 3.242 | 3.125 | 3.207 | 3.255 | 2.935 | 2.926 | 3.024 | 3.245 | 3.499 | 3.054 |
| PAPER AND PRINTING | 9.055 | 8.906 | 8.887 | 8.869 | 8.860 | 8.790 | 8.879 | 8.815 | 8.633 | 8.583 | 8.591 | 8.386 | 8.611 | 8.685 | 8.672 |
| CHEMICALS AND ALLIED PRODUCTS | 5.766 | 5.848 | 6.069 | 6.316 | 6.367 | 6.619 | 6.880 | 7.252 | 7.362 | 7.493 | 7.839 | 8.030 | 8.279 | 8.568 | 9.288 |
| PETROLEUM AND COAL PRODUCTS | 0.795 | 0.829 | 0.812 | 0.812 | 0.815 | 0.843 | 0.882 | 0.842 | 0.872 | 0.921 | 0.994 | 1.031 | 0.996 | 0.986 | 0.977 |
| RUBBER AND MISCELLANEOUS MFRS | 3.154 | 3.131 | 3.287 | 3.390 | 3.588 | 3.702 | 3.796 | 3.933 | 4.160 | 4.166 | 4.161 | 4.162 | 4.236 | 4.372 | 4.413 |
| STONE, CLAY, GLASS, AND CONCRETE | 3.508 | 3.654 | 3.717 | 3.714 | 3.924 | 3.860 | 3.770 | 3.899 | 3.841 | 3.754 | 3.597 | 3.887 | 4.014 | 4.150 | 3.922 |
| PRIMARY METALS | 9.417 | 8.863 | 8.363 | 8.478 | 8.812 | 8.947 | 8.311 | 7.795 | 7.811 | 7.708 | 7.638 | 6.996 | 6.820 | 6.888 | 6.498 |
| FABRICATED METAL PRODUCTS[1] | 7.362 | 7.032 | 6.789 | 6.779 | 7.178 | 7.233 | 6.725 | 6.420 | 6.588 | 6.720 | 6.416 | 6.025 | 5.999 | 5.966 | 6.108 |
| MACHINERY, EXCEPT ELECTRICAL[2] | 11.793 | 12.784 | 12.701 | 12.283 | 12.297 | 12.615 | 13.179 | 13.201 | 12.952 | 13.153 | 13.477 | 13.534 | 12.509 | 12.567 | 12.929 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 7.269 | 7.562 | 7.885 | 8.035 | 7.992 | 7.651 | 8.217 | 8.760 | 8.530 | 8.747 | 8.953 | 9.216 | 9.640 | 10.109 | 9.993 |
| TRANSPORTATION EQUIPMENT | 14.468 | 13.650 | 13.870 | 13.671 | 13.394 | 12.909 | 12.640 | 12.417 | 12.347 | 12.416 | 11.879 | 11.786 | 11.784 | 11.065 | 10.883 |
| INSTRUMENTS AND RELATED PRODUCTS | 1.253 | 1.326 | 1.414 | 1.464 | 1.492 | 1.637 | 1.671 | 1.706 | 1.797 | 1.859 | 2.000 | 2.022 | 1.817 | 1.834 | 1.946 |

[1] Includes jewelry and precious metals.

[2] Includes ordnance and small arms.

## Table B-33. Percent distribution of hours, 15 manufacturing industries, United Kingdom, 1960-74

(Indexes, all manufacturing = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 |
| FOOD AND TOBACCO | 9.051 | 9.086 | 9.283 | 9.318 | 9.081 | 9.050 | 9.141 | 9.275 | 9.117 | 9.110 | 9.293 | 9.497 | 9.577 | 9.488 | 9.553 |
| TEXTILE MILL PRODUCTS | 9.681 | 9.241 | 9.180 | 8.818 | 8.731 | 8.583 | 8.491 | 8.072 | 8.010 | 8.052 | 7.739 | 7.482 | 7.488 | 7.290 | 7.131 |
| APPAREL AND LEATHER GOODS | 6.495 | 6.399 | 6.355 | 6.298 | 6.138 | 5.976 | 5.843 | 5.685 | 5.672 | 5.608 | 5.405 | 5.632 | 5.709 | 5.464 | 5.255 |
| LUMBER AND FURNITURE | 3.493 | 3.438 | 3.445 | 3.490 | 3.514 | 3.593 | 3.512 | 3.494 | 3.734 | 3.526 | 3.439 | 3.545 | 3.742 | 3.919 | 3.742 |
| PAPER AND PRINTING | 6.970 | 6.984 | 7.102 | 7.214 | 7.152 | 7.283 | 7.389 | 7.502 | 7.556 | 7.558 | 7.635 | 7.570 | 7.607 | 7.437 | 7.567 |
| CHEMICALS AND ALLIED PRODUCTS | 5.313 | 5.253 | 5.285 | 5.328 | 5.225 | 5.237 | 5.360 | 5.441 | 5.226 | 5.376 | 5.352 | 5.483 | 5.490 | 5.439 | 5.561 |
| PETROLEUM AND COAL PRODUCTS | 0.681 | 0.657 | 0.586 | 0.565 | 0.536 | 0.532 | 0.529 | 0.507 | 0.550 | 0.559 | 0.605 | 0.579 | 0.557 | 0.532 | 0.541 |
| RUBBER AND MISCELLANEOUS MFRS | 3.369 | 3.381 | 3.440 | 3.535 | 3.611 | 3.675 | 3.664 | 3.705 | 3.926 | 3.972 | 4.048 | 4.140 | 4.273 | 4.407 | 4.442 |
| STONE, CLAY, GLASS, AND CONCRETE | 4.131 | 4.152 | 4.248 | 4.200 | 4.303 | 4.306 | 4.217 | 4.195 | 4.237 | 4.166 | 4.081 | 4.115 | 4.162 | 4.198 | 4.065 |
| PRIMARY METALS | 7.796 | 7.869 | 7.351 | 7.544 | 7.791 | 7.865 | 7.677 | 7.489 | 7.614 | 7.453 | 7.572 | 7.193 | 7.038 | 7.081 | 6.927 |
| FABRICATED METAL PRODUCTS[1] | 6.415 | 6.596 | 6.544 | 6.630 | 6.767 | 6.908 | 7.024 | 6.902 | 7.026 | 7.031 | 7.114 | 7.034 | 7.091 | 7.205 | 7.313 |
| MACHINERY, EXCEPT ELECTRICAL[2] | 12.331 | 12.830 | 12.907 | 12.716 | 12.882 | 13.092 | 13.397 | 13.498 | 13.363 | 13.796 | 13.861 | 13.413 | 12.902 | 12.949 | 13.059 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 8.460 | 8.669 | 8.970 | 9.083 | 9.335 | 9.302 | 9.540 | 9.639 | 9.565 | 9.455 | 9.416 | 9.668 | 9.686 | 9.665 | 10.117 |
| TRANSPORTATION EQUIPMENT | 14.083 | 13.625 | 13.464 | 13.374 | 13.136 | 12.773 | 12.359 | 12.671 | 12.526 | 12.522 | 12.562 | 12.642 | 12.712 | 12.954 | 12.782 |
| INSTRUMENTS AND RELATED PRODUCTS | 1.731 | 1.822 | 1.840 | 1.887 | 1.798 | 1.826 | 1.856 | 1.925 | 1.878 | 1.816 | 1.879 | 2.007 | 1.964 | 1.971 | 1.942 |

[1] Includes jewelry and precious metals.

[2] Includes ordnance and small arms.

## Table B-34. Output per hour, 15 manufacturing industries, Germany, 1960-74

(Indexes, 1967 = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 68.9 | 72.1 | 76.2 | 80.1 | 86.9 | 91.2 | 94.4 | 100.0 | 108.5 | 116.2 | 119.5 | 125.8 | 134.7 | 143.9 | 149.3 |
| FOOD AND TOBACCO | 69.3 | 73.5 | 77.4 | 81.0 | 87.2 | 92.4 | 95.6 | 100.0 | 106.1 | 110.7 | 112.8 | 120.1 | 125.1 | 131.2 | 139.2 |
| TEXTILE MILL PRODUCTS | 66.3 | 71.2 | 77.3 | 82.2 | 87.4 | 93.5 | 96.3 | 100.0 | 113.1 | 120.8 | 124.7 | 141.1 | 148.8 | 157.9 | 169.0 |
| APPAREL AND LEATHER GOODS | 76.4 | 81.7 | 85.4 | 87.7 | 92.7 | 99.2 | 101.2 | 100.0 | 109.7 | 116.5 | 116.4 | 123.2 | 129.2 | 128.1 | 134.1 |
| LUMBER AND FURNITURE | 64.3 | 67.3 | 72.6 | 75.5 | 84.1 | 90.3 | 94.8 | 100.0 | 106.2 | 117.5 | 123.5 | 133.3 | 142.3 | 149.9 | 152.3 |
| PAPER AND PRINTING | 72.0 | 74.4 | 77.9 | 80.9 | 87.1 | 92.4 | 95.9 | 100.0 | 109.5 | 117.1 | 120.5 | 125.3 | 135.0 | 144.8 | 152.3 |
| CHEMICALS AND ALLIED PRODUCTS | 55.3 | 57.3 | 63.5 | 69.8 | 77.2 | 82.6 | 89.8 | 100.0 | 115.1 | 125.8 | 130.6 | 141.4 | 155.4 | 172.5 | 176.8 |
| PETROLEUM AND COAL PRODUCTS | 40.5 | 48.9 | 55.1 | 65.9 | 72.0 | 79.7 | 92.9 | 100.0 | 107.5 | 107.3 | 119.0 | 122.2 | 120.7 | 135.0 | 127.6 |
| RUBBER AND MISCELLANEOUS MFRS | 66.9 | 70.0 | 75.8 | 78.3 | 86.9 | 92.0 | 94.2 | 100.0 | 113.7 | 120.4 | 125.4 | 133.1 | 143.5 | 154.6 | 162.3 |
| STONE, CLAY, GLASS, AND CONCRETE[1] | 65.1 | 69.7 | 75.4 | 80.3 | 87.9 | 91.0 | 95.2 | 100.0 | 108.2 | 113.3 | 118.5 | 125.2 | 133.4 | 138.0 | 141.4 |
| PRIMARY METALS[2] | 76.7 | 75.4 | 77.2 | 77.2 | 88.5 | 88.7 | 90.4 | 100.0 | 111.6 | 120.1 | 118.3 | 118.3 | 129.9 | 143.6 | 152.5 |
| FABRICATED METAL PRODUCTS | 76.5 | 79.4 | 84.0 | 86.0 | 92.1 | 96.2 | 96.5 | 100.0 | 100.3 | 115.8 | 116.9 | 122.0 | 127.7 | 136.2 | 139.6 |
| MACHINERY, EXCEPT ELECTRICAL[3] | 85.8 | 89.3 | 91.5 | 91.7 | 96.7 | 99.5 | 99.6 | 100.0 | 100.9 | 108.3 | 113.7 | 117.3 | 121.0 | 123.5 | 126.9 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 69.5 | 73.0 | 75.8 | 78.4 | 84.9 | 92.0 | 92.8 | 100.0 | 111.7 | 120.1 | 124.8 | 130.8 | 144.5 | 156.1 | 162.2 |
| TRANSPORTATION EQUIPMENT[4] | 77.4 | 81.4 | 83.4 | 93.3 | 98.1 | 99.2 | 102.8 | 100.0 | 112.3 | 122.3 | 123.7 | 127.1 | 136.1 | 144.1 | 138.5 |
| INSTRUMENTS AND RELATED PRODUCTS | 74.3 | 76.0 | 79.0 | 82.5 | 94.4 | 99.7 | 101.3 | 100.0 | 112.0 | 121.6 | 123.6 | 119.3 | 128.0 | 136.0 | 137.0 |

[1] Includes quarrying.
[2] Includes railroad and street cars.
[3] Includes locomotives.
[4] Excludes aircraft, railroad rolling stock, and street cars.

## Table B-35. Output, 15 manufacturing industries, Germany, 1960-74

(Indexes, 1967 = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 76.3 | 81.0 | 84.3 | 86.6 | 95.1 | 101.2 | 102.8 | 100.0 | 112.3 | 127.3 | 135.4 | 138.0 | 143.4 | 153.4 | 150.5 |
| FOOD AND TOBACCO | 73.3 | 77.5 | 82.2 | 85.8 | 91.3 | 95.5 | 98.3 | 100.0 | 105.3 | 110.1 | 114.0 | 120.6 | 122.3 | 127.3 | 128.8 |
| TEXTILE MILL PRODUCTS | 92.4 | 95.2 | 97.9 | 99.3 | 103.0 | 107.5 | 107.5 | 100.0 | 115.9 | 126.9 | 128.0 | 134.9 | 138.6 | 138.4 | 130.3 |
| APPAREL AND LEATHER GOODS | 89.0 | 94.5 | 98.4 | 99.4 | 104.3 | 111.8 | 112.0 | 100.0 | 112.1 | 121.1 | 117.5 | 119.1 | 122.0 | 111.6 | 102.4 |
| LUMBER AND FURNITURE | 78.2 | 81.4 | 85.7 | 84.0 | 93.4 | 99.8 | 102.9 | 100.0 | 108.3 | 123.6 | 132.4 | 143.5 | 156.3 | 166.5 | 156.3 |
| PAPER AND PRINTING | 75.0 | 78.4 | 82.5 | 85.4 | 91.4 | 97.1 | 100.3 | 100.0 | 111.4 | 123.1 | 128.9 | 129.4 | 135.4 | 142.4 | 141.8 |
| CHEMICALS AND AILIED PRODUCTS | 52.9 | 56.0 | 61.8 | 67.7 | 76.5 | 84.1 | 92.2 | 100.0 | 117.1 | 134.3 | 142.5 | 150.4 | 160.6 | 180.7 | 185.6 |
| PETROLEUM AND COAL PRODUCTS | 42.7 | 52.1 | 58.2 | 67.1 | 77.6 | 86.0 | 95.6 | 100.0 | 111.1 | 116.2 | 127.8 | 129.2 | 133.4 | 141.2 | 130.1 |
| RUBBER AND MISCELLANEOUS MFRS | 62.7 | 66.9 | 73.4 | 77.1 | 89.2 | 98.9 | 102.4 | 100.0 | 123.3 | 143.5 | 155.3 | 162.9 | 175.3 | 192.8 | 189.0 |
| STONE, CLAY, GLASS, AND CONCRETE[1] | 77.7 | 83.1 | 88.3 | 90.6 | 101.4 | 104.3 | 105.8 | 100.0 | 107.8 | 115.0 | 123.0 | 129.4 | 136.8 | 137.4 | 126.8 |
| PRIMARY METALS[2] | 94.7 | 94.8 | 91.7 | 88.0 | 103.5 | 104.8 | 99.7 | 100.0 | 115.8 | 131.0 | 131.6 | 121.5 | 126.8 | 143.8 | 148.8 |
| FABRICATED METAL PRODUCTS | 88.5 | 93.5 | 93.9 | 95.9 | 105.0 | 111.8 | 108.5 | 100.0 | 104.8 | 130.0 | 139.4 | 139.9 | 141.8 | 152.5 | 145.7 |
| MACHINERY, EXCEPT ELECTRICAL[3] | 88.4 | 96.8 | 98.0 | 95.5 | 102.4 | 109.2 | 108.0 | 100.0 | 105.8 | 123.1 | 133.2 | 132.2 | 129.5 | 133.6 | 133.8 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 73.0 | 81.0 | 83.0 | 84.6 | 93.1 | 103.8 | 102.3 | 100.0 | 117.3 | 138.4 | 157.4 | 158.8 | 173.2 | 193.2 | 195.1 |
| TRANSPORTATION EQUIPMENT[4] | 81.8 | 85.7 | 91.6 | 100.5 | 107.7 | 112.6 | 115.8 | 100.0 | 122.8 | 147.4 | 162.5 | 165.5 | 166.8 | 179.7 | 157.9 |
| INSTRUMENTS AND RELATED PRODUCTS | 83.8 | 85.7 | 84.9 | 85.8 | 98.7 | 104.8 | 104.7 | 100.0 | 113.8 | 131.3 | 136.8 | 121.1 | 122.9 | 134.0 | 131.5 |

[1] Includes quarrying.
[2] Includes railroad and street cars.
[3] Includes locomotives.
[4] Excludes aircraft, railroad rolling stock, and street cars.

## Table B-36. Hours, 15 manufacturing industries, Germany, 1960-74

(Indexes, 1967 = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 110.8 | 112.4 | 110.5 | 108.2 | 109.5 | 111.0 | 108.8 | 100.0 | 103.6 | 109.6 | 113.3 | 109.7 | 106.4 | 106.6 | 100.8 |
| FOOD AND TOBACCO | 105.8 | 105.4 | 106.1 | 106.0 | 104.7 | 103.4 | 102.7 | 100.0 | 99.2 | 99.5 | 101.1 | 100.4 | 97.7 | 97.0 | 92.5 |
| TEXTILE MILL PRODUCTS | 139.3 | 133.8 | 126.7 | 120.8 | 117.9 | 115.0 | 111.7 | 100.0 | 102.4 | 105.1 | 102.6 | 95.6 | 93.2 | 87.6 | 77.1 |
| APPAREL AND LEATHER GOODS | 116.5 | 115.7 | 115.2 | 113.3 | 112.5 | 112.6 | 110.7 | 100.0 | 102.1 | 103.9 | 100.9 | 96.7 | 94.4 | 87.1 | 76.3 |
| LUMBER AND FURNITURE | 121.5 | 121.0 | 118.0 | 111.3 | 111.1 | 110.6 | 108.5 | 100.0 | 102.0 | 105.1 | 107.1 | 107.6 | 109.8 | 111.1 | 102.6 |
| PAPER AND PRINTING | 104.2 | 105.3 | 106.0 | 105.5 | 105.0 | 105.1 | 104.5 | 100.0 | 101.8 | 105.2 | 107.0 | 103.2 | 100.3 | 98.4 | 93.1 |
| CHEMICALS AND ALLIED PRODUCTS | 95.6 | 97.7 | 97.4 | 97.1 | 99.1 | 101.8 | 102.6 | 100.0 | 101.7 | 106.7 | 109.1 | 106.3 | 103.3 | 104.8 | 105.0 |
| PETROLEUM AND COAL PRODUCTS | 105.4 | 106.4 | 105.8 | 101.8 | 107.7 | 107.8 | 103.0 | 100.0 | 103.4 | 108.4 | 107.4 | 105.7 | 110.5 | 104.6 | 101.9 |
| RUBBER AND MISCELLANEOUS MFRS | 93.8 | 95.5 | 96.9 | 98.4 | 102.6 | 107.4 | 108.7 | 100.0 | 108.4 | 119.2 | 123.8 | 122.4 | 122.2 | 124.7 | 116.5 |
| STONE, CLAY, GLASS, AND CONCRETE[1] | 119.2 | 119.3 | 117.1 | 112.8 | 115.4 | 114.6 | 111.1 | 100.0 | 99.7 | 101.5 | 103.7 | 103.4 | 102.6 | 99.6 | 89.7 |
| PRIMARY METALS[2] | 123.6 | 125.8 | 118.8 | 114.0 | 117.0 | 118.1 | 110.3 | 100.0 | 103.7 | 109.1 | 111.2 | 102.7 | 97.6 | 100.1 | 97.6 |
| FABRICATED METAL PRODUCTS | 115.7 | 117.7 | 111.8 | 111.5 | 113.9 | 116.2 | 112.4 | 100.0 | 104.5 | 112.2 | 117.2 | 114.7 | 111.1 | 112.0 | 104.4 |
| MACHINERY, EXCEPT ELECTRICAL[3] | 103.1 | 108.3 | 107.2 | 104.1 | 105.9 | 109.7 | 108.5 | 100.0 | 104.9 | 113.7 | 117.2 | 112.7 | 107.0 | 108.2 | 105.4 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 105.1 | 111.0 | 109.4 | 108.0 | 109.7 | 112.9 | 110.3 | 100.0 | 105.1 | 115.3 | 126.1 | 121.4 | 119.9 | 123.8 | 120.2 |
| TRANSPORTATION EQUIPMENT[4] | 105.7 | 105.3 | 109.8 | 107.6 | 109.8 | 113.5 | 112.7 | 100.0 | 109.4 | 120.5 | 131.4 | 130.2 | 122.6 | 124.7 | 114.0 |
| INSTRUMENTS AND RELATED PRODUCTS | 112.8 | 112.8 | 107.4 | 104.0 | 104.6 | 105.2 | 103.3 | 100.0 | 101.6 | 108.0 | 110.7 | 101.5 | 96.0 | 98.5 | 96.0 |

[1] Includes quarrying.
[2] Includes railroad and street cars.
[3] Includes locomotives.
[4] Excludes aircraft, railroad rolling stock, and street cars.

## Table B-37. Relative levels of output per hour, 15 manufacturing industries, Germany 1960-74

(Indexes, all manufacturing = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| FOOD AND TOBACCO | 176.6 | 179.2 | 178.4 | 177.8 | 176.3 | 178.1 | 178.0 | 175.7 | 171.9 | 167.4 | 165.8 | 167.7 | 163.2 | 160.3 | 163.9 |
| TEXTILE MILL PRODUCTS | 71.2 | 73.0 | 75.0 | 75.9 | 74.4 | 75.9 | 75.4 | 74.0 | 77.1 | 76.9 | 77.2 | 82.9 | 81.7 | 81.2 | 83.7 |
| APPAREL AND LEATHER GOODS | 67.5 | 69.0 | 68.2 | 66.7 | 65.0 | 66.2 | 65.2 | 60.9 | 61.6 | 61.1 | 59.3 | 59.6 | 58.4 | 54.2 | 54.7 |
| LUMBER AND FURNITURE | 76.1 | 76.1 | 77.6 | 76.8 | 78.9 | 80.7 | 81.8 | 81.5 | 79.8 | 82.5 | 84.2 | 86.3 | 86.1 | 84.9 | 83.1 |
| PAPER AND PRINTING | 95.6 | 94.5 | 93.4 | 92.5 | 91.7 | 92.7 | 93.0 | 91.5 | 92.4 | 92.2 | 92.2 | 91.1 | 91.7 | 92.1 | 93.4 |
| CHEMICALS AND ALLIED PRODUCTS | 143.1 | 141.7 | 148.4 | 155.4 | 158.4 | 161.5 | 169.5 | 176.3 | 189.2 | 193.1 | 194.8 | 200.3 | 205.7 | 213.7 | 211.1 |
| PETROLEUM AND COAL PRODUCTS | 552.4 | 637.9 | 678.7 | 773.3 | 778.8 | 821.9 | 924.2 | 939.6 | 931.2 | 867.9 | 935.6 | 912.6 | 842.0 | 881.7 | 803.2 |
| RUBBER AND MISCELLANEOUS MFRS | 83.3 | 83.4 | 85.3 | 84.0 | 85.9 | 86.7 | 85.6 | 85.8 | 90.0 | 89.0 | 90.1 | 90.8 | 91.5 | 92.2 | 93.3 |
| STONE, CLAY, GLASS, AND CONCRETE[1] | 95.2 | 97.3 | 99.5 | 101.0 | 101.9 | 100.5 | 101.5 | 100.7 | 100.4 | 98.2 | 99.8 | 100.2 | 99.6 | 96.6 | 95.3 |
| PRIMARY METALS[2] | 112.3 | 105.5 | 102.2 | 97.3 | 102.8 | 98.2 | 96.6 | 100.9 | 103.8 | 104.3 | 99.8 | 94.8 | 97.3 | 100.7 | 103.0 |
| FABRICATED METAL PRODUCTS | 82.5 | 81.9 | 81.9 | 79.8 | 78.8 | 78.5 | 75.9 | 74.3 | 68.7 | 74.1 | 73.9 | 72.0 | 70.5 | 70.4 | 69.5 |
| MACHINERY, EXCEPT ELECTRICAL[3] | 92.4 | 92.0 | 89.0 | 85.0 | 82.5 | 81.0 | 78.2 | 74.2 | 69.0 | 69.2 | 70.5 | 69.1 | 66.6 | 63.7 | 63.1 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 84.0 | 84.3 | 82.8 | 81.5 | 81.4 | 84.0 | 81.9 | 83.3 | 85.8 | 86.1 | 87.0 | 86.6 | 89.3 | 90.4 | 90.5 |
| TRANSPORTATION EQUIPMENT[4] | 110.5 | 111.0 | 107.6 | 114.6 | 111.0 | 107.0 | 107.0 | 98.3 | 101.7 | 103.5 | 101.7 | 99.3 | 99.3 | 98.4 | 91.2 |
| INSTRUMENTS AND RELATED PRODUCTS | 69.5 | 68.0 | 66.8 | 66.4 | 70.0 | 70.5 | 69.2 | 64.4 | 66.6 | 67.4 | 66.6 | 61.1 | 61.2 | 60.9 | 59.1 |

[1] Includes quarrying.
[2] Includes railroad and street cars.
[3] Includes locomotives.
[4] Excludes aircraft, railroad rolling stock, and street cars.

## Table B-38. Percent distribution of output, 15 manufacturing industries, Germany, 1960-74

(Indexes, all manufacturing = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 |
| FOOD AND TOBACCO | 12.609 | 12.560 | 12.804 | 13.008 | 12.607 | 12.397 | 12.557 | 13.132 | 12.309 | 11.351 | 11.053 | 11.480 | 11.205 | 10.898 | 11.234 |
| TEXTILE MILL PRODUCTS | 5.641 | 5.478 | 5.419 | 5.343 | 5.051 | 4.953 | 4.879 | 4.662 | 4.808 | 4.647 | 4.407 | 4.558 | 4.508 | 4.205 | 4.036 |
| APPAREL AND LEATHER GOODS | 4.503 | 4.506 | 4.510 | 4.430 | 4.236 | 4.265 | 4.210 | 3.862 | 3.852 | 3.672 | 3.351 | 3.333 | 3.288 | 2.810 | 2.626 |
| LUMBER AND FURNITURE | 3.294 | 3.231 | 3.270 | 3.119 | 3.159 | 3.173 | 3.220 | 3.216 | 3.101 | 3.121 | 3.143 | 3.344 | 3.507 | 3.491 | 3.338 |
| PAPER AND PRINTING | 5.035 | 4.958 | 5.019 | 5.050 | 4.927 | 4.916 | 5.002 | 5.126 | 5.084 | 4.956 | 4.879 | 4.806 | 4.840 | 4.760 | 4.827 |
| CHEMICALS AND ALLIED PRODUCTS | 8.959 | 8.974 | 9.524 | 10.150 | 10.445 | 10.782 | 11.643 | 12.983 | 13.528 | 13.692 | 13.663 | 14.147 | 14.546 | 15.295 | 16.004 |
| PETROLEUM AND COAL PRODUCTS | 2.096 | 2.409 | 2.590 | 2.902 | 3.057 | 3.183 | 3.488 | 3.747 | 3.707 | 3.421 | 3.536 | 3.508 | 3.487 | 3.449 | 3.238 |
| RUBBER AND MISCELLANEOUS MFRS | 2.952 | 2.965 | 3.131 | 3.195 | 3.370 | 3.509 | 3.579 | 3.592 | 3.942 | 4.047 | 4.118 | 4.240 | 4.392 | 4.513 | 4.510 |
| STONE, CLAY, GLASS, AND CONCRETE[1] | 6.037 | 6.089 | 6.216 | 6.203 | 6.329 | 6.114 | 6.113 | 5.934 | 5.694 | 5.359 | 5.388 | 5.566 | 5.661 | 5.316 | 4.999 |
| PRIMARY METALS[2] | 10.452 | 9.858 | 9.168 | 8.555 | 8.167 | 8.721 | 8.173 | 8.420 | 8.676 | 8.665 | 8.180 | 7.411 | 7.448 | 7.891 | 8.329 |
| FABRICATED METAL PRODUCTS | 8.494 | 8.456 | 8.162 | 8.104 | 8.084 | 8.091 | 7.734 | 7.324 | 6.834 | 7.474 | 7.542 | 7.423 | 7.247 | 7.282 | 7.089 |
| MACHINERY, EXCEPT ELECTRICAL[3] | 12.160 | 12.536 | 12.212 | 11.566 | 11.295 | 11.325 | 11.035 | 10.495 | 9.882 | 10.148 | 10.325 | 10.052 | 9.481 | 9.143 | 9.326 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 8.948 | 9.350 | 9.211 | 9.136 | 9.156 | 9.593 | 9.313 | 9.351 | 9.768 | 10.165 | 10.871 | 10.765 | 11.296 | 11.776 | 12.118 |
| TRANSPORTATION EQUIPMENT[4] | 7.359 | 7.262 | 7.459 | 7.958 | 7.773 | 7.635 | 7.737 | 6.863 | 7.503 | 7.946 | 8.236 | 8.230 | 7.986 | 8.039 | 7.197 |
| INSTRUMENTS AND RELATED PRODUCTS | 1.422 | 1.371 | 1.305 | 1.283 | 1.344 | 1.342 | 1.319 | 1.295 | 1.312 | 1.336 | 1.309 | 1.137 | 1.110 | 1.131 | 1.131 |

[1] Includes quarrying.
[2] Includes railroad and street cars.
[3] Includes locomotives
[4] Excludes aircraft, railroad rolling stock, and street cars.

## Table B-39. Percent distribution of hours, 15 manufacturing industries, Germany, 1960-74

(Indexes, all manufacturing = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 |
| FOOD AND TOBACCO | 7.138 | 7.010 | 7.177 | 7.317 | 7.150 | 6.962 | 7.056 | 7.474 | 7.162 | 6.780 | 6.667 | 6.843 | 6.865 | 6.800 | 6.856 |
| TEXTILE MILL PRODUCTS | 7.926 | 7.501 | 7.229 | 7.035 | 6.790 | 6.529 | 6.470 | 6.303 | 6.233 | 6.040 | 5.710 | 5.496 | 5.519 | 5.180 | 4.820 |
| APPAREL AND LEATHER GOODS | 6.670 | 6.529 | 6.617 | 6.643 | 6.521 | 6.438 | 6.454 | 6.345 | 6.256 | 6.014 | 5.651 | 5.594 | 5.630 | 5.186 | 4.804 |
| LUMBER AND FURNITURE | 4.330 | 4.248 | 4.214 | 4.060 | 4.004 | 3.930 | 3.936 | 3.947 | 3.886 | 3.785 | 3.732 | 3.874 | 4.072 | 4.111 | 4.017 |
| PAPER AND PRINTING | 5.267 | 5.244 | 5.371 | 5.458 | 5.373 | 5.301 | 5.380 | 5.601 | 5.503 | 5.373 | 5.290 | 5.273 | 5.277 | 5.168 | 5.171 |
| CHEMICALS AND ALLIED PRODUCTS | 6.287 | 6.332 | 6.417 | 6.532 | 6.595 | 6.678 | 6.867 | 7.283 | 7.149 | 7.089 | 7.013 | 7.062 | 7.072 | 7.158 | 7.581 |
| PETROLEUM AND COAL PRODUCTS | 0.379 | 0.378 | 0.382 | 0.375 | 0.393 | 0.387 | 0.377 | 0.399 | 0.398 | 0.394 | 0.378 | 0.384 | 0.414 | 0.391 | 0.403 |
| RUBBER AND MISCELLANEOUS MFRS | 3.542 | 3.556 | 3.670 | 3.805 | 3.923 | 4.048 | 4.180 | 4.184 | 4.379 | 4.548 | 4.571 | 4.671 | 4.802 | 4.893 | 4.832 |
| STONE, CLAY, GLASS, AND CONCRETE[1] | 6.342 | 6.258 | 6.248 | 6.141 | 6.213 | 6.084 | 6.021 | 5.895 | 5.672 | 5.457 | 5.397 | 5.557 | 5.681 | 5.505 | 5.245 |
| PRIMARY METALS[2] | 9.310 | 9.345 | 8.973 | 8.794 | 8.918 | 8.882 | 8.458 | 8.347 | 8.355 | 8.304 | 8.196 | 7.817 | 7.656 | 7.837 | 8.080 |
| FABRICATED METAL PRODUCTS | 10.294 | 10.321 | 9.971 | 10.149 | 10.258 | 10.313 | 10.182 | 9.855 | 9.946 | 10.084 | 10.199 | 10.306 | 10.283 | 10.351 | 10.204 |
| MACHINERY, EXCEPT ELECTRICAL[3] | 13.163 | 13.633 | 13.724 | 13.613 | 13.686 | 13.985 | 14.103 | 14.148 | 14.324 | 14.668 | 14.637 | 14.541 | 14.227 | 14.363 | 14.791 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 10.647 | 11.087 | 11.119 | 11.203 | 11.250 | 11.419 | 11.377 | 11.228 | 11.389 | 11.807 | 12.499 | 12.435 | 12.646 | 13.034 | 13.391 |
| TRANSPORTATION EQUIPMENT[4] | 6.660 | 6.541 | 6.935 | 6.944 | 7.006 | 7.139 | 7.229 | 6.982 | 7.375 | 7.675 | 8.096 | 8.287 | 8.044 | 8.166 | 7.892 |
| INSTRUMENTS AND RELATED PRODUCTS | 2.045 | 2.016 | 1.953 | 1.931 | 1.920 | 1.904 | 1.908 | 2.010 | 1.972 | 1.980 | 1.964 | 1.860 | 1.813 | 1.857 | 1.913 |

[1] Includes quarrying
[2] Includes railroad and street cars.
[3] Includes locomotives.
[4] Excludes aircraft, railroad rolling stock, and street cars.

## Table B-40. Output per hour, 15 manufacturing industries, Japan, 1960-72

(Indexes, 1967 = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 54.9 | 59.8 | 63.3 | 67.9 | 75.4 | 79.1 | 87.2 | 100.0 | 112.0 | 126.3 | 140.4 | 145.8 | 161.4 |
| FOOD AND TOBACCO | 65.1 | 66.4 | 70.5 | 83.1 | 87.1 | 91.7 | 98.4 | 100.0 | 104.3 | 112.8 | 122.0 | 126.5 | 137.4 |
| TEXTILE MILL PRODUCTS | 77.8 | 80.1 | 78.7 | 81.7 | 84.5 | 90.0 | 92.9 | 100.0 | 107.0 | 109.8 | 114.9 | 119.1 | 126.3 |
| APPAREL AND LEATHER GOODS | 69.5 | 72.9 | 92.9 | 84.3 | 82.6 | 89.2 | 101.0 | 100.0 | 100.3 | 106.3 | 108.3 | 102.1 | 110.9 |
| LUMBER AND FURNITURE[1] | 79.9 | 80.9 | 82.1 | 83.9 | 87.7 | 90.1 | 94.2 | 100.0 | 104.5 | 112.1 | 118.0 | 120.1 | 126.3 |
| PAPER AND PRINTING[2] | 57.5 | 66.2 | 70.2 | 73.3 | 79.0 | 82.1 | 90.3 | 100.0 | 112.0 | 127.7 | 143.3 | 147.9 | 158.5 |
| CHEMICALS AND ALLIED PRODUCTS | 42.0 | 45.6 | 50.2 | 57.8 | 65.7 | 72.0 | 82.9 | 100.0 | 112.1 | 131.2 | 156.0 | 170.7 | 185.4 |
| PETROLEUM AND COAL PRODUCTS | 37.9 | 41.8 | 45.9 | 54.1 | 63.4 | 72.2 | 80.8 | 100.0 | 118.0 | 136.7 | 157.6 | 165.1 | 171.3 |
| RUBBER AND MISCELLANEOUS MFRS. | 59.5 | 68.1 | 73.2 | 75.7 | 80.6 | 82.0 | 89.1 | 100.0 | 103.8 | 113.5 | 126.4 | 136.5 | 160.3 |
| STONE, CLAY, GLASS, AND CONCRETE | 61.4 | 67.2 | 72.6 | 74.4 | 82.2 | 84.4 | 88.8 | 100.0 | 109.6 | 118.7 | 130.7 | 133.8 | 146.4 |
| PRIMARY METALS | 45.6 | 50.8 | 50.3 | 56.7 | 68.2 | 71.4 | 82.3 | 100.0 | 111.2 | 129.6 | 142.4 | 143.9 | 164.2 |
| FABRICATED METAL PRODUCTS | 60.1 | 64.9 | 64.4 | 66.1 | 73.5 | 75.0 | 85.0 | 100.0 | 118.2 | 130.7 | 142.4 | 147.4 | 164.7 |
| MACHINERY, EXCEPT ELECTRICAL | 49.9 | 56.4 | 59.2 | 64.1 | 71.8 | 72.4 | 78.2 | 100.0 | 127.0 | 141.5 | 160.2 | 156.7 | 169.9 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 49.1 | 55.6 | 59.6 | 61.1 | 69.5 | 69.8 | 83.2 | 100.0 | 118.6 | 142.8 | 154.4 | 161.4 | 187.4 |
| TRANSPORTATION EQUIPMENT | 39.4 | 46.4 | 51.6 | 54.8 | 71.1 | 78.5 | 85.6 | 100.0 | 106.1 | 119.2 | 135.1 | 150.1 | 161.8 |
| INSTRUMENTS AND RELATED PRODUCTS | 55.2 | 64.7 | 72.7 | 81.2 | 87.3 | 86.9 | 95.5 | 100.0 | 106.3 | 123.2 | 141.6 | 140.2 | 151.8 |

[1] Excludes furniture.

[2] Excludes printing.

## Table B-41. Output, 15 manufacturing industries, Japan, 1960-72

(Indexes, 1967 = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 43.7 | 51.3 | 55.6 | 62.2 | 71.8 | 74.6 | 84.2 | 100.0 | 114.4 | 132.4 | 150.8 | 154.9 | 166.3 |
| FOOD AND TOBACCO | 52.0 | 56.2 | 60.8 | 75.3 | 81.7 | 86.9 | 95.2 | 100.0 | 102.5 | 108.9 | 117.1 | 120.7 | 127.5 |
| TEXTILE MILL PRODUCTS | 76.7 | 80.6 | 78.1 | 81.8 | 86.1 | 91.3 | 94.4 | 100.0 | 104.4 | 104.9 | 108.3 | 109.0 | 107.8 |
| APPAREL AND LEATHER GOODS | 42.7 | 48.4 | 65.6 | 70.4 | 75.9 | 81.4 | 96.4 | 100.0 | 102.9 | 113.3 | 119.9 | 123.3 | 125.3 |
| LUMBER AND FURNITURE[1] | 71.4 | 75.6 | 77.3 | 81.7 | 86.7 | 87.7 | 93.1 | 100.0 | 104.3 | 111.0 | 115.7 | 114.1 | 117.0 |
| PAPER AND PRINTING[2] | 48.2 | 58.3 | 62.3 | 69.0 | 78.1 | 80.0 | 89.7 | 100.0 | 110.4 | 124.4 | 141.0 | 144.4 | 153.3 |
| CHEMICALS AND ALLIED PRODUCTS | 38.0 | 43.6 | 49.7 | 58.3 | 68.1 | 74.5 | 84.7 | 100.0 | 112.2 | 131.4 | 156.3 | 167.0 | 173.1 |
| PETROLEUM AND COAL PRODUCTS | 32.9 | 39.5 | 44.5 | 53.2 | 63.0 | 72.4 | 83.1 | 100.0 | 118.3 | 141.4 | 166.1 | 182.1 | 190.4 |
| RUBBER AND MISCELLANEOUS MFRS | 43.9 | 53.2 | 58.8 | 65.8 | 73.9 | 75.4 | 86.0 | 100.0 | 106.3 | 120.2 | 136.8 | 145.8 | 164.8 |
| STONE, CLAY, GLASS, AND CONCRETE | 49.1 | 57.0 | 62.3 | 66.0 | 76.1 | 78.4 | 85.4 | 100.0 | 111.8 | 124.0 | 138.7 | 140.9 | 150.5 |
| PRIMARY METALS | 39.1 | 48.6 | 48.2 | 54.6 | 67.5 | 68.7 | 78.9 | 100.0 | 114.5 | 136.7 | 153.8 | 151.1 | 165.6 |
| FABRICATED METAL PRODUCTS | 41.7 | 49.1 | 51.7 | 57.9 | 67.6 | 69.1 | 81.8 | 100.0 | 121.0 | 143.3 | 165.3 | 170.7 | 189.3 |
| MACHINERY, EXCEPT ELECTRICAL | 39.3 | 50.8 | 55.3 | 61.9 | 70.8 | 68.0 | 75.3 | 100.0 | 131.8 | 156.1 | 186.9 | 180.4 | 186.7 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 33.3 | 43.8 | 50.2 | 53.6 | 63.3 | 61.6 | 75.9 | 100.0 | 128.9 | 170.9 | 199.2 | 203.0 | 229.9 |
| TRANSPORTATION EQUIPMENT | 26.4 | 33.9 | 38.1 | 42.5 | 59.3 | 66.9 | 77.1 | 100.0 | 115.1 | 131.0 | 150.6 | 166.9 | 184.9 |
| INSTRUMENTS AND RELATED PRODUCTS | 42.5 | 52.9 | 63.0 | 74.2 | 83.1 | 82.3 | 93.7 | 100.0 | 109.8 | 131.1 | 158.0 | 158.3 | 169.2 |

[1] Excludes furniture.

[2] Excludes printing.

## Table B-42. Hours, 15 manufacturing industries, Japan, 1960-72

(Indexes, 1967 = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 79.6 | 85.8 | 87.8 | 91.7 | 95.2 | 94.3 | 96.6 | 100.0 | 102.1 | 104.8 | 107.4 | 106.3 | 103.0 |
| FOOD AND TOBACCO | 79.8 | 84.7 | 86.3 | 90.6 | 93.8 | 94.7 | 96.7 | 100.0 | 98.2 | 96.6 | 96.0 | 95.4 | 92.8 |
| TEXTILE MILL PRODUCTS | 98.6 | 100.7 | 99.2 | 100.1 | 101.9 | 101.5 | 101.6 | 100.0 | 97.6 | 95.5 | 94.3 | 91.5 | 85.3 |
| APPAREL AND LEATHER GOODS | 61.4 | 66.3 | 70.7 | 83.5 | 91.4 | 91.3 | 95.4 | 100.0 | 102.6 | 106.6 | 110.8 | 120.8 | 113.0 |
| LUMBER AND FURNITURE[1] | 89.4 | 93.4 | 94.2 | 97.4 | 98.9 | 97.4 | 98.8 | 100.0 | 99.8 | 99.0 | 98.1 | 95.0 | 92.6 |
| PAPER AND PRINTING[2] | 88.9 | 88.0 | 88.8 | 94.1 | 98.9 | 97.4 | 99.4 | 100.0 | 98.6 | 97.4 | 98.4 | 97.6 | 96.8 |
| CHEMICALS AND ALLIED PRODUCTS | 90.5 | 95.6 | 99.0 | 100.9 | 103.6 | 103.6 | 102.2 | 100.0 | 100.1 | 100.2 | 100.2 | 97.8 | 93.4 |
| PETROLEUM AND COAL PRODUCTS | 86.9 | 94.6 | 96.9 | 98.2 | 99.3 | 100.4 | 102.8 | 100.0 | 100.2 | 103.4 | 105.4 | 110.2 | 111.1 |
| RUBBER AND MISCELLANEOUS MFRS | 73.8 | 78.1 | 80.3 | 86.9 | 91.6 | 91.9 | 96.6 | 100.0 | 102.4 | 106.0 | 108.2 | 106.9 | 102.8 |
| STONE, CLAY, GLASS, AND CONCRETE | 79.9 | 84.8 | 85.8 | 88.8 | 92.7 | 92.9 | 96.2 | 100.0 | 102.0 | 104.4 | 106.1 | 105.4 | 102.8 |
| PRIMARY METALS | 85.7 | 95.5 | 95.7 | 96.2 | 99.0 | 96.3 | 95.9 | 100.0 | 102.9 | 105.5 | 108.0 | 105.0 | 100.9 |
| FABRICATED METAL PRODUCTS | 69.3 | 75.6 | 80.3 | 87.5 | 92.0 | 92.1 | 96.3 | 100.0 | 102.3 | 109.7 | 116.0 | 115.8 | 114.9 |
| MACHINERY, EXCEPT ELECTRICAL | 78.6 | 90.2 | 93.4 | 96.5 | 98.7 | 94.0 | 96.4 | 100.0 | 103.7 | 110.3 | 116.7 | 115.1 | 109.9 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 67.7 | 78.9 | 84.3 | 87.8 | 91.2 | 88.2 | 91.2 | 100.0 | 108.7 | 119.7 | 129.0 | 125.8 | 122.7 |
| TRANSPORTATION EQUIPMENT | 67.0 | 73.0 | 73.9 | 77.4 | 83.5 | 85.1 | 90.0 | 100.0 | 108.4 | 109.9 | 111.5 | 111.1 | 114.3 |
| INSTRUMENTS AND RELATED PRODUCTS | 76.9 | 81.8 | 86.7 | 91.5 | 95.2 | 94.7 | 98.1 | 100.0 | 103.3 | 106.5 | 111.6 | 112.9 | 111.4 |

[1] Excludes furniture.

[2] Excludes printing.

## Table B-43. Relative levels of output per hour, 15 manufacturing industries, Japan, 1960-72

(Indexes, all manufacturing = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| FOOD AND TOBACCO | 105.1 | 98.2 | 98.5 | 108.4 | 102.2 | 102.6 | 99.9 | 88.5 | 82.4 | 79.0 | 76.9 | 76.8 | 75.4 |
| TEXTILE MILL PRODUCTS | 77.5 | 73.2 | 68.0 | 65.8 | 61.2 | 62.2 | 58.2 | 54.6 | 52.2 | 47.5 | 44.7 | 44.7 | 42.8 |
| APPAREL AND LEATHER GOODS | 105.9 | 101.9 | 122.6 | 103.8 | 91.5 | 94.2 | 96.8 | 83.5 | 74.8 | 70.3 | 64.4 | 58.5 | 57.4 |
| LUMBER AND FURNITURE[1] | 86.5 | 80.4 | 77.0 | 73.4 | 69.0 | 67.6 | 64.2 | 59.4 | 55.4 | 52.7 | 49.9 | 48.9 | 46.5 |
| PAPER AND PRINTING[2] | 110.5 | 116.6 | 116.9 | 113.8 | 110.3 | 109.4 | 109.1 | 105.4 | 105.3 | 106.5 | 107.6 | 106.9 | 103.5 |
| CHEMICALS AND ALLIED PRODUCTS | 185.9 | 185.2 | 192.6 | 206.7 | 211.7 | 220.9 | 231.0 | 242.9 | 243.1 | 252.2 | 269.9 | 284.5 | 279.1 |
| PETROLEUM AND COAL PRODUCTS | 266.0 | 269.3 | 279.7 | 307.2 | 324.0 | 351.6 | 357.1 | 385.4 | 406.0 | 417.0 | 432.5 | 436.7 | 409.1 |
| RUBBER AND MISCELLANEOUS MFRS | 78.9 | 82.9 | 84.2 | 81.1 | 77.8 | 75.4 | 74.3 | 72.7 | 67.4 | 65.3 | 65.5 | 68.1 | 72.3 |
| STONE, CLAY, GLASS, AND CONCRETE | 116.5 | 117.0 | 119.3 | 114.0 | 113.3 | 110.9 | 105.9 | 104.0 | 101.7 | 97.8 | 96.8 | 95.5 | 94.4 |
| PRIMARY METALS | 118.2 | 120.9 | 113.0 | 118.8 | 128.5 | 128.3 | 134.2 | 142.2 | 141.2 | 145.8 | 144.2 | 140.4 | 144.7 |
| FABRICATED METAL PRODUCTS | 95.2 | 94.2 | 88.4 | 84.5 | 84.6 | 82.3 | 84.6 | 86.8 | 91.6 | 89.8 | 88.1 | 87.8 | 88.6 |
| MACHINERY, EXCEPT ELECTRICAL | 93.1 | 96.4 | 95.8 | 96.6 | 97.3 | 93.6 | 91.7 | 102.3 | 116.0 | 114.6 | 116.7 | 110.0 | 107.7 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 90.2 | 93.6 | 94.8 | 90.6 | 92.8 | 88.8 | 96.1 | 100.7 | 106.6 | 113.9 | 110.7 | 111.5 | 116.9 |
| TRANSPORTATION EQUIPMENT | 92.5 | 100.1 | 105.1 | 104.2 | 121.5 | 128.0 | 126.7 | 128.9 | 122.1 | 121.7 | 124.0 | 132.8 | 129.3 |
| INSTRUMENTS AND RELATED PRODUCTS | 81.7 | 87.8 | 93.3 | 97.0 | 93.9 | 89.2 | 88.9 | 81.2 | 77.0 | 79.1 | 81.8 | 78.0 | 76.4 |

[1] Excludes furniture.

[2] Excludes printing.

## Table B-44. Percent distribution of output, 15 manufacturing industries, Japan, 1960-72

(Indexes, all manufacturing = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 |
| FOOD AND TOBACCO | 12.235 | 11.251 | 11.234 | 12.431 | 11.695 | 11.967 | 11.616 | 10.276 | 9.201 | 8.453 | 7.979 | 8.009 | 7.881 |
| TEXTILE MILL PRODUCTS | 12.951 | 11.577 | 10.360 | 9.689 | 8.842 | 9.025 | 8.261 | 7.372 | 6.729 | 5.841 | 5.296 | 5.188 | 4.780 |
| APPAREL AND LEATHER GOODS | 3.503 | 3.377 | 4.230 | 4.053 | 3.766 | 3.908 | 4.101 | 3.583 | 3.223 | 3.067 | 2.849 | 2.852 | 2.699 |
| LUMBER AND FURNITURE[1] | 5.441 | 4.899 | 4.627 | 4.368 | 4.016 | 3.912 | 3.676 | 3.327 | 3.032 | 2.790 | 2.553 | 2.451 | 2.342 |
| PAPER AND PRINTING[2] | 3.881 | 3.987 | 3.940 | 3.893 | 3.823 | 3.766 | 3.742 | 3.513 | 3.391 | 3.301 | 3.286 | 3.276 | 3.240 |
| CHEMICALS AND ALLIED PRODUCTS | 9.831 | 9.601 | 10.106 | 10.587 | 10.725 | 11.294 | 11.369 | 11.306 | 11.084 | 11.222 | 11.713 | 12.192 | 11.772 |
| PETROLEUM AND COAL PRODUCTS | 1.039 | 1.062 | 1.104 | 1.178 | 1.209 | 1.339 | 1.360 | 1.379 | 1.425 | 1.472 | 1.519 | 1.621 | 1.579 |
| RUBBER AND MISCELLANEOUS MFRS. | 5.102 | 5.259 | 5.369 | 5.364 | 5.219 | 5.126 | 5.184 | 5.073 | 4.713 | 4.608 | 4.602 | 4.777 | 5.030 |
| STONE, CLAY, GLASS, AND CONCRETE | 6.301 | 6.223 | 6.278 | 5.944 | 5.942 | 5.886 | 5.685 | 5.604 | 5.475 | 5.249 | 5.154 | 5.099 | 5.072 |
| PRIMARY METALS | 9.083 | 9.599 | 8.789 | 8.898 | 9.542 | 9.348 | 9.505 | 10.147 | 10.151 | 10.480 | 10.347 | 9.898 | 10.109 |
| FABRICATED METAL PRODUCTS | 6.118 | 6.133 | 5.969 | 5.961 | 6.037 | 5.939 | 6.231 | 6.413 | 6.781 | 6.942 | 7.029 | 7.070 | 7.300 |
| MACHINERY, EXCEPT ELECTRICAL | 9.274 | 10.218 | 10.268 | 10.255 | 10.177 | 9.408 | 9.228 | 10.316 | 11.880 | 12.163 | 12.786 | 12.014 | 11.586 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 7.437 | 8.334 | 8.816 | 8.405 | 8.611 | 8.054 | 8.798 | 9.762 | 10.995 | 12.604 | 12.895 | 12.794 | 13.497 |
| TRANSPORTATION EQUIPMENT | 6.214 | 6.796 | 7.057 | 7.025 | 8.506 | 9.227 | 9.426 | 10.295 | 10.352 | 10.189 | 10.281 | 11.091 | 11.451 |
| INSTRUMENTS AND RELATED PRODUCTS | 1.590 | 1.684 | 1.852 | 1.949 | 1.890 | 1.802 | 1.817 | 1.633 | 1.567 | 1.618 | 1.711 | 1.669 | 1.662 |

[1] Excludes furniture.

[2] Excludes printing.

## Table B-45. Percent distribution of hours, 15 manufacturing industries, Japan, 1960-72

(Indexes, all manufacturing = 100)

| INDUSTRY | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL INDUSTRIES | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 | 100.000 |
| FOOD AND TOBACCO | 11.644 | 11.453 | 11.401 | 11.472 | 11.444 | 11.662 | 11.626 | 11.609 | 11.163 | 10.697 | 10.379 | 10.424 | 10.454 |
| TEXTILE MILL PRODUCTS | 16.706 | 15.822 | 15.237 | 14.734 | 14.441 | 14.513 | 14.190 | 13.491 | 12.888 | 12.299 | 11.840 | 11.615 | 11.173 |
| APPAREL AND LEATHER GOODS | 3.308 | 3.313 | 3.450 | 3.906 | 4.116 | 4.149 | 4.236 | 4.288 | 4.309 | 4.364 | 4.423 | 4.875 | 4.703 |
| LUMBER AND FURNITURE[1] | 6.292 | 6.094 | 6.006 | 5.950 | 5.820 | 5.786 | 5.727 | 5.603 | 5.476 | 5.295 | 5.118 | 5.011 | 5.037 |
| PAPER AND PRINTING[2] | 3.512 | 3.418 | 3.371 | 3.422 | 3.465 | 3.444 | 3.430 | 3.334 | 3.219 | 3.100 | 3.055 | 3.063 | 3.130 |
| CHEMICALS AND ALLIED PRODUCTS | 5.289 | 5.184 | 5.246 | 5.122 | 5.066 | 5.112 | 4.922 | 4.654 | 4.560 | 4.449 | 4.341 | 4.285 | 4.218 |
| PETROLEUM AND COAL PRODUCTS | 0.390 | 0.394 | 0.395 | 0.383 | 0.373 | 0.381 | 0.381 | 0.358 | 0.351 | 0.353 | 0.351 | 0.371 | 0.386 |
| RUBBER AND MISCELLANEOUS MFRS | 6.465 | 6.346 | 6.378 | 6.612 | 6.712 | 6.797 | 6.975 | 6.975 | 6.992 | 7.053 | 7.030 | 7.015 | 6.961 |
| STONE, CLAY, GLASS, AND CONCRETE | 5.411 | 5.320 | 5.262 | 5.216 | 5.245 | 5.306 | 5.367 | 5.387 | 5.381 | 5.368 | 5.323 | 5.341 | 5.374 |
| PRIMARY METALS | 7.684 | 7.941 | 7.777 | 7.491 | 7.424 | 7.285 | 7.082 | 7.138 | 7.191 | 7.187 | 7.176 | 7.052 | 6.987 |
| FABRICATED METAL PRODUCTS | 6.427 | 6.509 | 6.753 | 7.051 | 7.138 | 7.214 | 7.362 | 7.367 | 7.401 | 7.732 | 7.983 | 8.053 | 8.238 |
| MACHINERY, EXCEPT ELECTRICAL | 9.962 | 10.595 | 10.722 | 10.612 | 10.459 | 10.055 | 10.062 | 10.085 | 10.244 | 10.616 | 10.957 | 10.926 | 10.760 |
| ELECTRICAL EQUIPMENT AND SUPPLIES | 8.249 | 8.906 | 9.301 | 9.277 | 9.283 | 9.068 | 9.155 | 9.694 | 10.314 | 11.070 | 11.644 | 11.476 | 11.542 |
| TRANSPORTATION EQUIPMENT | 6.716 | 6.788 | 6.716 | 6.744 | 7.003 | 7.207 | 7.442 | 7.985 | 8.476 | 8.373 | 8.289 | 8.352 | 8.859 |
| INSTRUMENTS AND RELATED PRODUCTS | 1.946 | 1.918 | 1.986 | 2.008 | 2.013 | 2.021 | 2.043 | 2.013 | 2.035 | 2.045 | 2.091 | 2.139 | 2.177 |

[1] Excludes furniture.

[2] Excludes printing.

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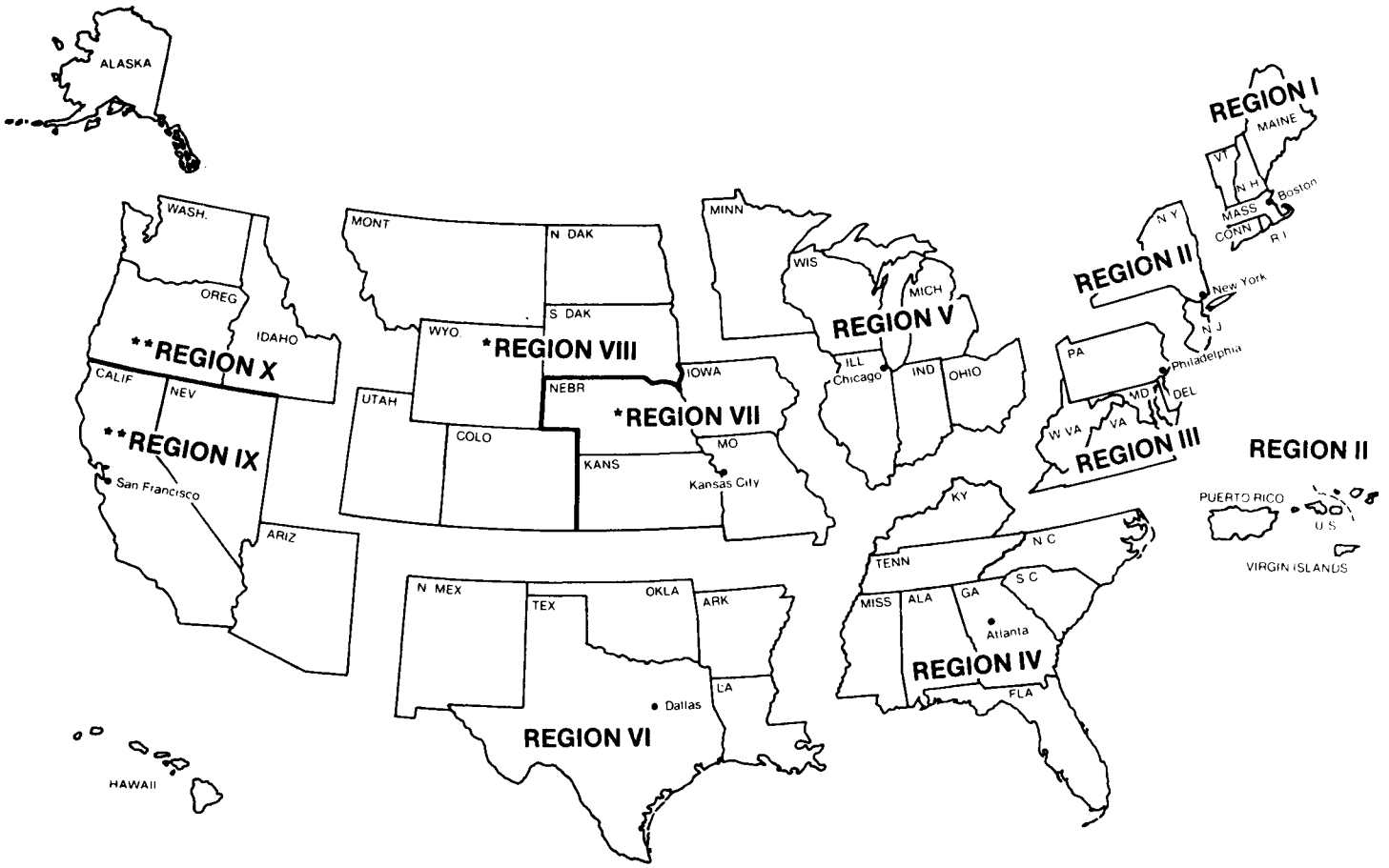


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