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# BUSINESS CYCLE DEVELOPMENTS

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Business & Technical

# U.S. DEPARTMENT OF COMMERCE Bureau of the Census

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### U.S. DEPARTMENT OF COMMERCE John T. Connor, Secretary

**BUREAU OF THE CENSUS** 

A. Ross Eckler, Director Howard C. Grieves, Deputy Director Morris H. Hansen, Asst. Director for Research and Development

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**PREFACE** This report brings together many of the available economic indicators in convenient form for analysis and interpretation. The presentation and classification of series follow the business indicators approach. The classification of series and the business cycle turning dates are those designated by the National Bureau of Economic Research (NBER) which, in recent years, has been the leader in this field of investigation. However, this publication is not to be taken as implying acceptance or endorsement by the Bureau of the Census or any other government agency of any particular approach to business cycle analysis. It is intended only to supplement other reports of the Department of Commerce that provide data for analyzing current business conditions.

The unique features are the arrangement of data according to their usual timing relations during the course of the business cycle and the inclusion of special analytical measures and historical cyclical comparisons that help in evaluating the current stage of the business cycle. In addition the movements of the series are shown against the background of the expansions and contractions of the general business cycle so that "leads" and "lags" can be readily detected and unusual cyclical developments spotted.

About 90 principal series and over 300 components are included in preparing the report. The exact number of series included for the total and important classes of series may vary from month to month because of additions of new series and revisions in the composition of indexes. Almost all of the basic data are available in published reports. A complete list of series and the sources of data is shown on the back cover of this report. Series are seasonally adjusted except those that do not appear to contain seasonal movement.

The chief merits of this report are the speed with which the data are collected, assembled, and published and the arrangement of the series for business cycle studies. Publication is scheduled for around the 22d of the month following the month of data.

This report was prepared in the Economic Research and Analysis Division under the direction of Julius Shiskin, Chief. Technical staff and their responsibilities for the publication are---

Feliks Tamm-Technical supervision and review,

Barry A. Beckman—Specifications for computer processing,

Betty F. Tunstall-Collection and compilation of basic data.

The cooperation of various government and private agencies which provide data is gratefully acknowledged. The agencies furnishing data are indicated in the list of series and sources on the back cover of this report.

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# BUSINESS CYCLE DEVELOPMENTS

### October 1966 DATA THROUGH SEPTEMBER Series ESI No. 66-10

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#### ABOUT THE COVER-

Series in this publication are grouped according to their usual timing and shown against the background of contractions and expansions in general business activity. The cover design illustrates this concept. The black vertical bar represents a contraction; the top curve, the Leading Series which usually fall before a contraction has begun and rise before it has ended; the middle curve, the Coincident Series which usually fall with the contraction period; the bottom curve, the Lagging Series which fall after a contraction has begun and rise after it ends.

#### CONTINUED

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The cyclical comparisons section and appendixes A to F have been dropped from this issue in order to present the paper, "Long Term Economic Growth, A Statistical Compendium."

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 $\Box$  A limited number of changes are made from time to time to reflect the change from one stage of the business cycle to another, to show new findings of business cycle research and newly available economic series, or to emphasize the activity of a particular series or series group. Such changes may involve additions or deletions of series used, changes in placement in relation to other series, changes in components of indexes, etc.

#### Changes in this issue are as follows:

1. Series 85 and 98 on money supply have been revised by the source agency to reflect adjustments to benchmarks for 1965, changes in seasonal factors from late 1962 to date, and a special adjustment (beginning in 1959 and affecting March and April movements) of the currency component to eliminate fluctuations associated with the changing date of Easter. Further information on this revision may be obtained from the Board of Governors of the Federal Reserve System, Banking Section. 1201/21

CHANGES

issue

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2. The series on total private borrowing (series 110) has been revised by the source agency to reflect the recent large volume of transactions in the corporate sector and historical revisions in State and local obligations. Further information on this revision may be obtained from the Board of Governors of the Federal Reserve System, Flow of Funds Section.

3. Series 111 on corporate gross savings has been revised by the source agency to reflect additional information which has become available for financial corporations. Further information on this revision may be obtained from the Board of Governors of the Federal Reserve System, Flow of Funds Section.

4. A paper, "Long Term Economic Growth, A Statistical Compendium," which describes the new report, LONG TERM ECONOMIC GROWTH, 1860-1965, is included in this issue. The section on cyclical comparisons and the appendixes have been omitted from this issue to make room for this paper. These materials will be reinstated in the November issue.

The November issue of BUSINESS CYCLE DEVELOPMENTS is scheduled for release on November 23.

#### CENSUS METHOD II ADJUSTMENT PROGRAM. A time series computer program for measuring and analyzing seasonal, trading-day, cyclical, and irregular fluctuations and the relations among them. This program is particularly useful in analyzing economic fluctuations which take place within a year.

The latest variant, X-11, has greater generality and scope than any of the earlier programs. It can adjust quarterly as well as monthly series and series with negative and positive numbers as well as those with positive numbers alone. The X-11 version measures and adjusts not only for seasonal variations, but also for trading-day variations Further, it computes many summary and analytical measures of the behavior of each series. The program includes various techniques, such as F tests and variance analysis, for use in extending the scope of time series studies and is written in a simplified computer language—Fortran IV. The program deck can be purchased from the Census Bureau at cost.

# BUSINESS CYCLE DEVELOPMENTS. A monthly report for analyzing economic fluctuations over a short span of years.

This report brings together several hundred monthly and quarterly "economic indicator" series for the analysis of short-term economic trends and prospects. These series have been selected, tested, and evaluated, after half a century of continuing research, as the most useful and reliable for this purpose. The publication provides not only the basic data, but also various charts and analytical tables to facilitate such studies. In addition, a time series punch-card file, a diffusion index program, and a separate summarymeasures computer program are available for those who wish to carry on further research in business cycle analysis.

# LONG TERM ECONOMIC GROWTH. An annual report for the study of economic fluctuations over a long span of years.

This report has been developed from available statistics to provide a comprehensive, long-range view of the U.S. economy. It has been planned, prepared, and published as a basic research document for economists, historians, investors, teachers, and students. It brings together for the first time under one cover, in meaningful and convenient form, the complete statistical basis for a study of long-term economic trends It is a unique presentation of the full range of factors required for an understanding of our country's economic development. Some of the statistical series go back to 1860.

Order forms for the reports, computer programs, and data are included at the back of this issue.

# DESCRIPTIONS AND PROCEDURES

#### INTRODUCTION

Students of economic conditions describe the business cycle as consisting of alternating periods of expansion and contraction in production, employment, income, money flows, prices, and other economic processes. The fluctuations take place in a concerted manner, but not simultaneously. Once an expansion gets underway, it spreads from firm to firm, from industry to industry, from area to area, and from process to process, cumulating until a cyclical peak in aggregate activity is reached. Even while expansion is widespread during the upward phase of the business cycle, some activities continue to move in the opposite direction. Declines begin to spread as the expansion nears its peak and continue to spread even faster after the peak has been passed. But some activities continue to expand during the general contraction. Before long these expansions become stronger and more widespread. When they begin to dominate the situation, the upturn in aggregate activity has arrived and a new expansion is underway. This sequence is recurrent, but not periodic.

The causal relations among these various economic processes are primarily responsible for the cumulative nature of cyclical forces, and explain why expansion eventually turns into recession and recession into expansion. Cyclical fluctuations in production and employment are preceded by fluctuations in measures which relate to future rather than to current production—measures such as new orders for durable goods, the formation of new business enterprises, and accessions to payrolls. They are followed by fluctuations in various types of enonomic costs, such as labor costs, interest rates, fulfillment of long-term commitments, and holdings of inventories and of debts.

Although this pattern has been characteristic of American economic history, today many economists do not consider it inevitable.

Intensive research by the National Bureau of Economic Research (NBER) over many years has provided a list of those significant series that usually lead, those that usually move with, and those that usually lag behind cyclical movements in aggregate economic ac-Digitized for FRASER tivity. The series have been grouped and classified by the NBER as "leading", "roughly coincident", or "lagging" indicators. These indicators are defined as follows:

- ▷ NBER Leading Indicators.—Series that usually reach peaks or troughs before those in aggregate economic activity as measured by the roughly coincident series (see below). One group of these series pertains to activities in the labor market, another to orders and contracts, and so on.
- ▷ NBER Roughly Coincident Indicators.—Series that are direct measures of aggregate economic activity or move roughly together with it; for example, nonagricultural employment, industrial production, and retail sales.
- ▷ NBER Lagging Indicators.—Series, such as new plant and equipment expenditures and manufacturers' inventories, that usually reach turning points after they are reached in aggregate economic activity.

Other U.S. series with business cycle significance are included in this report. Some of these series, such as change in money supply, merchandise trade balance, and cash surplus or deficit, represent important factors in the economy, but they have not qualified as indicators for various reasons, such as irregularity in timing. Finally, industrial production indexes for several countries which have important trade relations with the United States are presented.

The list of series covered and sources of the basic data are shown on the back cover of this report. Series numbers are for identification only and do not reflect series relationships or order.

#### METHOD OF PRESENTATION

Data are shown in this report in three general categories, as follows:

▷ Basic Data (chart 1 and tables 1 and 2).—Data are shown for business cycle indicators, additional

U.S. series with business cycle significance, and industrial production indexes for selected countries. Together, they provide a broad view of current and prospective business cycle fluctuations in the economy as well as the basis for making an economic interpretation of these fluctuations.

- Analytical Measures (chart 2 and tables 3 to 5).— These are measures that aid in forming a judgment of the imminence of a turning point in the business cycle, determining the extent of current changes in different parts of the economy, and pointing to developments in particular industries and places.
- Cyclical Patterns (chart 3 and tables 6 and 7).— Current cyclical levels are compared with levels at corresponding stages of earlier cycles. These comparisons are made in different ways depending upon the phase of the business cycle.

In addition to the data shown as part of the regular report, certain appendix materials are presented. These materials include historical data, key information, and adjustment factors.

#### DESIGNATION OF BUSINESS CYCLE TURNING POINTS

The business cycle turning dates used in this report are those designated by the NBER. They mark the approximate dates when aggregate economic activity reached its cyclical high or low levels. As a matter of general practice, a business cycle turning date will not be designated until at least 6 months after it has occurred.

Monthly business cycle peaks and troughs have been dated by the NBER for the period 1854-1961. Over this span, expansion has prevailed 61 percent of the time and contraction, 39 percent. If war periods are disregarded, expansion has prevailed 56 percent of the time and contraction, 44 percent.

SEASONAL AND RELATED STATISTICAL ADJUSTMENTS

Adjustments for normal seasonal fluctuations are often necessary to bring out the underlying cyclical trends of a series. Such adjustments allow for periodic intrayear variations resulting chiefly from normal differences in weather conditions during the year and from various institutional arrangements. Some series contain considerable variation attributable to the number of working or trading days in each month. An additional adjustment is necessary in such cases to reduce this variation. Variations due to holidays are usually accounted for by the seasonal adjustment process; however, there are some cases in which a separate holiday adjustment is necessary for holidays with variable dates. Such a case is retail sales of apparel which is affected strongly by the date of Easter and, to a lesser degree, by the dates of Labor Day and Thanksgiving.

In general, the seasonal adjustment process is designed to adjust for *average* weather conditions but not for the dispersion about that average. Thus, some seasonally adjusted series, such as housing starts, will tend to be low in months of unusually bad weather and high during unusually good weather. At the Bureau of the Census, studies have been started on some series to determine the effects of abnormal weather. Although it eventually may be possible, Census methods do not at present make any adjustments for such variations.

Most of the series contained in this report are presented in seasonally adjusted form. Unadjusted data are used only for those series which appear to have no pattern of seasonal variation. (Unadjusted series are identified in table 2.) In most cases, the seasonally adjusted data used for a series are the official figures released by the source agency; therefore, several different methods of seasonal adjustment are involved. In addition, for the special purposes of business cycle studies, a number of series that are not ordinarily published in seasonally adjusted form are shown on a seasonally adjusted basis in this report. For these series, seasonal adjustments have been developed by either the NBER or the Census Bureau. The adjustment factors for these series, derived by Census Method II, are shown in appendix D. Factors for series which are the sums of seasonally adjusted components or which are based on unpublished source data are not shown.

#### MCD MOVING AVERAGES

MCD (months for cyclical dominance) is an estimate of the appropriate span over which to observe the cyclical movements in a monthly series. This span is usually longer than a single month because month-to-month changes are often dominated by erratic movements, but shorter than the frequently used 12-month span (change from the same month a year ago), and is different for different series (see appendix C for MCD values and method of computation).

MCD is, on average, the first span of months for which the average change for the cyclical factor is greater than that of the irregular factor and remains so. It is small for smooth series and large for irregular series. The month-to-month differences between moving averages of the period equal to MCD are commensurate with the differences between seasonally adjusted values separated by the same MCD span; thus, the month-to-month differences in a 3-month moving average are commensurate with differences in seasonally adjusted values over 3-month spans. MCD moving averages all have about the same degree of smoothness. Consequently, MCD moving averages of highly irregular series, such as business failures and Federal cash payments, will show their cyclical movements about as clearly as the seasonally adjusted data for such smooth series as industrial production.

MCD moving averages are shown in chart 1 for all series with an MCD of "5" or more. To provide an indication of the variation about these moving averages, seasonally adjusted data are also plotted beginning with 1958. Although not so smooth as more powerful moving averages (such as the weighted 13-term Henderson curve), the MCD curve is more current and has a smaller rounding bias around business cycle peaks and troughs. On balance, the MCD curve seems to offer a reasonable compromise in terms of currency, smoothness, and fidelity to the patterns of business cycle fluctuations.

Because of advance reporting and preliminary seasonal factors, the MCD's for current data are usually larger than those computed from historical series and shown in appendix C. MCD is usually computed for a fairly long period, one covering both expansions and contractions. Since the pace of change varies from phase to phase of the business cycle, such a measure will not provide an accurate estimate of the span over which to estimate cyclically significant changes at all times. Thus, MCD computed for the period 1953-63 is likely to be too high during the early stages of recovery when expansion has usually been rapid and too low during the late stages of expansion when the rate of advance has usually been small. This limitation should be borne in mind when making use of this measure.<sup>1</sup>

#### ANALYTICAL MEASURES OF CURRENT CHANGE

Three kinds of analytical measures are presented—timing distributions, diffusion indexes, and directions of change. These measures aid in forming a judgment of the current changes compared to previous changes, the imminence of a turning point in the business cycle, and the extent of current changes in different parts of the conomy. They also point to developments in partiular industries and places.

### **Timing Distributions**

Distributions of current "highs" appear to be helpful in appraising the evidence for a prospective business cycle turning point. Each month a timing distribution is constructed. This timing distribution shows the number of series reaching new highs and the percent currently high for each of several recent months (see table 3). Similar distributions of "lows" will be presented during contractions.

To provide historical perspective for interpreting the distribution of current highs, such distributions are also shown for leading and coincident series as they appear 3 months and 6 months before the peak of each of the earlier post-World War II expansions and at their peaks.

To compile timing distributions for the current cyclical phase, the data for the leading and roughly coincident business cycle indicators are scanned each month. During a business cycle expansion, the date of the high value for each series is recorded. (For inverted series—that is, series with negative conformity to the business cycle—dates of low values are taken.) If the values for 2 or more months are equal, the latest date is taken as the high month. In selecting these values, erratic values may be disregarded, although it is, of course, difficult to identify an erratic value, particularly for the current month.

The letter "H" is used in table 2 to identify and highlight the current high values during the expansion. The highs designated during the current cyclical phase will not necessarily be the specific cycle peaks. (See appendix B.) As new high levels are reached during the expansion, the current highs will be moved ahead. Comparisons of the current timing distributions with those for periods around earlier business cycle peaks are helpful for appraising the evidence of a prospective business cycle turning point.

Interpretations of timing distributions must be made in light of the fact that a contraction following a high value reached several months ago may be the result of an erratic fluctuation and that a new high may be reached in some future month. In short, when the percent currently high falls below 50 percent for both the leading and roughly coincident series, this does not necessarily signify that a business cycle peak has occurred. It may do so, but it may simply reflect a short reversal in the upward movement.

#### **Diffusion Indexes**

Diffusion indexes are simple summary measures of groups of economic series. They express, for a given aggregate series, the percent of the series components

<sup>&</sup>lt;sup>1</sup> For a more complete description of MCD and its use in studying economic series, see *Business Cycle Indicators*, Geoffrey H. Moore, editor; National Bureau of Economic Research, Inc., vol. 1, ch. 18, "Statistics for Short-Term Economic Forecasting," by Julius Shiskin (Princeton University Press: 1961).

which have risen over given spans of time. Their turning points tend to lead the turning points of the aggregate and they measure how widespread a business change is. They vary between the limits of 100 (all components rising) and zero (all components falling). Widespread increases are often associated with rapid growth and widespread declines with sharp reductions in aggregate activity.

The diffusion indexes in this report are grouped according to the timing classification of the NBER. For monthly series, comparisons are made over 1month spans (January-February, February-March, etc.) and generally for either 6- or 9-month spans, depending upon the irregularity of the series. The indexes based on 1-month spans are more "current" but they are also more irregular than the 6- or 9month indexes. (See chart 2.) Quarterly series are compared over 1-quarter spans, 3-quarter spans, and 4-quarter spans.

Recent research has shown that the longer-span diffusion indexes are not only smoother, but have systematically larger amplitudes than the 1-month indexes. The 1-month indexes generally have large irregular fluctuations, but the movements may be significant when important changes are taking place, particularly around cyclical turning points. Since the longer-span diffusion indexes are centered, there is an apparent loss in currency equal to one-half the span; for example, 3 months in the case of a 6-month diffusion index. However, the most recent figure for a 6-month or longer-span index does provide the latest available information on changes over that span. If a significant reversal has taken place within that span, the 1-month indexes are likely to reveal it. Presentation of both 1-month and longer-span diffusion indexes provides an opportunity for the user to take advantage of the best features of each in interpreting current changes.

Series numbers preceded by the letter "D" designate diffusion indexes. When one of these numbers corresponds to the number of a basic indicator series, it means that the diffusion index has been computed from components of the indicator series; for example, the diffusion index numbered "D6" is computed from components of series 6. Diffusion indexes not computed from basic series components are assigned new numbers.

Diffusion indexes that are based on business expectations show what proportion of business enterprises (or industries) are forecasting a rise in activity. Comparisons with indexes based on actual changes show whether there is a generally optimistic bias or a lag in recognition of actual developments.

#### **Diffusion-Index Components**

Many of the component series used to make up the diffusion indexes are shown in table 5. Where possible, recent basic data for the components are shown in part A. In part B, directions of change in these components are indicated for consecutive months and, depending upon the irregularity of the diffusion index, for either 6- or 9-month spans. The directions of change are indicated by "+" for rising, "o" for unchanged, and "—" for falling. (In counting the number of components rising, a "o" is counted as one-half.)

This table provides a convenient view of changing business conditions and is helpful in making an economic interpretation of the movements in the more highly aggregated statistical measures. That is, it shows which economic activities went up, which went down, and how long such movements have persisted. The table also helps to show how a recession or recovery spreads from one sector of the economy to another.

COMPARISONS OF CYCLICAL PATTERNS

In forming a judgment about the current intensity and probable ultimate character of a cyclical fluctuation, some economists find it helpful to compare the behavior of the various series in the current business cycle phase with their behavior during the corresponding phase of previous business cycles. These comparisions are made in different ways depending upon whether the current cyclical phase is an expansion or contraction.

Expansions are compared in one way by measuring changes from the immediately preceding peak levels. In table 6 of this report, data for the latest month in the current expansion (shown by number of months from the February 1961 trough) are compared with the May 1960 reference peak. For each earlier expansion, data for a like period (same number of months from the trough of the expansion) are compared with the preceding reference peak. This type of comparison is designated as changes computed from reference peak levels and reference trough dates. This type of comparison shows whether, and by how much, the current level of activity exceeds or falls short of the level at the preceding business cycle peak, and how the current situation compares, in this respect, with earlier expansions. For those earlier periods of expansion that were shorter than the current one, the comparisons reflect the status at a point after a new contraction had set in.

Digitized for FRASER In rec http://fraser.stlouisfe@org/ Federal Reserve Bank of St. Louis Expansions are also compared by computing changes from reference trough levels and reference trough dates (table 7). For the current expansion, this type of comparison measures the extent of the rise from the trough level (February 1961) to the level at the current month. For each earlier expansion, data for a like period (same number of months from the trough of the expansion) are compared with the level at the trough. The same situation exists here as for the comparisons shown in table 6: For earlier expansions that were shorter than the current one, the comparisons show the status at a point after a new contraction had set in.

Contractions can be compared by computing changes over the span from the most recent business cycle peak to the current month and over equal spans from previous reference peaks. This type of comparison is designated as changes *from reference peak levels and reference peak dates*. These comparisons will be made during a contraction period.

In addition to comparing cyclical fluctuations on the basis of reference dates, which are the same for all series, similar comparisons may be made using the specific peak and trough dates identified for each series. (Appendix B lists specific dates for a selected group of series.) Such comparisons would be based on changes from specific peak levels and specific trough dates and on changes from specific trough levels and specific trough dates. Although these specific cycle comparisons are not currently included in this report, they have been shown in previous issues.

Nearly all series have undergone changes in definition, coverage, or estimation procedure since 1919; therefore, the historical comparisons are to be considered only approximate. Furthermore, it is sometimes necessary to use data for a closely related series for cycles prior to the period covered by the series used currently. The principal substitutions of this type are as follows:

- 7. New private nonfarm dwelling units started (prior to 1948: Residential building contracts, floor space, by F. W. Dodge Corp.)
- 41. Number of employees in nonagricultural establishments (prior to 1929: Factory employment)
- 52. Personal income (prior to 1929: Quarterly data as published by Barger and Klein)
- 54. Sales of retail stores (prior to 1929: Department store sales)
- 62. Index of labor cost per unit of output, total manufacturing (prior to 1948: Production worker wage cost per unit).

#### CHARTS

Two types of charts are used to highlight the cyclical patterns of the business cycle series: Historical time series and cyclical comparisons.

#### Historical Time Series (charts 1 and 2)

These charts show cyclical fluctuations against the background of expansions and contractions in general business activity from 1948 to the current month. Shaded areas on the charts indicate periods of business cycle contractions between business cycle peak dates (beginnings of shaded areas) and business cycle trough dates (ends of shaded areas). The shading for a new contraction will be entered only after a trough has been designated.

Several different ratio and arithmetic scales are used to highlight the cyclical movements of the various series. The scale selected for each series is identified in the margin of the chart. Rates of change of various series can be compared with each other only where scales are identical. See the diagram, page 6, for additional help in using these charts.

# Cyclical Comparisons (chart 3)

This chart compares the movements of selected series during the current business cycle with their movements through the corresponding phases of previous business cycles. Actually, it is an extension of the concept behind table 6. While table 6 makes a comparison at one point in time, chart 3 shows these comparisons over the course of the whole business cycle. These comparisons facilitate judgments on the vigor of the current expansion relative to behavior during the expansions of earlier cycles.

Instead of following the usual date sequence, as in charts 1 and 2, the data in this chart are alined according to the strategic points of the business cycle. Each of the included series is separated into four segments which encompass the three complete business cycles since 1948 and the current expansion. These segments are alined so that the trough dates all fall at the same point on the horizontal scale and so that the levels of the preceding peaks all fall at the same point on the vertical scale.

A similar chart, based on specific cycle dates, was previously included in this report but has been discontinued for the present.

### HOW TO READ CHARTS I AND 2



# Section ONE



## charts and tables

LEADING INDICATORS

Sensitive employment and unemployment

New investment commitments

New businesses and business failures

**Profits and stock prices** 

Inventory investment, buying policy, and sensitive prices

**ROUGHLY COINCIDENT INDICATORS** 

**Employment and unemployment** 

Production

Income and trade

Wholesale prices

LAGGING INDICATORS

Investment expenditures

Cost per unit of output

Inventories

Debt

Interest rates

OTHER U.S. SERIES

Federal budget and military commitments

Reserves, money supply, and financing

Interest rates

Foreign trade

#### INTERNATIONAL COMPARISONS

#### Industrial production indexes for selected foreign countries

TABLE

# **BASIC DATA**

.



### **CHANGES OVER 4 LATEST MONTHS**

			Ba	sic data <sup>1</sup>			Averag	e percent c	hange <sup>23</sup>	Current	percent c	change
	Series (See complete titles and sources on back cover)	Unit of ' measure	June <sup>.</sup> 1966	July 1966	August 1966	September 1966	Sept. '65 to date (with sign) <sup>4</sup>	Sept. '65 to date (without sign) <sup>5</sup>	1953 to 1965 (without sign) <sup>5 6</sup>	June to July 1966	July to Aug. 1966	Aug to Sept 1966
	NBER LEADING INDICATORS			-								
1 2 30 3 4 5	Avg. workweek, prod. workers, mfg Accession rate, manufacturing Nonagri. placements, all industries Layoff rate, manufacturing Temporary layoff, all industries Avg. weekly initial claims, State unemoloyment insurance	Hours Per 100 empl Thous Per 100 empl Thous	41.3 5.3 567 1.3 125	r41.0 r4.6 542 r1.7 115 230	r41.4 p4.8 543 p1.0 100	p41.4 (NA) p509 (NA) 88	+0.1 +0.8 -0.2 +1.3 -3.0 +1.0	0.3 5.0 4.2 11.6 17.5 7.1	0.5 4.6 1.8 8.8 17.1	-0.7 -13.2 -4.4 -30.8 +8.0	+1.0 +4.3 +0.2 +41.2 +13.0 +14.8	C (N 6 (N +12 +6
6	. New orders, durable goods indus	Bil. dol	24.59	r24.37	r23.40	p24.24	+0.8	2.1	3.8	-0.9	-4.0	+3
24 9 10 11	<ul> <li>New orders, mach. and equip. indus</li> <li>Construction contracts, commercial and industrial</li> <li>Contracts and orders, plant, equip</li> <li>New capital appropriations, mfg 7</li> </ul>	Mil. sq. ft. floor space Bil. dol do	4.75 65.91 5.57	r5.09 63.07 r6.10	r4.81 61.79 p5.86 (NA)	p4.89 (NA) (NA)	+1.4 +0.1 +1.3 +6.1	3.1 6.3 3.6 6.1	4.2 9.3 4.7 10.4	+7.2 -4.3 +9.5 	-5.5 -2.0 -3.9 (NA)	() () ()
7	. Private nonfarm housing starts	Ann. rate,										
29 38 13 14	New bldg. permits, private housing Index of net business formation New business incorporations Liabilities of business failures	thous 1957-59=100 do Number Mil. dol	1,261 84.2 107.6 16,641 111.23	r1,068 81.3 105.9 16,688 62.84	r1,079 r74.5 103.5 16,224 161.75	p1,048 p64.9 (NA) (NA) 136.24	-2.1 -3.7 -0.1 -0.5 -11.5	8.6 6.2 1.0 2.2 35.6	7.2 3.7 0.8 2.5 18.7	-15.3 -3.4 -1.6 +0.3 +43.5	+1.0 -8.4 -2.3 -2.8 -157.4	-12 -12 (N (N +15
15 16	Large business failures	No. per week Ann rate	38	42	50	47	-1.6	10.0	12.3	-10.5	-19.0	+6
17 18 22	. Ratio, price to unit labor cost, mfg Profits per dol. of sales, mfg Ratio, profits to income originating,	bil. dol 1957-59=100 Cents	106.5	r106.1	(NA) r106.6 (NA)	p106.8	+3.4 +0.3 =0.3	3.4 0.5 3.8	5.6 0.6 6.0	-0.4	(NA) +0.5 (NA)	+(
	corporate, all industries?	Percent			(NA)		+0.5	1.5	4.2	•••	(NA)	
19 21	. Stock prices, 500 common stocks* Change in business inventories, all industries 7 8.	1941-43=10 Ann. rate, bil. dol	86.06	85.84	80.65	77.81	-1.1 +0.5	2.4	2.5	-0.3	-0.0	'i'
31	Change in book value, manufacturing and trade inventories <sup>8</sup>	do	+16.0	r+12.3	p+12.8	(NA)	+0.8	2.5	3.6	-3.7	+0.5	()
20	Change in book value, mfrs.' inven- tories of materials and supplies <sup>8</sup>	do	+4.0	r+1.1	p+5.6	(NA)	+0.2	1.5	1.5	-2.9	+4.5	(1
37	Purchased materials, percent reporting higher inventories	Percent	54	60	61	55	+0.1	7.4	6.5	+11.1	+1.7	ç
26	. Buying policy, prod. mtls., commit- ments 60 days or longer *	do	72	73	73	72	+1.4	1.9	5.3	+1.4	0.0	-3
32	. Vendor performance, percent reporting slower deliveries *	do	69	70	73	72	+1.5	5.8	7.5	+1.4	+4.3	_]
25 23	. Change in unfilled orders, durable goods industries <sup>e</sup> Industrial materials prices *	Bil. dol	+1.70	r+1.34	r+0.58	p+1.45	+0.02	0.34	0.48	-0.36 +0.3	-0.76 -6.0	+0.
	NBER ROUGHLY COINCIDENT											
41 42 43 40 45	Employees in nonagri. establishments Total nonagricultural employment Unemployment rate, total Avg. weekly insured unemploy. rate, State	Thousdo Percent do	63,983 69,759 4.0 1.9	r64,072 69,928 3.9 2.0	r64,196 70,180 3.9 2.0	p64,181 70,116 3.8 1.9	+0.4 +0.3 +1.2 +1.1	0.4 0.4 3.0 3.8	0.3 0.4 3.9 5.4	+0.1 +0.2 +2.5 -5.3	+0.2 +0.4 0.0 0.0	) 
46	Help-wanted advertising	1957-59=100	2.1	186	189	2.1	+2.4	4.8 3.1	4.2	-14.3 +1.1	0.0 +1.6	+1) (
47. 50.	Industrial production	Ann. rate,	156.5	r157.2	158.3	p158.2	+0.8	0.8	1.0	+0.4	+0.7	{
<b>49</b> 57	GNP in current dollars <sup>7</sup>	bil. dol do do	····		p650.7 p746.0 p735.2		+1.3 +2.1 +2.1	1.3 2.1 2.1	1.3 1.5 1.4	 	+1.1 +1.9 +2.1	
51 52 53 54	Bank debits, all SMSA's except N.Y Personal income Labor income in mining, mfg., constr Sales of retail stores	do do Mil. dol	3,377.1 577.2 155.3 <b>25,394</b>	3,508.5 580.0 155.4 <b>r25,362</b>	3,473.8 r585.4 r157.1 r25,657	p3,516.6 p589.5 p157.7 p25,554	+1.3 +0.5 +0.8 +0.6	2.0 0.7 0.8 1.4	1.6 0.5 0.8 1.0	+3.9 +0.5 +0.1 <b>-</b> 0.1	-1.0 +0.9 +1.1 +1.2	+) + + =
RAS	and foods	1957-59=100	105.0	105.3	105.3	p105.3	+0.2	0.2	0.2	+0.3	0.0	ĺ

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## **BASIC DATA**

### CHANGES OVER 4 LATEST MONTHS—Continued

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	· · · · · · · · · · · · · · · · · · ·	Ba	sic data <sup>1</sup>			Average percent change <sup>2 3</sup> Current perce				percent c	hange <sup>3</sup>
Series (See complete titles and sources on back cover)	Unit of measure	June 1966	July 1966	August 1966	September 1966	Sept. '65 to date (with sign)4	Sept. '65 to date (without sign) <sup>5</sup>	1953 to 1965 (without sign) <sup>56</sup>	June to July 1966	July to Aug. 1966	Aug. to Sept. 1966
NBER LAGGING INDICATORS											
<ol> <li>Business expenditures, new plant and equipment<sup>7</sup>.</li> <li>Labor cost per unit of output, mfg</li> <li>Labor cost per dollar of real corporate</li> </ol>	Ann. rate, bil. dol 1957-59=100	99.2	r99.8	a61.60 r99.9	p100.0	+4.0 0.0	4.0 0.5	3.2 0.6	+0.6	+2.5 +0.1	+0.1
GNP <sup>7</sup> 64. Book value of mfrs.' inventories 65. Book value of mfrs.' inventories of	Bil. dol	71.9	r73.0	(NA) p74.1	(NA)	+1.0 +1.0	1.0 1.0	0.8 0.5	 +1.5	(NA) +1.5	(NA)
finished goods	do Mil. dol	24.1 70,680	24.5 71,244	p24.7 71,846	(NA) (NA)	+0.8 +0.9	0.8 0.9	0.6 0.8	+1.7 +0.8	+0.8 +0.8	(NA) (NA)
loans* <sup>9</sup>	Percent	5.82	•••		6.30	+6.0	6.0	2.0	•••	•••	+8.2
OTHER SELECTED U.S. SERIES											
<ol> <li>82. Federal cash payments to public</li> <li>83. Federal cash receipts from public</li> <li>84. Federal cash surplus or deficit <sup>18</sup></li> <li>85. Balance, Eederal income and product</li> </ol>	Ann. rate, bil. dol do do	135.9 181.8 +45.9	r164.3 r154.8 r-9.5	154.2 r127.7 r-26.5	162.0 153.5 -8.5	+2.1 +2.6 +0.2	10.9 12.3 23.0	4.4 3.9 4.3	+20.9 -14.9 -55.4	-6.1 -17.5 -17.0	+5.1 +20.2 +18.0
account <sup>7</sup> <sup>8</sup>	do Mil.dol	r2,693	1,477	(NA) 2,541	(NA)	+2.1 +10.9	2.1 34.9	2.5 27.4	<del>-</del> 45.2	(NA) +72.0	(NA)
<ol> <li>Defense Dept. obligations, total</li> <li>Military contract awards in U.S</li> <li>New orders, defense products</li> <li>Free reserves*<sup>6</sup></li> <li>S. Change in money supply.<sup>8</sup></li> </ol>	do bil. dol Mil. dol Ann. rate	r7,084 3,675 3.68 -352	4,998 4,694 r3.50 r-358	7,215 2,845 r3.08 r391	(NA) (NA) p3.88 p-373	+4.8 +3.8 +2.4 <b>-</b> 19	16.1 17.4 14.0 46	13.9 24.5 22.5 98	-29.4 +27.7 -4.9 -6	+44.4 -39.4 -12.0 -33	(NA) (NA) +26.0 +18
Change in money supply and time	percent	<b>r+6.</b> 36	-10.56	r0.00	p+7.08	-0.08	8.00	3.11	-16.92	+10.56	+7.08
deposits <sup>8</sup> 10. Total private borrowing <sup>7</sup>	do Ann. rate,	r+10.08	+0.36	r+5.16	p+5.16	-0.46	4.84	2.52	-9.72	+4.80	0.00
<ol> <li>Corporate gross savings <sup>7</sup></li> <li>Change, business loans <sup>8</sup></li> </ol>	mil. dol do Ann. rate.	•••	•••	(NA) (NA)		+5.3 +1.3	1.3	4.3	•••	(NA) (NA)	
<ol> <li>Change, consumer installment debt<sup>8</sup></li> <li>Treasury bill rate*</li> <li>Treasury bond yields *</li> <li>Corporate bond yields*</li> <li>Municipal bond yields*</li> </ol>	bil. dol do Percent do do do	+19.69 +6.59 4.54 4.63 5.67 3.77	(NA) +6.77 4.86 4.75 5.81 3.95	+3.49 +7.22 4.93 4.80 6.04 4.12	p-3.06 (NA) 5.36 4.79 6.14 4.12	-0.59 -0.09 +2.7 +1.0 +2.3 +1.8	5.59 0.74 3.3 1.3 2.3 2.6	1.39 0.87 6.7 1.6 1.6 2.5	(NA) +0.18 +7.0 +2.6 +2.5 +4.8	(NA) +0.45 +1.4 +1.1 +4.0 +4.3	-6.55 (NA) +8.7 -0.2 +1.7 0.0
18. Mortgage yields *	do Mil. dol do	6.45 2,485.8 2,114.9 +370.9	6.51 r2,460.5 2,206.8 r+253.7	6.58 2,460.5 2,148.1 +312.4	6.63 (NA) (NA) (NA)	+1.6 +0.7 +1.3 -13.4	1.6 3.9 2.9 95.6	0.1 3.8 3.0 58.4	+0.9 -1.0 +4.3 -117.2	+1.1 0.0 -2.7 +58.7	<b>+0.8</b> (NA) (NA) (NA)
a. Liquidity balance basis b. Official settlements basis	••••• do•••••			(NA) (NA)		+126 -138	275 788	341 492		(NA) (NA)	đ
<ul> <li>81. Consumer prices</li></ul>	1957-59=100 do Bil. dol do	113.0 147 71.31 p21.89	113.1 147 <b>r72.65</b>	113.8 139 r73.24 	114.1 (NA) p74.68 (NA)	+0.3 -0.4 +1.9 +6.4	0.3 3.0 1.9 6.4	0.2 6.6 1.4 6.6	+0.1 0.0 +1.9 	+0.6 -5.4 +0.8	+0.3 (NA) +2.0 (NA)

r = revised; p = preliminary; e = estimated; a = anticipated; NA = not available. <sup>1</sup>Series are seasonally adjusted except for those series, indicated by an asterisk (\*), that appear to contain no seasonal movement. See additional basic data and notes in table 2. <sup>2</sup>Average percent changes are based on month-to-month (or quarter-to-quarter) percent changes for the specified periods. <sup>3</sup>To facilitate interpretations of cyclical movements, those series that usually fall when general business activity rises and rise when business falls are inverted so that rises are shown as declines and declines as rises (see series 3, 4, 5, 14, 15, 40, 43, and 45). Percent changes are computed in the usual way but the signs are reversed. (See footnote 8 for other "change" qualifications.) <sup>4</sup>Average computed with regard to sign. <sup>5</sup>Average computed without regard to sign. <sup>6</sup>The period varies among the series; however, for most series, the period covered is 1953-65. <sup>7</sup>Quarterly series; figures are placed in the middle month of quarter. <sup>9</sup>Figures are placed in the last month of quarter.



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# BASIC DATA



### BUSINESS CYCLE SERIES FROM 1948 TO PRESENT—Continued NBER Leading Indicators—Continued



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## **BASIC DATA**

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### BUSINESS CYCLE SERIES FROM 1948 TO PRESENT-CONTINUED

NBER Roughly Coincident Indicators—Continued



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### **BUSINESS CYCLE SERIES FROM 1948 TO PRESENT** —Continued

**NBER Lagging Indicators** 



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# **BASIC DATA**



### **BUSINESS CYCLE SERIES FROM 1948 TO PRESENT—Continued**

Other Selected U.S. Series—Continued



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### BUSINESS CYCLE SERIES FROM 1948 TO PRESENT -- Continued

Other Selected U.S. Series—Continued



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### **BASIC DATA**



### **BUSINESS CYCLE SERIES FROM 1948 TO PRESENT-Continued**







TABLE

## **BASIC DATA**



### LATEST DATA FOR BUSINESS CYCLE SERIES

### NBER Leading Indicators

Year and month	1. Average workweek of production workers, manufacturing	2. Accession rate, manufac- turing	30. Nonagricul- tural placements, all indústries	3. Layoff rate, manufacturing	4. Number of per- sons on temporary layoff, all in- dustries	5. Average weekly initial claims for unem- ployment in- surance, State programs <sup>1</sup>	6. Value of man- ufacturers' new orders, durable goods industries	24. Value of man- ufacturers' new orders, machinery and equipment industries
1963	(Hours)	(Per 100 employees)	(Thous.)	(Per 100 employees)	(Thous.)	(Thous.)	(Bil. dol.)	(Bil. dol.)
January February March April May June June July August September November December	40.4 40.2 40.4 40.2 40.4 40.5 40.5 40.5 40.6 40.6 40.7 40.5	3.8 3.8 3.8 3.8 3.8 3.9 3.9 3.9 3.9 3.9 3.9 3.9	552 554 555 546 545 543 553 553 575 523	2.0 1.9 1.9 1.9 1.8 1.8 1.8 1.9 1.8 1.9	152 121 107 138 95 92 131 130 108 135 134	310 301 288 293 288 284 281 290 285 282 276 301	18.47 18.23 18.78 19.04 18.74 17.68 18.28 18.06 18.24 18.62 18.11 17.97	3.25 3.21 3.22 3.35 3.42 3.39 3.31 3.42 3.44 3.44 3.27
1964 January	40.1 40.5 40.5 40.7 40.6 40.7 40.7 40.9 40.9 40.7 40.9 40.7	3.8 4.0 3.9 3.8 4.1 4.0 4.0 3.9 4.0 4.0 4.0	534 532 523 529 518 523 507 518 514 533 524	1.8 1.9 1.8 1.7 1.8 1.7 1.8 1.3 1.6 1.7 1.5	116 125 98 122 111 121 118 91 121 92 92 89 109	284 270 277 265 262 257 260 244 245 249 262 249 262 251	19.74 19.50 19.26 20.46 19.94 20.02 21.25 19.34 19.91 19.62 19.45 20.72	3.62 3.41 3.46 3.61 3.92 3.77 3.69 3.79 3.88 3.92
1965 January. February. March April. May. June July August September October. November December	41.1 41.2 41.3 41.0 41.2 41.0 41.0 41.1 41.0 41.2 41.4 41.3	4.0 4.1 4.3 4.0 4.1 4.4 4.1 4.3 4.5 4.5 4.5 4.9 4.8	522 549 528 535 533 548 541 543 529 547 544 563	$1.5 \\ 1.4 \\ 1.4 \\ 1.5 \\ 1.4 \\ 1.6 \\ 1.5 \\ 1.5 \\ 1.5 \\ 1.4 \\ 1.3 \\ 1.3 \\ 1.3 \\ 1.4$	<b>79</b> <b>124</b> <b>110</b> 117 102 140 121 110 84 84 84 120 125	243 248 237 224 224 224 231 248 218 209 212 206	21.27 21.13 21.71 22.04 20.99 21.31 22.20 21.51 22.16 22.42 22.42 22.39 23.40	3.96 3.80 4.02 4.08 4.07 4.09 4.35 4.16 4.15 4.25 4.32 4.58
January. February. March. April. June. June. July. August. September. October. November. December.	41.4 41.5 41.5 41.5 41.5 41.3 r41.0 r41.4 p41.4	4.9 4.9 5.2 4.8 5.3 r4.6 p4.8 (NA)	570 600 589 513 567 542 543 p509	1.2 1.2 1.2 1.2 1.1 1.3 rl.7 pl.0 (NA)	$ \begin{array}{c} 111\\ 106\\ 93\\ 100\\ 74\\ 125\\ 115\\ 100\\ 88\\ \end{array} $	222 219 182 179 185 186 230 196 183	23.58 23.74 24.89 24.20 24.28 24.59 r24.37 r23.40 p24.24	4.45 4.58 4.59 4.79 4.84 4.75 r5.09 r4.81 p4.89

NOTE: Series are seasonally adjusted except those that appear to contain no seasonal movement. Unadjusted series are indicated by an asterisk (\*). Current high values are indicated by (\*), for series that move counter to movements in general business activity (series 3, 4, 5, 14, 15, 40, 43, and 45), current low values are indicated by (\*). Series numbers are for identification only and do not reflect series relationships or order. Complete titles and sources are shown on the back cover. The "r" indicates revised; "p", preliminary; "e", estimated; "a", anticipated; and "NA", not available.

<sup>1</sup>Data exclude Puerto Rico which is included in figures published by source agency.

## **BASIC DATA**

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### LATEST DATA FOR BUSINESS CYCLE SERIES—Continued

#### NBER Leading Indicators—Continued

Year and month	9. Construction contracts, com- mercial and in- dustrial buildings	10. Contracts and orders for plant and equipment	11. Newly approved capital appropria- tions, 1,000 manu- facturing corpora- tions <sup>1</sup>	7. New private nonfarm dwelling units started	29. Index of new private housing units authorized by local building permits	38. Index of net business forma- tion	13. Number of new business incorporations	14. Current liabilities of business failures
1963	(Mil. sq. ft. floor space)	(Bil. dol.)	(Bil. dol.)	(Ann. rate, thous.)	(1957-59=100)	(1957-59=100)	(Number)	(Mil. dol.)
January February March May June July August September October December 1964	44.61 45.11 39.42 40.23 47.00 51.39 45.78 44.93 43.88 50.81 43.73 43.43	3.84 3.82 3.75 3.98 4.28 3.96 3.94 3.91 4.08 4.17 4.32 4.56	2.80 3.30 3.72 4.10	1,285 1,438 1,486 1,652 1,676 1,550 1,574 1,522 1,676 1,706 1,592 1,522	111.8 108.2 112.9 113.6 120.0 119.3 116.5 113.5 121.0 123.6 119.9 123.7	98.9 100.2 100.5 99.2 99.6 100.0 100.7 101.7 101.4 101.7 101.4 101.8	14,924 15,390 15,563 15,305 15,682 15,536 15,431 16,093 15,689 16,275 15,759 15,867	146.46 93.05 94.12 88.15 115.05 91.07 144.50 52.86 94.52 99.92 255.72 87.17
January February March April June July August September October November December	51.07 51.05 48.41 53.48 46.22 47.82 52.62 47.72 51.41 53.75 49.61 58.88	4.38 4.14 4.11 4.36 4.63 4.64 4.52 4.53 4.51 4.56 4.92 4.94	4.39  4.81  5.00  4.52	▶ 1,753 1,706 1,571 1,506 1,496 1,593 1,475 1,489 1,422 1,495 1,480 1,575	116.8 124.6 121.7 113.6 112.9 115.1 111.5 113.4 109.1 109.1 110.8 105.4	103.1 102.8 102.9 103.7 105.3 103.9 104.0 103.6 104.8 106.6 105.8 106.8	16,250 16,018 15,992 16,180 15,917 15,919 15,979 16,074 16,605 16,493 17,103 17,154	91.69 119.29 110.67 107.10 97.92 136.19 125.14 90.99 118.59 97.98 111.00 126.49
January	53.20 58.12 54.04 64.26 56.13 55.28 55.90 49.60 63.48 60.49 60.33 64.36	4.72 4.67 4.84 4.98 5.02 4.81 5.16 4.90 5.15 5.13 5.05 5.35	5.00 5.79 5.85 6.32	1,417 1,468 1,465 1,532 1,501 1,539 1,447 1,449 1,446 1,380 1,531 1,735	112.3 108.2 109.9 106.2 109.7 109.9 108.9 108.4 104.1 109.8 112.9 114.0	$107.5 \\ 107.6 \\ 106.1 \\ 105.3 \\ 105.0 \\ 106.8 \\ 106.4 \\ 106.4 \\ 105.3 \\ 104.6 \\ 105.3 \\ 105.9 $	17,275 17,367 17,112 16,504 16,043 16,671 16,369 16,957 17,138 16,744 17,418 16,999	84.54 107.57 146.29 79.51 139.09 135.66 120.64 128.98 108.56 85.67 66.65 128.06
1966 January	r61.84 r73.31 69.09 71.63 61.96 65.91 63.07 61.79 (NA)	r5.46 r5.71 5.66 5.91 5.77 5.57 r6.10 p5.86 (NA)	6.36  p6.98  (NA)	1,585 1,349 1,538 1,481 1,287 1,261 r1,068 r1,079 p1,048	110.7 105.6 111.9 104.6 96.9 84.2 81.3 r74.5 p64.9	108.7 109.6 109.2 108.4 107.6 107.6 105.9 103.5 (NA)	17,677 17,868 17,305 17.022 16,603 16.641 16,688 16,224 (NA)	111.67 94.59 98.73 106.93 92.41 111.23 62.84 161.75 136.24

NOTE: Series are seasonally adjusted except those that appear to contain no seasonal movement. Unadjusted series are indicated by an asterisk (\*). Current high values are indicated by ; for series that move counter to movements in general: business activity (series 3, 4, 5, 14, 15, 40, 43, and 45), current low values are indicated by Series numbers are tor identification only and do not reflect series relationships or order. Complete titles and sources are shown on the back cover. The "r" indicates revised; "p", preliminary; "e", estimated; "a", anticipated; and "NA", not available.

<sup>1</sup>The data from 1961 on have been adjusted to reflect a change in the seasonal adjustment of appropriations for the petroleum and coal products industry and a change in the reporting basis of nonelectrical machinery. These revisions do not materially affect comparability with the data before 1961. (See NICB publication, <u>Investment Statistics--Capital Appropriations: First Quarter 1965</u>.)

TABLE

### **BASIC DATA**



### LATEST DATA FOR BUSINESS CYCLE SERIES—Continued

#### NBER Leading Indicators—Continued

Year and month	15. Number of business failures with liabilities \$100,000 and over <sup>1</sup>	16. Corporate profits after taxes	17. Ratio, price to unit labor cost index, manufactur- ing	18. Profits (before taxes) per dollar of sales, all manufac- turing corporations	22. Ratio of profits to income origi- nating, corporate, all industries	19. Index of stock prices, 500 common stocks*	21. Change in business inventories after valuation ad- justment, all indus- tries
1963	(Number per week)	(Ann. rate, bil. dol.)	(1957-59=100)	(Cents)	(Percent)	(1941-43=10)	(Ann. rate, bil. dol.)
January February March April May June July August September October November	49 43 40 51 38 39 42 43 42 38	31.1  32.8  33.5  34.9	99.7 100.1 100.5 100.8 101.3 102.2 101.7 100.9 101.0 101.5 100.8	8.1  8.5  8.6  8.8	10.8  11.3  11.3  11.3 	65.06 65.92 65.67 68.76 70.14 70.11 69.07 70.98 72.85 73.03 72.62	+4.7  +4.8  +6.0  +8.1
December 1964	38	•••	100 <b>.</b> 8		•••	74.17	•••
January February April May June July August September October November December	41 38 44 39 39 44 40 42 42 42 42	38.0  38.5  39.1  39.0	101.6 101.9 101.3 101.9 101.7 100.8 101.2 101.6 100.8 100.6 101.8 102.6	9.0  8.9  9.0  8.7	12.2  12.2  12.2  12.2  12.1	76.45 77.39 78.80 79.94 80.72 80.24 83.22 82.00 83.41 84.85 85.44 83.96	+3.5 +4.2 +3.6 +7.4
1965         January.         February.         March         April.         May.         June         July         August         September         October.         November         December	35 40 42 33 47 47 39 45 43 35 40 48	43.8  43.8  44.1  46.3	102.8 102.6 103.3 103.0 103.3 103.9 104.9 104.4 103.6 104.9 105.3 106.0	9.8  9.3  9.4  9.5 	13.0  12.9  12.9  13.3	86.12 86.75 86.83 87.97 89.28 85.04 84.91 86.49 89.38 91.39 92.15 91.73	+9.5  +7.6  +8.7  +10.4
1966 January February March April May June June July August September November December	37 36 36 37 38 38 42 50 47	48.7  48.7  (NA)	105.6 106.0 106.8 105.9 106.0 106.5 r106.1 r106.6 p106.8	₽ 9.9  9.3  (NA)	13.3 13.1  (NA)	93.32 92.69 88.88 91.60 86.78 86.06 85.84 80.65 77.81 <sup>2</sup> 78.19	+8.9  +12.3  p+10.8

NOTE: Series are seasonally adjusted except those that appear to contain no seasonal movement. Unadjusted series are indicated by an asterisk (\*). Current high values are indicated by (-); for series that move counter to movements in general business activity (series 3, 4, 5, 14, 15, 40, 43, and 45), current low values are indicated by (-). Series numbers are for identification only and do not reflect series relationships or order. Complete titles and sources are shown on the back cover. The "r" indicates revised; "p", preliminary; "e", estimated; "a", anticipated; and "NA", not available.

<sup>1</sup> High value (32) was reached in February 1962.

<sup>2</sup>Average for October 18, 19, and 20.

### **BASIC DATA**





### LATEST DATA FOR BUSINESS CYCLE SERIES—Continued

#### **NBER Leading Indicators—Continued**

Year and month	31. Change in book value of man- ufacturing and trade inventories, total	20. Change in book value of man- ufacturers' inven- tories of materials and supplies <sup>1</sup>	37. Purchased materials, percent reporting higher inventories	26. Production materials, percent reporting commit- ments 60 days or longer*	32. Vendor per- formance, percent reporting slower deliveries*	25. Change in un- filled orders, durable goods industries	23. Index of indus- trial materials prices*
1963	(Ann. rate, bil. dol.)	(Ann. rate, bil. dol.)	(Percent reporting)	(Percent reporting)	(Percent reporting)	(Bil. dol.)	(1957-5 <del>9-</del> 100)
January	+3.1 +2.5 +3.0 +4.6 +2.7 +5.1 +6.0 +1.8 +5.6 +7.1 +9.6 +7.2	$\begin{array}{c} +0.6 \\ +0.4 \\ -0.2 \\ +0.9 \\ -0.3 \\ +0.7 \\ -0.5 \\ +1.7 \\ -0.4 \\ +1.7 \\ -0.2 \\ -0.7 \end{array}$	47 48 47 48 55 56 55 50 49 46 43 43	50 55 54 53 52 57 54 55 56 53 54 55	50 52 54 60 58 54 42 48 52 48 52 48 48 48	+0.96 +0.68 +0.94 +0.85 +0.33 -0.58 -0.54 -0.05 +0.38 +0.10 -0.09 -0.40	95.5 95.1 94.4 94.5 95.2 94.2 94.2 94.2 94.1 96.3 97.3 97.7
1964           January           February           March           April           May           June           July           August           September           October           November.           December.	+5.1 +2.3 +3.7 +8.0 +4.3 +2.2 +1.2 +1.2 +2.9 +10.7 +0.4 +9.4 +14.6	$\begin{array}{c} -1.9 \\ -0.5 \\ 0.0 \\ -1.0 \\ -0.1 \\ -0.7 \\ -1.6 \\ +1.3 \\ +2.6 \\ +4.3 \\ +3.5 \\ +2.0 \end{array}$	42 50 54 55 57 56 60 58 60 8	53 54 56 59 58 59 58 59 58 61 60 64 5	<b>55</b> <b>54</b> <b>60</b> 63 55 59 65 74 72 70 66	+0.40 +0.57 +0.16 +1.04 +0.38 +0.38 +0.38 +1.26 +0.06 +0.77 +1.00 +0.27 +0.55	98.5 98.9 102.4 100.9 101.4 102.5 105.7 108.2 112.0 113.2 112.5
1965         January         February         March         March         June         July         August         September         October         November.         December.	+11.2 +5.0 +13.8 +8.7 +9.4 +6.1 +11.6 +8.1 +3.4 +8.2 +10.2 +16.2	+1.0 +0.4 +2.5 +5.3 +1.5 -0.5 +0.7 +1.4 +3.1 +0.9 +1.0 +2.0	60 61 57 61 58 57 60 58 57 60 58 50 48	65 65 67 65 62 62 63 61 63 63 63	68 72 66 72 70 66 62 64 62 60 66 72	+0.32 +0.81 +0.44 +0.50 +0.58 +0.38 +0.32 +1.24 +1.28 +0.78 +1.09	110.6 110.7 113.2 116.7 116.9 115.3 114.6 115.2 114.8 115.0 115.5 117.1
1966 January	<sup>2</sup> (NA) +13.3 +12.5 +12.1 +17.1 +16.0 r+12.3 p+12.8 (NA)	+0.9 +1.2 +0.8 +3.8 +3.4 +4.0 r+1.1 p+5.6 (NA)	48 46 53 51 52 54 60 61 55	68 67 68 69 70 72 73 73 73 72	74 85 86 82 75 69 70 73 72	+1.27 +1.31 +1.65 +1.49 +1.36 +1.36 +1.70 r+1.34 r+0.58 p+1.45	120.5 122.9 123.5 121.5 118.3 118.4 118.8 111.7 108.9 3105.5

NOTE: Series are seasonally adjusted except those that appear to contain no seasonal movement. Unadjusted series are indicated by (5, for series that move counter to movements in general business activity (series 3, 4, 5, 14, 15, 40, 43, and 45), current low values are indicated by (5). Series numbers are for identification only and do not reflect series relationships or order. Complete titles and sources are shown on the back cover. The "r" indicates revised; "p", preliminary; "e", estimated; "a", anticipated; and "NA", not available.

<sup>1</sup>High value (+6.6) was reached in December 1961. <sup>2</sup>Because of the adoption of a new sample for the wholesale trade component, data beginning with January 1966 are not comparable with data for the earlier period. <sup>3</sup>Average for October 18, 19, and 20.

bcd OCTOBER 1966

TABLE

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B

## **BASIC DATA**



#### **NBER Roughly Coincident Indicators**

Year and month	41. Number of em- ployees in non- agricultural est ab- lishments	42. Total non- agricultural employ- ment, labor force survey	43. Unemployment rate, total	40. Unemployment rate, married males	45. Average weekly insured unemployment rate, State programs <sup>1</sup>	46. Index of help- wanted advertising in newspapers	47. Index of indus- trial production
	(Thous)	(Thous )	(Percent)	(Percent)	(Percent)	(1957-59=100)	(1957-59-100)
1000	(11003.)	(11003.)		(rereșin)		(100) 00 100)	(100) 00-1007
1963	55 966	63 086	57	37	1.8	e107	א מונ
February	56,079	63,219	5.9	3.7	4.6	e109	120.6
March	56,228	63,462 63,716	5.7	3.6	4.4	e108 109	121.9 122.7
May	56,594	63,579	5.9	3.4	4.2	105	124.4
	56,644 56,761	63,791 63,974	5.7	3.2	4.1	104	125.6 125.6
August	56,836	64,089	5.5	3.1	4.2	105	125.4
September	56,983 57,168	64,306 64,245	5.5	3.0	4.1	107	125.7
November	57,157	64,347	5.8	3.3	4.1	112	126.1
December	57,303	64,399	5.5	3.3	4.1	118	127.0
1964	re 00/	() (0]	r (				107.0
February	57,676	65,084	5.4	2.9	3.9	110	127.9
March	57,800	65,208	5.4	2.9	3.9	118	129.3
May	58,061	65,774	5.4 5.1	2.0	3.8	118	131.8
June	58,211	65,472	5.4	2.8	3.7	121	132.0
August	58,521	65 <b>,68</b> 2	5.1	2.6	3.5	124	134.0
September	58,747	65,697	5.1 5.2	2.8	3.4	126	134.0
November	59,118	66,133	4.9	2.4	3.4	134	135.4
December	59,387	66,426	5.0	2.6	.3.4	137	138.1
1965	FO 140	(( 50)			<b>7</b> 10	3.00	
January	59,489	66,719 66,718	4.8 5.0	2.7	3.3	137	138.6
March	60,072	66,895	4.7	2.5	3.2	148	140.7
April	60,363	66,919 66,947	4.8	2.5	3.0	143	140.9
June	60,623	67,434	4.7	2.4	2.9	146	142.7
August	61,021	67,815	4.5	2.5	3.0	149	144.2
September	61,180	67,879	4.4	2.2	2.9	160 168	143.5
November	61,864	68,641	4.2	2.0	2.6	181	146.4
December	62,241	68,955	4.1	1.8	2.6	186	148.7
1966		(0.00)					3 50 0
January	62,469 62,811	69,286 69,079	4.0 3.7	1.9	2.6	184 191	150.2
March	63,247	69,072	3.8	1.9	2.3	201	153.4
Мау	63,517	69,317 69,155	4.0	1.8	2.1 2.1	189	155.2
June	63,983	69,759	4.0	1.9	2.1	184	156.5 r157.2
August	r64,196	70,180	3.9	2.0	2.4	189	158.3
September	p64,181	70,116	3.8	1.9	2.1	<b>p</b> 189	p158.2
November							

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<sup>1</sup>Data exclude Puerto Rico which is included in figures published by source agency.

### **BASIC DATA**

**bcd** OCTOBER 1966



#### LATEST DATA FOR BUSINESS CYCLE SERIES—Continued

#### NBER Roughly Coincident Indicators—Continued

Year and month	50. Gross national product in 1958 dollars	49. Gross national product in current dollars	57. Final sales (series 49 minus series 21)	51. Bank debits, all SMSA's ex- cept New York (224 SMSA's)	52. Personal income	53. Labor income in mining, manù- facturing, and construction	54. Sales of retail stores	55. Index of wholesale prices except farm products and foods
								ļ
1963	(Ann. rate, bil. dol.)	(Ann. rate, bil. dol.)	(Ann. rate, bil. dol.)	(Ann. rate, bil. dol.)	(Ann. rate, bil. dol.)	(Ann. rate, bil. dol.)	(Mil. dol.)	(1957-59=100)
January	541.2	577.4	572.7	2,416.2 2,345.9	457.6 455.7	120.0 119.9	20,319 20,226	100.5 100.5
March April Mav	546.0	5 <b>84.</b> 2	579.4	2,472.5	457.8 458.4 461.2	120.6 120.7 122.2	20,374 20,292 20,178	100.5
June July	554-7	594. <b>7</b>	588.8	2,368.2 2,561.0 2,463.1	464.2 465.6 467.8	123.0 123.5	20,517 20,634 20,581	100.8 100.9 100.9
September	•••	•••		2,559.0 2,605.5	470.0 473.4	125.3	20,489 20,774	100.8 100.9
November	562.1	605.8	597.7	2,527.4 2,610.2	474.9 4 <b>7</b> 9.1	125.7 126.8	20,727 20,952	100.9 101.1
1964 ·				2 577 5	180.0	106.0	21 022	101 1
February	569.7	616.8	613.3	2,590.3 2,597.3	482.5 483.8 486.1	127.8 128.7	21,408 21,305	101.2 101.2
April	578.1	627.7	623.5	2,693.8 2,688.4 2,607.4	489•3 492•6 494•1	129.8 130.0 130.8	21,442 21,701 21,797	101.2 101.1 101.0
July August	585.0	637.9	634•4	2,746.7 2,681.7	497.3 500.8	131.7 133.0	21,862 22,227	101.2 101.2
September October November.	587.2	644.2	636.8	2,755.9 2,771.5 2,730.3	502.7 503.5 506.8	132.7 134.7	22,555 21,429 21,690	101.5 101.6
December		•••	••••	2,803.5	512.1	136.9	22,766	101.7
				2,803.3	516.7	137.0	22,936	101.7
February March	600.3	660.8	651.4	2,845.1 2,923.8 2,962.0	517.3 520.1	138.5 139.3	23,262 22,856 22,876	101.9 102.1 102.2
May June	607.8	672.9	665.3	2,871.5 3,019.4	522.5 528.0 532.2	140.0 141.0	23,317 23,322	102.3 102.6
July August	618.2	686.5	677.8	3,021.0 3,018.8 3,022.6	535.4 537.8	141.3 142.4 142.7	23,668 23,585 23,753	102.6 102.8 102.9
October	631.2	704.4	694.0	3,068.9 3,178.9	547.2 553.2	144.2 146.5	24,194 24,647 24,816	102.8 103.2
1966	•••	•••		5,247.0	558.2	147.0	24,010	109.1
January	640.5	721.2	712.3	3,198.1 3,263.9	<b>560.2</b> 564.7	149.3 151.1	25,023 25,263	103.4 103.8
May	643.5	732.3	720.0	3,397.1 3,390.1 3,348.1	570.5 573.0	153.2 154.0	22,936 24,949 24,475	104.0 104.3 104.8
June July August	₽650.7	₽ <b>₽</b> 746.0	₽735.2	3,377.1 3,508.5 3,473.8	577.2 580.0 r585.4	155.3 155.4 r157.1	25,394 r25,362 r25,657	105.0 105.3 105.3
October				₽,510.0	p203.2	P1)///	₽~2,774	105.1

NOTE: Series are seasonally adjusted except those that appear to contain no seasonal movement. Unadjusted series are indicated by an asterisk (\*). Current high values are indicated by (D); for series that move counter to movements in general business activity (series 3, 4, 5, 14, 15, 40, 43, and 45), current low values are indicated by (D). Series numbers are for identification only and do not reflect series relationships or order. Complete titles and sources are shown on the back cover. The "r" indicates revised; "p", preliminary; "e", estimated; "a", anticipated; and "NA", not available.

<sup>1</sup>Week ended October 18.

TABLE

## **BASIC DATA**



### LATEST DATA FOR BUSINESS CYCLE SERIES—Continued

### NBER Lagging Indicators

Year and month	61. Business ex- penditures on new plant and equip- ment, total	62. Index of labor cost per unit of output, manufac- turing	68. Index of labor cost per dollar of real corporate GNP	64.Book value of manufacturers' inventories	65. Book value of manufacturers' inventories of fin- ished goods	66. Consumer in- stallment debt	67. Bank rates on short-term business loans, 19 cities*
1052	(Ann. rate, bil. dol.)	(1957-59=100)	( <b>1957-59</b> =100)	(Bil. dol.)	(Bil. dol.)	(Mil. dol.)	(Percent)
1909		100.6		57.9	19,9	47,659	• • •
February	36.95	100.2	104.2	58.0	20.0	48,154	···
March	•••	99.5	•••	58.3	20.0	48,031	5.00
May	38.05	99.3	104.0	58.5	20.1	49,593	5 01
June	•••	99.3		58.9	20.3	50,655	
August	40.00	100.1	103.7	58.9	20.4	51,207	5 01
September		99.8		59.3	20.6	52,194	,
November	41.20	100.0	104.1	59.8	21.0	52,648	5.00
	•••	100.0			£1•£	,202	5.00
1364		99,3		60.0	21.2	53-689	
February	42.55	99.1	103.8	60.1	21.4	54,259	•••
March	•••	99.7		60 <b>.</b> 3	21.4	<b>54,</b> 865	4.99
Мау	43.50	99.3	104.2	60.5	21.6	55,907	•••
June	•••	99.7		60 <b>.</b> 4	21.5	56,375	4.99
August	45.65	99.5	104.5	60.8	21.6	57,410	•••
September	•••	100.3	•••	61.0 61.8	21.6	58,004 58,475	4.98
November	47.75	99.5	105.6	62.4	21.9	58,836	•••
December	•••	98.9	•••	62.9	22.2	59,454	5.00
1965		0.0		(2.0	00.1	(0.0(0)	
January	49.00	98.7 99,1	104.5	63.2	22.4	60,666	• • •
March	•••	98.7	••••	63.7	22.5	61,308	4.97
April	50.35	99.4	105.3	64.3	22.3	62,055	•••
June	•••	99.0	•••	64.6	22.3	63,304	4.99
July	52.75	98.9	105.3	65.8	22.5	64,684	•••
September	• • •	99.5	•••	66 <b>.</b> 3	22.6	65,370	5.00
November	55.35	98.6	105.4	67.2	22.9	66,689	•••
December	•••	97.8	•••	68.0	23.1	67,323	5.27
1966							
January	58,00	98.7	106-8	68.6 69.0	23.5	67,920 68,458	•••
March	•••	98.5		69.6	23.8	69,107	5.55
April	60.10	99.6 99.7	108./	70.3	23.8	69,638 70.131	•••
June		99.2		71.9	24.1	70,680	5.82
August	a61.60	r99.8 r99.9	(NA)	r'/3.0	24.5 p24.7	71,244	
September	•••	p100.0		(NA)	(NA)	(NA)	6.30
November December	a63.55						

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# **BASIC DATA**



#### LATEST DATA FOR BUSINESS CYCLE SERIES—Continued

#### **Other Selected U.S. Series**

Year and month	82. Federal cash payments to the public	83. Federal cash receipts from the public	84. Federal cash surplus (+) or deficit (-)	95. Surplus (+) or deficit (-), Federal income and product account	90. Defense Department obliga- tions, procurement	91. Defense Department obliga- tions, total	92. Military prime contract awards to U.S. business firms
1963	(Ann. rate, bil. dol.)	(Ann. rate, bil. dol.)	(Ann. rate, bil. dol.)	(Ann. rate, bil. dol.)	(Mil. dol.)	' (Mil. dol.)	(Mil. dol.)
January February March April May June July August September October November December	112.4 109.6 116.5 113.8 116.7 120.2 121.6 119.7 122.1 119.3 117.2	107.3 108.5 109.1 108.1 114.1 112.8 113.7 117.3 113.4 115.3 115.4 118.7	-5.1 -1.1 -7.4 -5.7 -2.6 -2.9 -6.5 -4.3 -6.3 -6.8 -3.9 +1.5	-2.4  +1.8  +1.2  +2.1	1,586 1,206 1,366 1,215 1,358 1,363 1,132 1,700 1,207 2,010 1,094 1,273	4,632 4,137 4,233 4,078 4,507 4,481 4,349 4,580 4,160 5,112 4,093 4,371	2,198 2,435 2,154 1,966 2,240 2,334 2,419 2,733 2,578 2,086 1,681 2,079
1964 January February March April May June July	126.5 119.7 121.0 122.4 118.9 116.5 122.2 121.0	115.1 119.6 116.3 121.1 108.4 113.5 114.7	-11.4 -0.1 -4.7 -1.3 -10.5 -3.0 -7.5 -8 6	-1.9  -6.7 	1,075 1,843 1,237 1,389 1,910 1,079 1,494 803	4,351 5,317 4,133 4,544 4,818 4,349 4,677 4,237	2,149 2,689 1,598 2,508 2,454 1,879 2,904 1,926
August September October November December 1965	117.3 118.4 112.9 126.6	112.4 113.7 115.7 115.4 115.1	-3.6 -3.6 -2.7 +2.5 -11.5	-9.0	1,141 889 1,089 1,747	4,237 4,405 3,773 4,228 5,325	1,928 2,191 1,745 2,008 1,883
January February March April May June July August September October November. December.	122.0 122.2 117.8 125.6 129.3 133.9 119.5 128.8 136.9 124.3 146.3 126.6	110.9 117.6 128.2 144.4 118.1 129.3 116.1 125.0 126.6 113.6 129.6 125.0	-11.1 -4.6 +10.4 +18.8 -11.2 -4.6 -3.4 -3.4 -3.8 -10.3 -10.7 -16.7 -1.6	+4.5 +4.4 -2.5 	1,005 700 1,355 1,444 1,402 1,254 1,128 1,741 1,732 1,733 1,212 1,882	4,278 3,839 4,624 4,593 4,630 4,520 4,520 4,258 5,223 5,276 4,962 4,896 5,669	1,830 1,628 1,874 2,926 2,025 2,438 2,699 2,770 2,465 2,566 2,566 2,566 2,915
1966 January	146.9	124.3	-22.6	•••	1,521	5,100	2,712
February March May June July August September October November. December.	142.5 153.5 139.4 153.8 135.9 r164.3 154.2 162.0	137.1 142.8 155.2 137.8 181.8 r154.8 r154.8 r127.7 153.5	-5.4 -10.7 +15.8 -16.0 +45.9 r-9.5 r-26.5 -8.5	+2.3  +3.8  (NA)	1,420 1,947 2,299 1,588 r2,693 1,477 2,541 (NA)	5,179 5,879 6,444 5,447 r7,084 4,998 7,215 (NA)	2,596 2,357 3,466 2,945 3,675 4,694 2,845 (NA)

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bcd OCTOBER 1966

# **BASIC DATA**



#### LATEST DATA FOR BUSINESS CYCLE SERIES—Continued

#### Other Selected U.S. Series—Continued

Year and month	99. New orders, defense products	93. Free reserves*	85. Change in total U.S. money supply	98. Change in money supply and time deposits	110. Total private borrowing	111. Corporate gross savings	112. Change in business loans
	(Bil. dol.)	(Mil. dol.)	(Ann. rate, percent)	(Ann. rate, percent)	(Ann. rate, mil. dol.)	(Ann. rate, mil. dol.)	(Ann. rate, bil. dol.)
January February March April May June July August September	2.89 2.09 2.42 1.97 2.40 1.90 2.40 2.36 2.47	+375 +301 +269 +313 +247 +138 +161 +133 +91	+4.08 +4.92 +1.56 +4.08 +3.96 +4.80 +4.80 +1.56 +2.40	+8.28 +9.24 +6.72 +7.68 +7.20 +8.04 +8.52 +6.96 +6.96	Revised <sup>1</sup> 44,308 50,036  51,956	41,688 42,392  44,172	$\begin{array}{r} +1.43 \\ +1.42 \\ +1.85 \\ +2.40 \\ +2.35 \\ +1.74 \\ +1.97 \\ +2.04 \\ +2.08 \end{array}$
November December 1964	1.92 1.97 1.48	+94 +33 +209	+6.36 +7.08 -0.84	+9.24 +11.04 +4.56	54,428	47,184	+4.00 +5.22 +5.78
January February March April May June July August September October November December	2.67 2.40 2.18 2.37 2.48 2.34 3.29 1.86 1.98 2.41 1.79 1.87	+175 +89 +99 +167 +82 +120 +135 +83 +89 +106 -34 +168	+3.96 +3.12 +0.72 +3.12 +3.84 +4.68 +7.68 +4.56 +7.68 +4.56 +1.56 +5.28	+7.68 +6.24 +4.08 +5.76 +7.56 +8.40 +9.24 +7.80 +9.48 +8.52 +7.68 +9.24	48,148 61,680 56,032 56,432	49,300 50,556 52,116 51,348	+1.79 +3.48 +1.42 +3.17 +4.25 +3.89 +4.31 +4.78 +4.28 +1.43 +0.32 +8.62
January. February. March. April. June July. July. August. September. October. November. December	2.37 2.44 2.46 3.24 2.46 2.58 2.62 2.81 3.45 3.28 2.57 2.53	+106 +36 -75 -105 -180 -182 -174 -134 -144 -146 -83 -2	$\begin{array}{r} 0.00 \\ +0.72 \\ +3.72 \\ +5.28 \\ -2.28 \\ +7.44 \\ +5.16 \\ +4.44 \\ +8.04 \\ +8.04 \\ +2.88 \\ +11.64 \end{array}$	$\begin{array}{r} +8.76 \\ +8.76 \\ +7.44 \\ +8.16 \\ +4.08 \\ +10.56 \\ +9.72 \\ +10.80 \\ +10.68 \\ +12.60 \\ +8.52 \\ +11.52 \end{array}$	62,420  69,512  64,788  67,756	54,984  54,496  55,524  56,352	$\begin{array}{r} +12.35 \\ +13.14 \\ +12.47 \\ +6.32 \\ +11.04 \\ +11.38 \\ +10.00 \\ +5.53 \\ +4.00 \\ +5.33 \\ +0.32 \\ +10.84 \end{array}$
1966 January February March April MayJuneJuly July August September October November December	3.40 3.04 3.38 3.30 2.91 3.68 r3.50 r3.08 p3.88	-44 -107 -246 -352 -352 r-358 r-358 r-351 p-373	+5.76 +1.44 +7.80 +11.28 -4.92 +6.36 -10.56 0.00 p+7.08	+6.48 +3.36 +7.92 +13.20 +3.36 +10.08 +0.36 +5.16 p+5.16	66,052  75,172  (NA)	57,752  57,788  (NA)	+14.23 +7.21 +8.87 +6.60 +10.93 +19.69 (2) +3.49 p-3.06

NOTE: Series are seasonally adjusted except those that appear to contain no seasonal movement. Unadjusted series are indicated by an asterisk (\*). Series numbers are for identification only and do not reflect series relationships or order. Complete titles and sources are shown on the back cover. The "r" indicates revised; "p", preliminary; "e", estimated; "a", anticipated; and "NA", not available.

<sup>1</sup>See "New Features and Changes for This Issue," page iii.

<sup>2</sup>Because of a change in coverage, data beginning with July 1966 are not comparable with data for the earlier period.

# **BASIC DATA**





#### LATEST DATA FOR BUSINESS CYCLE SERIES—Continued

#### Other Selected U.S. Series—Continued

Year and month	113. Net change in consumer install- ment debt	114. Treasury bill rate*	115. Treasury bond yields*	116. Corporate bond yields*	117. Municipal bond yields*	118. Mortgage yields*	86. Exports ex- cluding military aid shipments, total
1963	(Ann. rate, bil. dol.)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Mil. dol.)
January	+5.82 +5.94 +5.72 +6.25 +5.29 +5.83 +6.91 +6.62 +5.09 +6.76 +5.45 +6.65	2.91 2.92 2.90 2.91 2.92 3.00 3.14 3.32 3.38 3.45 3.52 3.52	3.89 3.92 3.93 3.97 4.00 4.01 3.99 4.04 4.07 4.11 4.14	4.22 4.25 4.28 4.35 4.36 4.32 4.34 4.34 4.34 4.40 4.37 4.42 4.49	3.10 3.15 3.05 3.10 3.11 3.21 3.22 3.13 3.20 3.20 3.20 3.20 3.20 3.20	5.52 5.48 5.47 5.45 5.45 5.45 5.45 5.45 5.45 5.45	987.3 2,122.1 1,969.1 1,915.5 1,896.8 1,791.1 1,841.1 1,905.3 1,985.5 1,954.2 1,955.8 2,105.4
January February March April June July August September October December December	+5.84 +6.84 +7.27 +5.62 +6.89 +5.62 +6.43 +5.99 +7.13 +5.65 +4.33 +7.42	3.53 3.55 3.48 3.48 3.48 3.48 3.48 3.48 3.51 3.51 3.53 3.58 3.62 3.86	4.15 4.14 4.18 4.20 4.16 4.13 4.13 4.13 4.14 4.16 4.16 4.12 4.12	4.50 4.39 4.45 4.48 4.48 4.50 4.44 4.44 4.49 4.49 4.49 4.48 4.49	3.22 3.14 3.28 3.28 3.20 3.20 3.18 3.19 3.23 3.25 3.18 3.13	5.45 5.45 5.45 5.45 5.45 5.45 5.46 5.46	2,039.6 2,057.8 2,075.2 2,061.0 2,047.3 2,076.5 2,118.6 2,099.8 2,261.0 2,156.4 2,206.2 2,426.1
January	+7.38 +7.16 +7.70 +8.94 +7.87 +7.14 +8.69 +7.87 +8.23 +7.44 +8.39 +7.61	3.83 3.93 3.94 3.93 3.90 3.81 3.83 3.84 3.91 4.03 4.08 4.36	$\begin{array}{c} 4.14 \\ 4.16 \\ 4.15 \\ 4.15 \\ 4.14 \\ 4.14 \\ 4.14 \\ 4.19 \\ 4.25 \\ 4.28 \\ 4.34 \\ 4.43 \end{array}$	4.45 4.49 4.48 4.52 4.57 4.57 4.57 4.66 4.71 4.70 4.75 4.92	3.06 3.09 3.18 3.15 3.17 3.24 3.27 3.24 3.27 3.24 3.25 3.40 3.46 3.54	5.45 5.45 5.45 5.45 5.45 5.44 5.44 5.44	1,214.6 1,598.8 2,754.8 2,379.6 2,260.2 2,230.2 2,255.5 2,332.9 2,324.1 2,341.6 2,408.2 2,355.8
1966 January February March April May June July August September October November December	+7.16 +6.46 +7.79 +6.37 +5.92 +6.59 +6.77 +7.22 (NA)	4.60 4.67 4.63 4.61 4.64 4.54 4.86 4.93 5.36	4.43 4.61 4.63 4.55 4.57 4.63 4.75 4.80 4.79	4.93 5.09 5.33 5.38 5.55 5.67 5.81 6.04 6.14	3.52 3.64 3.72 3.56 3.65 3.77 3.95 4.12 4.12	5.70 (NA) 6.00 (NA) 6.32 6.45 6.51 6.58 6.63	2,248.6 2,334.8 r2,594.2 2,331.2 r2,364.3 2,485.8 r2,460.5 2,460.5 (NA)

NOTE: Series are seasonally adjusted except those that appear to contain no seasonal movement. Unadjusted series are indicated by an asterisk (\*). Series numbers are for identification only and do not reflect series relationships or order. Complete titles and sources are shown on the back cover. The "r" indicates revised; "p", preliminary; "e", estimated; "a", anticipated; and "NA", not available.

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# **BASIC DATA**



#### LATEST DATA FOR BUSINESS CYCLE SERIES—Continued

#### Other Selected U.S. Series—Continued

Var and month	87. General im- ports, total	88. Merchandise trade balance (series 86 minus	89. Excess of rec ments (-) in U.S.	eipts (+) or pay- balance of payments	81. Index of con- sumer prices	94. Index of con- struction con- tracts, value	96. Manufac- turers' unfilled orders, durable	97. Backlog of capital appro- priations, manu-
		series 87)	a. Liquidity balance basis	b. Official settlements basis			goods indus- tries	facturing 1
1963	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.) (Mil. dol.)		(1957-59= 100)	(Bil. dol.)	(Bil. dol.)
January February March April June July August September October December	1,099.9 1,510.4 1,484.7 1,414.4 1,416.2 1,430.9 1,449.6 1,497.4 1,442.9 1,454.5 1,465.2 1,477.8	-112.6 + 611.7 + 484.4 + 501.1 + 480.6 + 360.2 + 391.5 + 407.9 + 542.6 + 499.7 + 449.6 + 627.6 + 627.6	-1,218 -1,114 -200 -138	-1,081 	106.1 106.2 106.3 106.4 106.7 106.9 107.1 106.9 107.0 107.0 107.0 107.2	121 130 118 125 144 135 126 132 128 146 144 148	45.06 45.74 46.68 47.53 47.86 47.28 46.74 46.70 47.07 47.17 47.08 46.68	8.88 9.38 10.05
1964     January.     February.     March     April.     May.     June     Juny.     July.     August     September     October.     November     December     1965	1,418.1 1,458.8 1.518.0 1,537.2 1,530.1 1,514.0 1,573.2 1.608.1 1,563.4 1,550.5 1,697.7 1,641.9	+621.5 +599.0 +557.2 +523.8 +517.2 +562.5 +545.4 +491.7 +697.6 +605.9 +508.5 +784.2	-248  -552  -617  -1,381 	-144  -326  -231  -845	107.8 107.7 107.8 108.0 108.1 108.1 108.1 108.2 108.3 108.4 108.6 108.9	147 143 140 138 138 138 140 121 131 136 143 154	47.07 47.64 47.80 48.84 49.22 50.04 51.30 51.37 52.14 53.14 53.14 53.96	12.08  13.23  14.54  14.97
January. February. March April May. June July August September October. November December 1966	1,192.7 1,599.6 1,861.0 1,832.9 1,789.0 1,829.5 1,741.1 1,853.5 1,864.6 1,884.6 1,951.9 1,892.4	+21.9 -0.8 +893.8 +546.7 +471.2 +400.7 +514.4 +479.1 +459.5 +457.0 +456.3 +463.4	-697  +226  -534  -332	-618  +239  +232  +232 	109.0 109.0 109.1 109.5 109.9 110.2 110.0 110.0 110.1 110.3 110.6 111.0	137 140 141 152 145 139 149 139 149 147 147 147 141 153	54.28 55.09 55.53 56.37 56.88 57.45 57.83 58.15 59.38 60.66 61.44 62.53	15.66  17.05  18.17  19.48
January. February. March April. May. June. July September. October. November December	1,935.5 1,992.9 2,072.7 2,138.2 2,070.2 2,114.9 2,206.8 2,114.9 (NA)	+313.1 +341.9 r+521.5 +193.0 r+294.1 +370.9 r+253.7 +312.4 (NA)	-556  -157  (NA)	-246  r-183  (NA)	111.0 111.7 112.1 112.6 112.8 113.0 113.1 113.8 114.1	152 157 158 161 156 147 147 139 (NA)	63.80 65.11 66.76 68.25 69.61 71.31 r72.65 r73.24 p74.68	20.34  p21.89  (NA)

NOTE: Series are seasonally adjusted except those that appear to contain no seasonal movement. Unadjusted series are indicated by an asterisk (\*). Series numbers are for identification only and do not reflect series relationships or order. Complete titles and sources are shown on the back cover. The "r" indicates revised; "p", preliminary; "e", estimated; "a", anticipated; and "NA", not available.

<sup>1</sup>The data from 1961 on have been adjusted to reflect a change in the seasonal adjustment of appropriations for the petroleum and coal products industry and a change in the reporting basis of nonelectrical machinery. These revisions do not materially affect comparability with the data before 1961. (See NICB publication, <u>Investment Statistics--Capital Appropriations: First Quarter 1965</u>.)

# **BASIC DATA**

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#### LATEST DATA FOR BUSINESS CYCLE SERIES—Continued

#### **International Comparisons**

Year and month	47, United States, index of industrial produc- tion	123. Canada, index of indus- trial production	122. United Kingdom, index of industrial production	121. OECD, <sup>1</sup> European coun- tries, index of industrial production	125. West Germany, index of industrial production	126. France, index of indus- trial production	127. Italy, index of industrial production	128. Japan, index of industrial production
1963	(1957-59= 100)	(1957-59= 100)	(1957-59= 100)	(1957-59= 100)	(1957-59= 100)	(1957-59= 100)	(1957-59= 100)	(1957-59= 100)
January February March Aprii May June July August September October November. December.	120 121 122 123 124 126 125 126 126 126 126 126	120 121 122 123 123 121 123 125 126 128 131	110 111 113 114 115 115 116 118 117 120 121 121	127 126 127 130 131 132 132 132 134 135 136 136	129 128 132 133 133 139 134 136 136 136 138 140 139	$127 \\ 125 \\ 116 \\ 129 \\ 133 \\ 134 \\ 129 \\ 129 \\ 129 \\ 136 \\ 137 \\ 136 \\ 138 $	158 155 161 165 166 163 166 171 171 171 173 170	179 184 184 191 190 191 203 202 207 211 214 217
1964     January     February     March     April     May     June     July     August     September     October     November.     December.	128 129 131 132 133 134 134 134 132 135 138	133 134 133 135 133 134 135 135 135 136 139 140	123 123 124 123 124 123 122 123 123 127 128 129	139 139 140 139 141 139 138 137 140 143 143 143	142 144 145 140 150 143 147 145 145 149 149 149	140 139 141 140 141 132 132 141 142 142 142 138	172 169 173 168 166 164 166 166 165 166 168 168	219 224 226 228 233 232 239 241 237 242
1965     January     February     March     April     May     June     July     August     September     October     November.     December.	139 139 141 142 143 144 144 144 144 145 146 149	142 141 143 142 142 143 144 147 148 149 151 153	130 129 128 128 129 128 130 129 128 130 130 131	r146 r146 r144 r148 r148 r148 r149 r149 r149 r150 r150 150	156 155 149 154 154 155 <b>151</b> <b>r</b> 155 155 156 154 154	137 139 139 140 139 142 144 144 144 144 147 rl47 150	166 169 166 169 175 176 178 176 178 179 184 183	245 238 245 242 236 246 242 240 245 242 242 242 242
January February March May June July August September November December	150 152 153 154 155 156 157 158 p158	153 155 156 156 156 156 156 p155 (NA)	131 130 133 131 130 128 p131 (NA)	rl51 rl53 rl53 rl52 rl53 pl53 (NA)	156 155 160 160 157 r161 158 p154 (NA)	146 149 151 150 150 153 154 <b>p1</b> 54 (NA)	185 185 188 189 r196 196 p195 (NA)	256 252 256 260 267 r273 p277 (NA)

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<sup>1</sup>Organization for Economic Cooperation and Development.

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# Section TWO



## charts and tables

#### DISTRIBUTION OF 'HIGHS' FOR CURRENT AND COMPARATIVE PERIODS

DIFFUSION INDEXES BASED ON HUNDREDS OF COMPONENTS

Average workweek—21 industries

New orders—36 industries

Capital appropriations—17 industries

Profits—700 companies

Stock prices—80 industries

Industrial materials prices—13 materials

State unemployment claims—47 areas

Nonagricultural employment—30 industries

Production—24 industries

Wholesale prices—23 industries

Retail sales-24 types of stores

Net sales—800 companies

New orders—400 companies

Carloadings—19 commodity groups

Plant and equipment expenditures-22 industries

DIRECTIONS OF CHANGE FOR COMPONENTS OF DIFFUSION INDEXES

# ANALYTICAL MEASURES

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#### **DISTRIBUTION OF "HIGHS" FOR CURRENT AND COMPARATIVE PERIODS**

		Mur	nher of sories	that reached	d a high hefore benchmark dates-								
Number of months before benchmark date		Current	expansion			Business	cycle neak						
that high was reached	June 1966	July 1966	Aug. 1966	Sept. 1966	Nov. 1948	July 1953	July 1957	May 1960					
			N	G INDICATORS									
8 months or more	5  4 4 2 5 3	5  4 1 4 2 3	4 4 1 3 2 3	4 1 2 1 1 2 1	15  4  1 	9 1 5 1 2  2  1	24    	16 2 1 2 3 3 					
Number of series used Percent of series high on benchmark date	24 12	24 12	24 12	16 6	<sup>1</sup> 20 0	<sup>2</sup> 21 5	24 0	24 0					
			NBER RO	ICIDENT IND	CIDENT INDICATORS								
8 months or more	  3 1  7 11 64	 2 1  7 11 64	 1 1  1 1  1 1  1 1  1 1  1 1  1 1  1 1  1  1 1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1   1                                                                                                                                                                                                                                                                                                                                                         	 1   4 5 11 45	2  1 1 3 4  11 0	1  3 1  3 3 11 27	2  3  4 .11 36	1  2 3  2 3 11 27					
Number of months before bound on the	3d m	onth before bu	isiness cycle	peak	6th n	nonth before b	usiness cycle	peak					
that high was reached	Aug. 1948	Apr. 1953	Apr. 1957	Feb. 1960	May 1948	Jan. 1953	Jan, 1957	Nov. 1959					
			N	BER LEADIN	G INDICATORS								
8 months or more	13 2  4  1 <sup>1</sup> 20 5	4 4 2 5 1 2 1 2 1 2 2 1 5	21  1 2    24 0	13 2  1 2 1 2 3  24 0	9 1  5 2  3 1 <sub>20</sub> 15	1 1 1 4 1 2 3 7 2 21 33	18  2  2  24 0	6 7 2 2  1 2 1 2 4 4					
			NBER RC	UGHLY COIN	CIDENT IND	ICATORS							
8 months or more	2   1 2 6 11 55	1  1  5 4 11 36	2  1  3 2 11 18	1  1   4 5 11 45	1  1  3 5 1 45	1   1 3 6 11 55	2   1  4 4 11 36	 4 2 1  3 11 27					

NOTE: All quarterly series and 2 monthly series (series 15, a leading indicator, and series 40, a roughly coincident indicator) are omitted from the distribution.

<sup>1</sup>4 series were not available. <sup>2</sup>1 series was not available and 2 series were omitted because their peaks were reached during the Korean War and such peaks were disregarded in this distribution.

# bcd october 1966

# ANALYTICAL MEASURES

**DIFFUSION INDEXES FROM 1948 TO PRESENT** 



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#### **DIFFUSION INDEXES FROM 1948 TO PRESENT—Continued**





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# ANALYTICAL MEASURES



#### LATEST DATA FOR DIFFUSION INDEXES

#### **NBER** Leading Indicators

Year and month	D1. Average workw (21 indu	reek, manufacturing Istries)	D6. Value of manufa durable goods indust	cturers' new orders, ries (36 industries)	D11. Newly approved capital appropriations, NICB (17 industries) <sup>1</sup>					
	1-month span	9-month span	1-month span	9-month span	1-quarter span	3-quarter span				
1963										
January February March May May June July August September October Docember December	73.8 40.5 52.4 14.3 83.3 66.7 61.9 45.2 71.4 50.0 33.3 64.3	59.5 42.9 90.5 69.0 81.0 78.6 71.4 69.0 57.1 61.9 57.1 78.6	63.9 43.1 54.2 63.9 52.8 47.2 51.4 52.8 52.8 69.4 33.3 62.5	88.9 69.4 66.7 63.9 52.8 66.7 62.5 72.2 69.4 58.3 83.3 77.8	47  59  53  65	53  53  65  76				
1964	04.9	70.0	02.)	11.0	•••	•••				
January. February. March April. Juné Juné July August September October. November 1965 January. February. March April. May. June June January. February. March April. May. June June September October. November December December December December November December December December	0.0 85.7 47.6 78.6 31.0 31.0 69.0 73.8 14.3 61.9 69.0 90.5 61.9 57.1 76.2 19.0 81.0 28.6 52.4 59.5 40.5 71.4 81.0	69.0 52.4 61.9 81.0 50.0 85.7 78.6 92.9 85.7 88.1 95.2 57.1 83.3 81.0 78.6 61.9 47.6 54.8 71.4 64.3 81.0 95.2 92.9 83.3	55.6 44.4 58.3 61.1 44.4 50.0 63.9 40.3 54.2 58.3 55.6 68.1 48.6 38.9 55.6 68.1 48.6 38.9 50.0 44.4 58.3 59.7 41.7 61.1 61.1 55.6	76.4 83.3 80.6 75.0 72.2 58.3 63.9 83.3 72.2 63.9 61.1 68.1 77.8 75.0 77.8 68.1 66.7 68.1 91.7 83.3 80.6 81.9 83.3	53  56  53  32  71  53  53  59 	76  71  44  59  65  76  76  71  71				
1966	<i>,</i> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0.0	10.14		•••	•••				
January. February. March. April. May. June. June. July. August. September. October. November. December.	57.1 69.0 40.5 50.0 33.3 r21.4 66.7 p54.8	83.3 76.2 r31.0 r33.3 p40.5	30.6 50.0 84.7 41.7 50.0 51.4 r50.0 r59.7 p40.3	75.0 75.0 66.7 r66.7 p52.8	65  p47  (NA)	p76  (NA)				

NOTE: Figures are the percent of series components rising and are centered within spans: 1-month indexes are placed on latest month and 9-month indexes are placed on the 6th month of span; 1-guarter indexes are placed on the 1st month of the 2nd guarter and 3-guarter indexes are placed on the 1st month of the 3d guarter. Seasonally adjusted components are used. Table 5 identifies the components for most of the indexes shown. The "r" indicates revised; "p", preliminary; and "NA", not available.

<sup>1</sup>The data from 1961 on have been adjusted to reflect a change in the seasonal adjustment of appropriations for the petroleum and coal products industry and a change in the reporting basis of nonelectrical machinery. These revisions do not materially affect comparability with the data before 1961. (See NICB publication, <u>Investment Statistics--Capital Appropriations: First</u> <u>Quarter 1965</u>.)



# A

### LATEST DATA FOR DIFFUSION INDEXES—Continued

#### NBER Leading Indicators—Continued

Year and month	D34. Profits, manu- facturing, FNCB (around 700 corpora- tions)	D19. Index of stock stocks (80 i	prices, 500 common ndustries)크	D23. Index of industr (13 industria	rial materials prices 1 materials)	D5. Initial claims for unemploy- ment insurance, State programs, week including the 12th (47 areas)					
·	1-quarter span	1-month span	9-month span	1-month span	9-month span	1-month span	9-month span				
1963											
	50	97.5	95.0	61.5	61.5	34.0	44.7				
March	•••	/3.7	98.7	50.0	61.5	31.9	72.3				
April	59	91.2	95.0	46.2	69.2	47.9	48.9				
May	•••	85.0	89.1	46.2	65.4	46.8	63.8				
June	•••	51.9	84.6	69.2	61.5	68.1	80.9				
	56	29.4	78.2	46,2	61.5	44.7	46.8				
August	•••	75.0	79.5	38.5	01.5 61.5	44.7	31.9				
October	55	64.9	69.2	69.2	53.8	59.6	60.6				
November		44.9	71.2	50.0	61.5	40.4	53.2				
December	•••	68.4	84.4	57.7	76.9	23.4	73.4				
1964							,				
January	57	74.7	83.1	53.8	61.5	89.4	73.4				
Narch	•••	65.2 70 F	78.2 96 E	53.8	69.2	21.1	72.3				
April	60	75.6	85.9	65.4	76.9	77.7	74.5				
May	•••	52.6	84.6	30.8	76.9	48.9	89.4				
June		35.3	84.6	53.8	80.8	48.9	60.6				
July	57	89.7	81.8	46.2	84.6	63.8	61.7				
August	•••	41.0	68.8	76.9	76.9	51.1	89.4				
September	56	76.3 72 1	05.0 75.2	69.2 72 1	69.2	53.2 31.0	01.7 70.2				
November.	<u> </u>	59.6	76.6	61.5	76.9	31.9	74.5				
December		24.0	76.6	38.5	69.2	83.0	72.3				
1965											
January	55	92.2	80.5	53.8	69.2	24.5	78.7				
February	•••	8.13	58.4	30.8	76.9	57.4	78.7				
	•••	64.3	51.9	69.2	61.5	66.0 61.7	59.6				
May	27	70 <b>.</b> 0	72.7	53.8	53-8	59.6	61.7				
June		0.0	67.5	57.7	53.8	51.1	78.7				
July	55	24.7	61.0	46.2	46.2	34.0	80.9				
August	•••	79.9	59.1	42.3	46.2	38.3	87.2				
September		81.2	63.6 40 /	50.0	46.2	'/8.'/ 57 /	70.2				
November	00	70.1	67-5	34.6	38.5	44.7	91.5				
December		57.1	70.1	61.5	53.8	51.1	95.7				
1966											
January	57	74.0	51.9	61.5	53.8	38.3	91.5				
February	•••	48.7	43.5	76.9	61.5	44.7	74.5				
	••• 62		37.7	40.2	61.5	0. ز ک 5 2 2	44•7 לא יי				
May		3.9	4K•⊥ 11.7	42.3	30.8	45.7	76.6				
June	•••	23.4	±±•/	46.2	°15.4	57.4					
July	(NA)	38.3		61.5		17.0					
August		6.5		26.9		72.3					
September		9.9		2.91 <sup>2</sup>		80.9					
November				1746							

NOTE: Figures are the percent of series components rising and are centered within spans: 1-month indexes are placed on latest month and 9-month indexes are placed on the 6th month of span; 1-quarter indexes are placed on the 1st month of the 2d quarter. Seasonally adjusted components are used except in indexes D19 which requires no adjustment and D34 which is adjusted only for the index. Table 5 identifies the components for most of the indexes shown. The "r" indicates revised; "p", preliminary; and "NA", not available.

<sup>1</sup>The diffusion index is based on 82 components through February 1963; on 80 components, March 1963 to August 1963; on 79 components, September 1963 to March 1964; on 78 components, April 1964 to November 1964; and on 77 components thereafter. <sup>2</sup>Average for October 18, 19, and 20.

# ANALYTICAL MEASURES



#### LATEST DATA FOR DIFFUSION INDEXES—Continued

#### NBER Roughly Coincident Indicators

Year and month	D41. Number o nonagricultural (30 ind	f employees in establishments ustries)	D47. Index of index of index (24 ind	ustrial production ustries)	D54. Sales of (24 types	retail stores of stores) <sup>1</sup>	D58. Index of wholesale prices (23 manufacturing industries)				
	1-month span	6-month span	1-month span	6-month span	1-month span	9-month span	1-month span	6÷month span			
1963											
January February March May June July August September October November December	65.0 41.7 73.3 75.0 76.7 73.3 53.3 55.0 73.3 45.0 66.7	60.0 66.7 68.3 65.0 68.3 68.3 66.7 51.7 55.0 53.3 65.0 70.0	79.2 66.7 83.3 54.2 83.3 75.0 72.9 68.8 58.3 64.6 50.0 77.1	83.3 91.7 95.8 91.7 91.7 83.3 91.7 77.1 77.1 77.1 83.3 85.4	50.0 54.2 52.1 75.0 66.7 64.6 25.0 58.3 54.2 77.1	70.8 79.2 85.4 77.1 60.4 52.1 62.5 87.5 70.8 91.7 83.3 77.1	41.3 41.3 47.8 58.7 73.9 50.0 58.7 52.2 69.6 63.0 71.7	32.6 47.8 58.7 60.9 63.0 69.6 71.7 78.3 71.7 69.6 67.4 82.6			
1964       January       February       March       April       May       June       July       August       September       October       November       December	45.0 75.0 73.3 68.3 65.0 83.3 65.0 83.3 61.7 86.7 73.3	68.3 70.0 73.3 83.3 78.3 76.7 76.7 93.3 91.7 80.0 91.7 91.7	62.5 75.0 75.0 87.5 66.7 62.5 83.3 64.6 45.8 68.8 79.2 81.2	91.7 95.8 87.5 91.7 87.6 70.8 87.6 70.8 87.6 70.8 87.5 79.2 91.7 91.7	43.8 70.8 52.1 52.1 66.7 39.1 71.7 34.8 78.3 56.5 60.9	79.2 100.0 85.4 83.3 83.3 73.9 78.3 73.9 76.1 54.3 78.3	63.0 69.6 52.2 71.7 34.8 69.6 65.2 60.9 56.5 56.5 60.9	69.6 69.6 56.5 56.5 56.9 58.7 60.9 69.6 78.3 82.6			
January January February March April May June June July August September October November December	73.3 70.0 86.7 63.3 63.3 88.3 70.0 71.7 88.3 93.3 86.7	81.7 78.3 80.0 81.7 75.0 88.3 91.7 93.3 90.0 95.0 93.3	66.7 66.7 79.2 58.3 70.8 81.2 81.2 66.7 52.1 75.0 83.3 91.7	83.3 85.4 83.3 83.3 66.7 87.5 87.5 87.5 87.5 87.5 100.0	63.0 69.6 30.4 54.3 87.0 43.5 80.4 47.8 73.9 73.9 73.9 73.9 78.3 37.0	80.4 87.0 87.0 87.0 87.0 87.0 95.7 91.3 95.7 95.7 95.7 91.3	63.0 60.9 67.4 67.4 60.9 60.9 54.3 52.2 52.2 52.2 69.6 73.9	76.1 80.4 82.6 76.1 67.4 69.6 60.9 71.7 73.9 87.0 89.1			
1966January.February.March.April.May.June.July.August.September.October.NovemberDecember	85.0 91.7 73.3 76.7 91.7 r48.3 r68.3 p28.3	95.0 91.7 86.7 r85.0 r76.7 p71.7	70.8 79.2 85.4 66.7 62.5 r89.6 r41.7 r62.5 p45.8	95.8 91.7 87.5 r70.8 r83.3 p66.7	71.7 69.6 60.9 43.5 30.4 95.7 r47.8 60.9 p41.3	82.6 84.8 82.6 r78.3 p82.6	63.0 80.4 71.7 73.9 71.7 73.9 78.3 r52.2 p39.1	89.1 95.7 89.1 95.7 91.3 p80.4			

NOTE: Figures are the percent of series components rising and are centered within spans: 1-month indexes are placed on latest month, 6-month indexes are placed on the 4th month, and 9-month indexes are placed on the 6th month of span. Seasonally adjusted components are used. Table 5 identifies the components for the indexes shown. The "r" indicates revised; "p", preliminary; and "NA", not available.

<sup>1</sup>The diffusion index is based on 24 components through June 1964, and on 23 components thereafter.

bcd october 1966

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#### LATEST DATA FOR DIFFUSION INDEXES—Continued

#### Actual and Anticipated Indexes

D35. Net sales, manufacture (800 companies)			D36. New or ders tactures (40	s, durable manu- O companies)	D48. Freigh	t carloadings (19 commodity group	manufactured s)	D61. New plant and equipment expenditures (16 industries)				
Year and month	4-quar	ter span	4-quart	er span		4-quarter span		1-quarte	er span			
	Actual	Anticipated	Actual	Anticipated	Actual	Anticipated	Change in total (000)	Actual	Anticipated			
1963			-									
January	•••	•••					•••	40.6	50.0			
February	76	80	77	76	73.7	78.9	+39					
April	•••						•••	65.6	75.0			
May	74	80	76	76	57.9	68.4	+44					
	•••	•••	•••		•••			75.0	71 9			
August	82	84	82	80	78.9	78.9	+4					
September	•••	•••	•••	· • • •	•••		•••					
November	8/	85	82	8/	68.4	73.7	-60	71.9	75.0			
December	•••		•••	•••			-00					
1964												
January	•••						•••	71.9	50.0			
February	83	87	84	84	84.2	68.4	<b>r-</b> 9		•••			
April	•••			•••				62.5	50.0			
May	82	86	81	84	73.7	94.7	+41					
June	•••	•••	•••	•••	•••	••••		<b>9</b>	75.0			
August	83	87	84	84	52.6	89.5	+47	04.4	75.0			
September	•••	•••	•••	•••	•••	•••	• • •	•••				
Uctober	••• 8/	. •••	8/	<b>8</b> 5	52 6	80 5	+/7	96.9	68.8			
December	•••		•••		,,,,		+47					
1965									}			
Janu <b>ary</b>	•••	•••				)	•••	56.2	65.6			
February	90	88	90	84	63.2	84.2	r+25	•••	• • •			
April	•••	•••	•.••	•••			•••	75.0	68.8			
May	88	88	88	84	63.2	84.2	+22	•••				
	•••	•••	•••	• • •	•••	••••	•••	87.5	65.6			
August	88	90	89	87	(NA)	73.7	+28					
September	•••	•••		•••		••••	•••					
November	89	••• 91	88	••• 90		89.5	••• +18	81.2	84.4			
December	•••	•••		•••		••••		•••	••••			
1966							٠					
	(NA)	•••	(11)	•••		 8/ 0		81.2	62.5			
March	(NA)	91	(NA)	89		04.2	r+20					
April		••••		•••				84.4	71.9			
May		. 88		83		78,9						
July			1					(NA)	r37.5			
August												
September									75.0			
November								}	().0			

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NOTE: Figures are the percent of series components rising and are centered within spans: 4-quarter indexes are centered in the middle quarter; 1-quarter indexes are placed in the 1st month of the 2d quarter. Seasonally adjusted components are used for series D61; other indexes, based on 4-quarter spans (same quarter a year ago), require no seasonal adjustment. The "r" indicates revised; "p", preliminary; and "NA", not available.

# ANALYTICAL MEASURES



#### SELECTED DIFFUSION INDEXES AND COMPONENTS

**Basic Data** 

			1965			1966							
Diffusion index title and components	Aug.	Sept.	Oct.	Nov.	Dec.	May	June	July <sup>r</sup>	Aug.	Sept. <sup>p</sup>			
					Average we	ekly hours							
D1. AVERAGE WORKWEEK OF PRODUCTION WORKERS, MANUFACTURING <sup>1</sup> (21 industry components)													
All manufacturing industries	41.1	41.0	41.2	41.4	41.3	41.5	41.3	41.0	r41.4	41.4			
Durable goods industries: Ordnance and accessories. Lumber and wood products Furniture and fixtures. Stone, clay, and glass products. Primary metal industries. Fabricated metal products	42.1 40.7 41.4 41.9 42.1 41.9	42.0 40.6 41.1 42.0 41.8 41.7	42.4 41.1 41.5 41.9 41.6 42.2	42.4 41.2 41.7 42.2 41.2 41.2 42.3	42.4 41.5 41.7 43.0 41.3 42.3	42.4 41.4 42.0 41.8 42.2 42.4	42.1 40.5 41.8 41.9 42.0 42.3	42.7 40.6 41.0 41.5 41.6 42.1	r42.2 r40.5 r41.5 r41.7 r42.4 42.2	42.8 40.2 41.3 42.0 42.7 42.5			
Machinery, except electrical Electrical machinery Transportation equipment Instruments and related products Miscellaneous manufacturing industries	42.8 40.8 42.5 41.4 40.0	43.2 40.7 42.1 41.6 39.9	43.5 41.0 42.8 41.8 40.0	43.7 41.2 42.9 41.7 40.2	43.8 41.4 43.0 41.7 40.2	43.8 41.3 42.2 42.4 40.3	43.8 41.2 42.3 42.0 40.1	43.3 40.9 42.1 41.7 39.7	r43.8 r41.2 r43.2 r41.6 r39.9	44.3 41.4 42.8 42.0 40.0			
Nondurable goods industries: Food and kindred products Tobacco manufactures Textile mill products Apparel and related products Paper and allied products	41.1 37.7 41.8 36.2 43.0	40.8 38.1 41.8 36.1 43.0	41.1 37.7 41.8 36.4 43.3	41.1 37.9 41.9 36.5 43.7	41.1 37.8 42.0 36.4 43.5	40.9 38.5 42.2 36.5 43.7	41.0 38.0 42.2 36.5 43.4	41.3 37.9 41.7 36.2 43.4	r41.0 38.3 41.9 r36.3 43.3	41.0 38.0 41.9 35.4 43.5			
Printing and publishing Chemicals and allied products Petroleum and related products Rubber and plastic products Leather and leather products	38.6 41.8 42.5 42.0 37.9	38.7 42.1 42.5 41.7 38.3	38.5 41.9 42.5 42.3 38.5	38.6 42.0 42.4 42.4 38.6	38.7 42.0 42.0 42.3 38.4	38.7 41.9 42.5 42.1 39.0	39.0 42.0 42.5 41.7 38.7	39.0 42.0 42.4 41.5 38.3	39.0 r42.0 r41.9 r41.8 r38.6	39.0 41.8 4 <b>1.6</b> 42.2 38.4			
		,			Millions o	of dollars							
D6. VALUE OF MANUFACTURERS' NEW ORDERS, DURABLE GOODS INDUSTRIES <sup>1</sup> (36 industry components)													
All durable goods industries	21,509	22,163	22,425	22,389	23,403	24,276	24,593	24,371	r23,401	24,236			
Primary metals Blast furnaces, steel mills Nonferrous metals Iron and steel foundries	3,119 1,465 	2,908 1,276 	3,148 1,451 	3,392 1,635 	3,684 1,854 	4,305 2,331 	4,109 2,173	4,106 2,227 	r3,794 p1,906 	3,933 (NA) 			
Other primary metals.		•••	•••		•••	•••	•••	•••	•••	•••			
Fabricated metal products	1,974 	2,013	2,050	2,213	2,335	2,237	2,163	2,231	p2,122	(NA)			
Machinery, except electrical Steam engines and turbines* Internal combustion engines *	3,318 } 283	3,315 242	3,349 157	3,396 232	3,532 316	3,553 254	3,609 329	3,426 266	p3,768 p410	(NA) (NA)			
Farm machinery and equipment Construction, mining, and material handling* Metalworking machinery * Miscellaneous equipment *	596 309	620 229	675 279	660 277	570 264	705 263	617 297	646 244	p646 p320	(NA) (NA)			
Machine shops Special industry machinery * General industrial machinery* Office and store machines * Service industry machinery *	250	 248 	 259 	 258 	 278 	251 	251 	343	p258	(NA)			

NOTE: Data are not shown when held confidential by the source agency. \*Denotes machinery and equipment industries that comprise series 24. NA=Not available. p = preliminary r = revised<sup>1</sup>Data are seasonally adjusted by source agency.

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#### **SELECTED DIFFUSION INDEXES AND COMPONENTS—Continued**



#### **Directions of Change**

	1-month spans							9-month spans												
	1965					1966					1965				1	966				
Diffusion index title and components	Nov-Dec	Dec-Jan	Jan-Feb	Feb-Mar	Mar-Apr	Apr.May	May-June	June-July	July-Aug	Aug-Sept	Mar-Dec	Apr-Jan	May-Feb	June-Mar	July-Apr	Aug-May	Sept-June	Oct-July	Nov-Aug	Dec-Sept
D1. AVERAGE WORKWEEK OF PRODUCTION WORKERS, MANUFACTURING (21 industry components)			<u> </u>	I					4											
Percent rising	55 -	57 +	69 +	40 0	50 0	50 0	33 -	21	67 +	55 0	64 0	81 +	95 +	93 +	83 +	83 +	76 +	31	3 <u>3</u> 0	40 +
Durable goods industries: Ordnance and accessories Lumber and wood products Furniture and fixtures Stone, clay, and glass products Primary metal industries Fabricated metal products	0 + 0 + + 0	0   0   + +	1 0 1 0 0	++ o -	+ + 0	+++-+0		+ +	+ + + +	+ + + +	+ + + + + + + + + + + + + + + + + + + +	+ + + + <b>-</b> +	+ + + + + + + + + + + + + + + + + + + +	+ + + - +	+ + + + + +	+ + + - + +	+ - + - + +	+		+ + +
Machinery, except electrical Electrical machinery Transportation equipment Instruments and related products Miscellaneous manufacturing industries	+ + + 0 0	0 + + + =	+ o <b>-</b> + +	+ + +	- + -	+ + +	0 - +		.+ .+ .+ .+ .+	+++++++++++++++++++++++++++++++++++++++	+++++++	+ + + +	+ + + +	+ + + + + + + + + + + + + + + + + + +	+ + + +	+ + - + +	+ + + + +		+ 0 +	+ 0   +
Vondurable goods industries: Food and kindred products Tobacco manufactures Textile mill products Apparel and related products Paper and allied products	0 - + -	0 + + <b></b>	+ + + + +	1 1 + 0 0	0 +	+ + 0	+ - 0 0 -	+ 0	- + + -	0 I 0 I +	0 -+ + +	+ + + + + +	+++++	+ + + + +	<b>I</b> + + 0 +	<b>-</b> + + + +	+ - + + +	++-++	-+ o	I + I I 0
Printing and publishing Chemicals and allied products Petroleum and related products Rubber and plastic products Leather and leather products	+ - - -	1 0+ 0 +	+ + + 0 +		+ + 0 + +		++0	0 0 1 1 1	001++	0 1 1 + 1	+ + + +	+ + +	+ ++ +	+ + + + +	+ ++ +	+ + 0 + +	+ 100+	+ +	+ 01   0	+ 0
D6. VALUE OF MANUFACTURERS' NEW ORDERS, DURABLE GOODS INDUSTRIES (36 industry components)							ę													
Percent rising All durable goods industries	76 +	31 +	50 +	85 +	42 -	50 +	51 +	50 -	60 -	40 +	83 +	81 +	82 +	86 +	83 +	75 +	75 +	67 +	67 +	53 +
Primary metals: Blast furnaces, steel mills Nonferrous metals Iron and steel foundries Other primary metals	+++++++	- + + +	+ + -	-+++++	- - +	+ + + -	- - +	+ - -	- + + 0	+ - + -	- + +	- + +	+ + -	+++	+ + +	+ + + +	+ + + +	+ + - +	+ + + +	+ + +
Fabricated metal products: Metal cans, barrels, and drums Hardware, structural metal and wire products Other fabricated metal products	. – . + . +	· _ _ _	+ + +	+ + +		- + +	+ - +	- + +	+  -	- + -	+ + +	- + +	+ + +	+ + +	.+ + -	+ + +	+ +	+ + +		- -
Aachinery, except electrical:     Steam engines and turbines*     Internal combustion engines *     Farm machinery and equipment     Construction, mining, and material handling *     Metalworking machinery*     Miscellaneous equipment *	· + - + - +	- + - + 	+ - + - + -	<b>-</b> + o + + +	+ + + +	- - + + +	+ + + + + +	+	+ + + + + + + + + + + + + + + + + + + +	- - + -	+++++++++++++++++++++++++++++++++++++++	+ + + + + +	+ + + + +	<b>-</b> + + + + +	+ + + + +	+ + - +	+ + + = + +	+ + + +	++++	- + - + - +
Machine shops Special industry machinery * General industrial machinery * Office and store machines * Service industry machinery *	• + • + • +	- - + -	+ - - ~	+ + + + +	- + -	- + + +	+ - - +	+ - + + +	+ + + + +	+ - + -	-++++	- - + +	- - + 0	- + + +	- + + -		- + + -	- + - + +	+ + + + + +	+ - + -

+ = rising; o = unchanged; - = falling. Directions of change are computed even though data are held confidential. \*Denotes machinery and equipment industries that comprise series 24.

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# ANALYTICAL MEASURES



#### **SELECTED DIFFUSION INDEXES AND COMPONENTS—Continued**

#### **Basic Data—Continued**

			1965					1966			
Diffusion index title and components	Aug.	Sept.	Oct.	Nov.	Dec.	May	June	July	Aug.	Sept.	Oct.1
					Mil	lions of dol	lars				
D6. VALUE OF MANUFACTURERS' NEW ORDERS, DURABLE GOODS INDUSTRIES <sup>2</sup> – Continued			-								
Electrical machinery Electrical transmission, distr. equipment* Electrical industrial apparatus*	3,000 } <sup>690</sup>	2,995 622	2,983 653	3,201 655	3,211 736	3 <b>,4</b> 66 844	3,487 783	r3,744 r789	p3,541 p800	(NA) (NA)	
Radio and TV Communication equipment†. Electronic components Other electrical machinery *	655	733	577	699	579.	672	742	r890	p757	(NA)	;
Transportation equipment Motor vehicle parts Motor vehicle assembly operations Complete aircraft † Aircraft parts† Shipbuilding and railroad equipment *	6,141   	6,853  	6,920  	5, <b>9</b> 72	6,165  	6,488   	6,902  	r6,639  	r5,931	p6,824	
Other transportation equipment     Instruments, total     Lumber, total     Furniture, total     Stone, clay, and glass, total     Other durable goods, total	···· ···· ···	•••	•••• ••• •••	· · · · · · · · · ·	···· ··· ···	···· ··· ··· ···	· · · · · · · · · ·	•••• ••• •••	···· ···· ···	···· ··· ···	
D23. INDEX OF INDUSTRIAL MATERIALS PRICES <sup>3</sup> (12 industrial materials compared)					Inde	x: 1957-59	= 100			·····	
(13 Industrial materials price index	115.2	114.8	115.0	115.5	117.1	118.3	118.4	118.8	111.7	108.9	105.5
	-à		<b></b>	F	-	Dollars	<b></b>			-	
Copper scrap (lb.) Lead scrap (lb.) Steel scrap (ton) Tin (lb.)	.444 .074 31.469 1.911	.466 .072 29.918 1.930	.497 .071 29.872 1.874	.506 .070 33.188 1.748	.475 .073 34.804 1.730	.586 .075 30.384 1.678	.629 .075 31.556 1.611	.623 .075 34.264 1.619	.462 .074 30.173 1.570	.457 .072 29.792 1.502	.502 .064 29.442 1.518
Zinc (lb.) Burlap (yd.) Cotton (lb.), 15-market average Print cloth (yd.), average Wool tops (lb.).	.149 .148 .303 .211 1.712	.150 .160 .302 .211 1.743	.150 .158 .301 .210 1.747	.149 .156 .299 .210 1.702	.148 .163 .298 .208 1.725	.151 .163 .291 .217 1.811	.152 .161 .291 .218 1.794	.151 .162 .292 .209 1.824	.151 .156 .222 .217 1.791	.150 .144 .222 .214 1.751	.150 .139 .222 .211 1.626
Hides (lb.)      Rosin (100 lb.)      Rubber (lb.)      Tallow (lb.)      D54_SALES OF RETAIL   STORES <sup>2</sup>	.186 11.581 .254 .074	.167 11.523 .250 .074	.162 11.488 .238 .074	.167 11.512 .234 .072	.180 11.558 .247 .074	.212 11.103 .235 .072	.236 11.100 .234 .072	.227 11.022 .239 .073	.214 11.012 .239 .075	.189 10.916 .227 .074	.159 10.872 .215 .059
(23 retail store components)			r	r · · · · · · · ·	Mil	lions of dol	lars		r	1	r
All retail sales Grocery stores Other food stores Eating and drinking places Department stores Mail order houses (department store merchandise). Variety stores	23,585 5,078  1,807 1,961 211 448	23,753 5,097  1,814 1,982 223 452	24,194 5,271  1,825 1,978 220 459	24,647 5,235  1,810 2,087 235 469	24,816 5,432  1,875 2,019 209 433	24,475 5,431  1,910 2,113 216 467	25,394 5,472 1,967 2,214 219 487	r25,362 r5,436 r1,996 r2,201 234 r481	r25,657 p5,458 p1,995 p2,186 p219 p484	p25,554 (NA) (NA) (NA) (NA) (NA) (NA)	
Men's and boys' wear stores	271 ntial by the	278 source age	276 276	280 Denotes ma	269 chinerv an	283 d equipment	295 t industries	r301	p320	(NA) 24. +Th	 ese indust

NOTE: Data are not shown when held confidential by the source agency. Is ordnance comprise series 99. NA = Not available. p = preliminaryplus ordnance comprise series 99. p = preliminary.

<sup>1</sup>Average for October 18, 19, and 20. <sup>2</sup>Data are seasonally adjusted by the source agency. <sup>3</sup>Series components are seasonally adjusted by the Bureau of the Census. (See "Seasonal and Related Statistical Adjustments", Digitized for FRASER.) Industrial materials price index is not seasonally adjusted. http://fraser.stlouisfed.org/ Federal Reserve Bank of St. Louis

r = revised.

bcd OCTOBER 1966

#### SELECTED DIFFUSION INDEXES AND COMPONENTS—Continued



#### **Directions of Change—Continued**

					1-mor	nth sp	ans									9-m	onth s	pans				
	1965 1966 1965													196	6							
Diffusion index title and components	Nov-Dec	Dec-Jan	Jan-Feb	Feb-Mar	Mar-Apr	Apr-May	May-June	June-July	July-Aug	Aug-Sept	Sept-Oct <sup>1</sup>	Mar-Dec	Apr-Jan	May-Feb	June-Mar	July-Apr	Aug-May	Sept-June	Oct-July	Nov-Aug	Dec-Sept	Jan-Oct <sup>1</sup>
D6. VALUE OF MANUFACTURERS' NEW ORDERS, DURABLE GOODS INDUSTRIES — Continued														,								
Electrical machinery: Electrical transmission, distr. equipment * Electrical industrial apparatus * Household appliances Radio and TV † Communication equipment Electronic components Other electrical machinery *	+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + - + + + + + + + + + - + + + + +	+	+++++	<b>II</b> + + + + +	+ + + +	+ + - + +	+ - +	+ + + + +	+ - + - + -	-+ + -+ ++	-	+++++++++++++++++++++++++++++++++++++++	+ + + + + +	+ + + + + +	+ + + + + + +	+ + + + + + +	+++++++	+ + + + + +	+ + + + + +	+ + - + + +	+ +   + +   +	
Transportation equipment:     Motor vehicle parts     Motor vehicle assembly operations     Complete aircraft †     Aircraft parts †     Shipbuilding and railroad equipment *     Other transportation equipment	+ - + + +	+ + - +	- + - + + -	+ + + + - +	+ + -	+ + +	<b>-</b> + + + - +	- -++++	+ 0	+ 0 + - + +	-	+ - + - + +	+ + - + - +	<b>-</b> + + + + +	+++++++++++++++++++++++++++++++++++++++	+ - + +	+ + -	- - + + + +	+ + +	+ + - +	+ + + +	
Instruments, total Lumber, total Furniture, total Stone, clay, and glass, total Other durable goods, total	+ + + +	 - +	+	+++++,	 - +	+ - +	+ +	+ + - +		- - + -	:	+++++++	+ + + + +	+ + + + <b>-</b>	+++++	+ + + +	+ + + +	+ - + +	+ + +	+ +	+ - -	
MATERIALS PRICES <sup>2</sup> (13 industrial materials components) Percent rising	62	62 +	77 +	46 +	31	42	46	62 +	27	0	19	46 +	46 +	46 +	38 +	54 +	54 +	62 +	62 +	54	31	15
Copper scrap (lb.) / Lead scrap (lb.) Steel scrap (ton)		+ - + +	+++++++++++++++++++++++++++++++++++++++	++'' +++ ++	-+-+++	<b> + -</b> o+ +	+ - + - + - + - + -	-+++-++-+	+ + + + + + +		+ + 0	+ + - + + + + + + + + + + + + + + +	+ + - + +	++++++	++++-+	+ + + + + + +	++-++++++++++++++++++++++++++++++++++++	+ + + + + + + + +	+++ + + + + + + + + + + + + + + + + + +	1 + 1 1 + 1 + +	+ + +	+ + -
Hides (lb.) Rosin (100 lb.) Rubber (lb.) Tallow (lb.)	+ + + +	+ + + +	+   +	+ - -		+ - - +	+	- - + +	- - +		-	+ - -	++	+ - -	+ - - -	+ - -	+ - -	+ - -	+ - + -	+ - + +	+ - -	- - -
D54. SALES OF RETAIL STORES (23 retail store components) Percent rising	37	72	70	61	44	30	96	48	61	41		91	96	96	96	91	83	85	83	78	83	
All retail sales Grocery stores Other food stores Eating and drinking places Department stores Wail order houses (department store merchandise) Variety stores Other general merchandise stores Men's and boys' wear stores	++++	+ + + + + + + + + + + + + + + + + +	+ + + + + + + + + + o	+ + + + + + -	+ + + - + + + + + + + + + + + + + +	+ - + - +	+ + + + + + + + + + + + + + + + + + +	- + + + + + + + +	+ + + + + + +			+ + + + + + + + + + + + + + + + + + + +	+ + + + + + + + + + + + + + + + + + + +	+ + + + + + + + + + + + + + + + + + + +	+ + + + + + + + + + + + + + + + + + + +	+ + + + + + + + + + + + + + + + +	+ + + + + + + + + + + + + + + + + + + +	+ + + + + + + + + + + +	+ + - + + + + + + + + + + + + + + + + +	+ + - + + + + + + + + + + + + + + + + +	+ + - + + + + + + + + + + + + + + + + +	

+ = rising; o = unchanged; - = falling. Directions of change are computed even though data are held confidential. \*Denotes machinery and equipment industries that comprise series 24. +These industries plus ordnance comprise series 99.

<sup>1</sup>Average for October 18, 19, and 20.

<sup>2</sup>Directions of change are computed before figures are rounded.



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#### **SELECTED DIFFUSION INDEXES AND COMPONENTS—Continued**

#### **Basic Data—Continued**

			1965					1966		
Diffusion index title and components	Aug.	Sept.	Oct.	Nov.	Dec.	May	June	July <sup>r</sup>	Aug. <sup>p</sup>	Sept.
					Millions	of dollars				
D54. SALES OF RETAIL STORES <sup>1</sup> – Continued Women's apparel, accessory stores	500	508	535	566	560	578	583	584	598	(NA)
Family and other apparel stores Shoe stores Furniture, home furnishings stores Household appliance, TV, radio stores Lumber yards, building materials dealers Hardware stores Farm equipment dealers	208 706 353 768 234	213 716 389 765 237	220 749 380 775 246	227 756 366 819 255	214 735 378 825 245	232 734 372 752 238	241 746 397 769 237	<b>228</b> <b>771</b> 429 764 243	236 781 411 770 240	(NA) (NA) (NA) (NA) (NA)
Passenger car and other automotive dealers Tire, battery, accessory dealers Gasoline service stations Drug and proprietary stores Liquor stores Jewelry stores Other durable-goods stores	4,402 258 1,820 779 513 }	4,398 260 1,827 794 530	4,345 269 1,843 816 531	4,509 267 1,860 818 543	4,714 239 1,838 828 533	4,017 271 1,920 831 560	4,479 292 1,927 848 572	4,460 304 1,918 844 549	4,636 302 1,930 837 544	(NA) (NA) (NA) (NA) (NA)
Other nondurable-goods stores		•••	•••	•••			•••	•••	•••	•••
	196	5		1966				1966		
	Nov.	Dec.	Jan.	Feb.	Mar.	May	June	July <sup>r</sup>	Aug.r	Sept. <sup>P</sup>
					Thousands o	of employees				
NONAGRICULTURAL ESTABLISHMENTS <sup>1</sup> (30 industry components)										
All nonagricultural establishments	61,864	62,241	62,469	62,811	63,247	63,517	63,983	64,072	64,196	64,181
Ordnance and accessories . Lumber and wood products . Furniture and fixtures . Stone, clay, and glass products . Primary metal industries . Fabricated metal products . Machinery Electrical equipment . Transportation equipment . Instruments and related products . Miscellaneous manufacturing industries	101 542 362 509 1,043 1,015 1,250 1,195 1,284 255 349	100 549 367 516 1,044 1,020 1,256 1,216 1,290 258 357	106 557 370 525 1,051 1,029 1,262 1,233 1,296 261 343	110 556 372 520 1,055 1,039 1,274 1,260 1,323 266 348	112 563 375 525 1,058 1,047 1,278 1,268 1,344 269 351	118 546 379 516 1,070 1,070 1,299 1,308 1,351 273 355	120 550 381 515 1,086 1,048 1,312 1,327 1,358 276 355	122 543 378 515 1,090 1,043 1,331 1,320 1,324 277 350	124 542 381 512 1,104 1,061 1,338 1,353 1,361 278 350	126 537 378 505 1,100 1,048 1,340 1,350 1,372 277 345
Food and kindred products Tobacco manufactures Textile mill products Apparel and related products Paper and allied products Printing and publishing Chemicals and allied products Petroleum and related products Rubber and plastic products Leather and leather products	1,182 72 835 1,220 506 633 551 113 379 310	1,163 73 838 1,229 509 633 553 113 384 311	1,163 73 842 1,204 512 639 555 113 386 313	1,169 73 843 1,231 514 641 558 113 387 315	1,174 74 846 1,230 515 642 560 112 390 315	1,154738501,257519648564113396319	1,166 74 854 1,268 525 654 578 115 403 316	1,165 73 850 1,232 530 656 577 115 403 307	1,165 67 856 1,240 529 658 583 115 407 313	1,153 65 846 1,230 521 654 575 114 404 315
Mining Contract construction Transportation and public utilities Wholesale trade Retail trade	631 3,234 4,080 3,367 9,513	<b>633</b> 3 <b>,334</b> 4,083 3,378 9,563	635 3,318 4,091 3,391 9,618	634 3,323 4,105 3,404 9,641	637 3,419 4,109 3,422 9,663	628 3,238 4,132 3,445 9,719	632 3,300 4,143 3,470 9,747	636 3,297 4,122 3,483 9,773	636 3,246 4,101 3,478 9,786	633 3,223 4,158 3,460 9,800

NOTE: Data are not shown when held confidential by the source agency.

<sup>1</sup>Data are seasonally adjusted by the source agency.

r = revised

bcd october 1966

#### SELECTED DIFFUSION INDEXES AND COMPONENTS—Continued



#### **Directions of Change—Continued**

				1-	mont	span	s	_	•					9-	month	ı span	IS			
	1965					19 <u>6</u> 6					1965					1966				
Diffusion index title and components	Nov-Dec	Dec-Jan	Jan-Feb	Feb-Mar	Mar-Apr	Apr-May	May-June	June-July	July-Aug	Aug-Sept	Mar-Dec	Apr-Jan	May-Feb	June-Mar	July-Apr	Aug-May	Sept-June	Oct-July	Nov-Aug	Dec-Sept
D54. SALES OF RETAIL STORES – Continued																			L	L
Women's apparel, accessory stores     Family and other apparel stores     Shoe stores     Furniture, home furnishings stores     Household appliance, TV, radio stores     Lumber yards, building materials dealers     Hardware stores     Farm equipment dealers	- - + + +	++++0++	++0++1	- - + 0 + + +	+ + +	- + + + -	+ + + + + + + + + + + + + + + + + + + +	+ + - + + - + +	+ + + + - +	- - - - +	+ + + + + + + +	+ + + + + -	+ + + + <b>-</b>	+ - + + + + + +	+ • + + + + + + +	+ - + + + - + -	+   + + + + 0	+ + + + +	+ + + + +	+ + + + <b></b> +
Passenger car and other automotive dealers Tire, battery, accessory dealers Gasoline service stations Drug and proprietary stores Liquor stores Jewelry stores. Other durable-goods stores Other nondurable-goods stores	+ - + - - - -	<b>+ + + + + 1</b>	+ + 0 + + +	+ + 0 + - +	+ + + + - +		+ + + + + + +	-+	+ - + - + +	- + - + + -	+ - + + + +	+ + + + + + +	+ + + + + +	+ + + + + +	- + + + + + + +	- + + + + + + + + +	+ + + + + + + +	+ + + + + + +	+ + + + +	-+++++++++++++++++++++++++++++++++++++
·			_	1	-mont	n snar	19				<u> </u>			6-	month	span	ç		_	
	1965					1966					1965					1966				
	v-Dec	c-Jan	h-Feb	b-Mar	r-Apr	r-May	y-June	ne-July	ly-Aug	g-Sept	ne-Dec	ly-Jan	g-Feb	pt-Mar	:t-Apr	v-May	ec-June	n-July	b-Aug	ar-Sept
D41. NUMBER OF EMPLOYEES IN NONAGRICULTURAL ESTABLISHMENTS (30 industry components)	Ñ	De	Jar	Fe	Ma	Ą	Ma	-	٥L	Au	nر	٥L	AL	Se	0	ž	ŏ	l	<u> </u>	Ŵ
Percent rising	87 +	85 +	85 +	92 +	73 +	77 +	92 +	48 +	68 +	28	93 +	90 <sup>°</sup> +	95 +	93 +	95 +	92 +	87 +	85 +	<b>7</b> 7 +	72 +
Ordnance and accessories Lumber and wood products . Furniture and fixtures Stone, clay, and glass products Primary metal industries Fabricated metal products Machinery Electrical equipment Transportation equipment Instruments and related products Miscellaneous manufacturing industries	<b>-</b> + + + + + + + + + + + + + + + + + + +	+ + + + + + + + + + +	+ • + + + + + + +	+ + + + + + + + +	+ + + + + + + + + + + + + + + + + +	+ = + = + = + + + + +	+ + +	+ 0 + - + + - + + + + + + + +	+ + + + + + + + + + + 0	+ 1       +   +   +   +	+ + + + + + + + + + + + + + + + + + + +	+ + + + + + + + + +	+ + + + = + + + + + +	+ + + + + + + + + +	+ + + + + + + + + +	+ + + + + + + + + +	+ + +   + + + + + + +	+   +   + + + + + + +	+ [ +   + + + + + + +	+ - + + + + + + -
Food and kindred products Tobacco manufactures Textile mill products Paper and allied products Printing and publishing . Chemicals and allied products Petroleum and related products Rubber and plastic products Leather and leather products Mining Contract construction Transportation and public utilities	<b>I</b> + + + + + + + + + + + + + + + + + + +	0 0 + 1 + + + 0 + + + 1	+ o + + + + + + + + + + + + + + + + + +	<b>+ + + + + + + + + + + + + + + + + + + </b>	· · · · · · · · · · · · · · · · · · ·	+ <del>+</del> + + + + o + o + -	+ + + + + + + + + + + + + + + + + + + +	+ +   0 0 1 +	0   + +   + + 0 + + 0		+ - + + + + + + + + + + + + + + + + + +	+ - + + + + + + + + + + + + + + + + + +	<b>+</b> + + + + + + + + + + + + + + + + + +	+ + + + + + - + + + +	+++++++++++++++++++++++++++++++++++++++	++++++0++  +	+++++++++++++++++++++++++++++++++++++++	+ 0 + + + + + + + + + + + + + + + + + +	+ + + + + + +   +	0 0 + + + + + 0

+ = rising; • = unchanged; - = falling. Directions of change are computed even though data are held confidential.

# ANALYTICAL MEASURES



#### SELECTED DIFFUSION INDEXES AND COMPONENTS—Continued

#### **Basic Data—Continued**

Diffusion index title and components	19	65		1966				1966		
Diffusion muex fifte and components	Nov.	Dec.	Jan.	Feb.	Mar.	May	June	July	Aug.	Sept. <sup>p</sup>
				•	Thousands of	employees				
D41. NUMBER OF EMPLOYEES IN NONAGRICULTURAL ESTABLISHMENTS <sup>1</sup> -Con.										
Finance, insurance, real estate Service and miscellaneous Federal government State and local government	3,045 9,282 2,400 7,920	3,049 9,329 2,397 7,983	3,052 9,363 2,423 8,012	3,051 9,410 2,451 8,070	3,064 9,463 2,477 8,153	3,076 9,515 2,523 8,239	3,090 9,549 2,571 8,314	r3,095 r9,609 2,601 r8,328	3,100 r9,641 r2,610 r8,330	3,091 9,642 2,616 8,363
D47. INDEX OF INDUSTRIAL PRODUCTION <sup>1</sup> (24 industry components)			L		Index: 1957	-59 = 100	L	L	L	
All industrial production	146.4	148.7	150.2	151.9	153.4	155.2	156.5	r157.2	158.3	158.2
Durable goods: Primary and fabricated metals Primary metal products Fabricated metal products	 119.4 153.6	126.5 156.3	 130.8 157.0	133.6 160.7	 141.4 161.4	146.5 162.3	r147.6 r162.3	 149.5 r161.8	r148.7 r161.7	147 161
Machinery and related products Machinery, except electrical Electrical machinery Transportation equipment Instruments and related products	 166.9 168.4 157.3 159.0	169.2 172.8 160.7 162.2	171.9 177.6 163.1 166.0	174.4 179.8 163.2 169.4	174.0 178.8 165.8 171.9	177.7 184.5 165.8 176.4	r180.3 186.5 167.1 176.5	r184.7 r187.6 r166.0 r177.0	r187.6 r192.8 r166.5 176.7	190 194 169 179
Clay, glass, and lumber Clay, glass, and stone products Lumber and products Furniture and miscellaneous	135.5 119.1	137.6 125.4	139.4 125.6	141.4 126.5	143.0 129.3	140.3 122.7	r141.0 122.9	r138.5 r119.9	140.3 p110.9	130 140 (NA)
Miscellaneous	153.0	155.5	151.2	155.3	156.8	159.5	159.3	r157.2	r174.7 r157.3	156
Nondurable goods:     Textiles, apparel, and leather     Textile mill products     Apparel products     Leather and products     Pener and products	139.4 147.2 110.1	140.3 148.5 113.9	140.1 146.9 111.7	140.7 148.3 110.1	140.7 147.3 111.4	143.4 149.9 112.1	r144.0 r152.0 r114.2	r143.5 p149.8 p111.1	r141.6 r142.7 (NA) (NA)	142 (NA) (NA) (NA)
Paper and products Printing and publishing Chemicals, petroleum, and rubber Chemicals and products	147.4 133.2 178.5	147.7 134.2 180.6	148.4 135.7 181.9	148.5 138.2 184.3	150.2 139.0 186.2	153.0 142.1 178.9 190.9	154.1 144.1 r179.8 r192.2	r156.2 r144.8 r180.4 r193.8	p154.4 145.5 r184.4 p195.2	(NA) 143 183 (NA)
Petroleum products Rubber and plastics products Foods, beverages, and tobacco Foods and beverages Tobacco products.	126.1 181.6 125.0 118.9	127.8 181.3  125.3 117.1	130.5 184.6 126.0 119.6	125.5 183.3 127.0 126.7	125.6 185.7  127.7 126.8	127.4 (NA) 126.2 117.9	127.7 (NA) 127.1 122.7	r126.9 (NA) r128.5 p116.5	pl28.3 (NA) rl27.4 pl28.2 (NA)	(NA) (NA) 127 (NA) (NA)
Minerals; Coal Crude oil and natural gas	115.7 113.8	118.5 114.5	114.4	111.2 115.0	117.7 116.7	116.9 119.2	120.7 r119.3	120.8 r119.2	120.7 r119.5	115 120
Metal, stone, and earth minerals Metal mining Stone and earth minerals	114.2 133.2	120.6 138.2	133.4 135.5	130.8 135.6	134.5 137.1	133.6 127.5	134.2 133.3	r134.0 r133.7	pl34.7 pl33.5	133 (NA) (NA)
D58. INDEX OF WHOLESALE PRICES, ALL MANUFACTURING <sup>2</sup> (23 manufacturing industries)										
All manufacturing industries	103.7	104.1	104.2	104.9	105.2	105.6	105.7	105.9	106.4	106.4
Lumber and wood products Furniture and other household durables Nonmetallic mineral products Iron and steel	102.5 98.0 101.5 101.3	103.1 98.3 101.8 101.7	103.9 98.3 102.1 101.8	104.3 98.5 102.1 102.2	105.7 98.4 102.1 102.4	109.1 98.9 102.4 101.9	107.0 98.8 102.5 102.2	105.5 99.0 102.9 102.2	105.1 r99.1 102.8 102.5	105.2 99.1 103.0 102.6

NOTE: Data are not shown when held confidential by the source agency. NA=Not available.

p = preliminary.

r = revised.

<sup>1</sup>Data are seasonally adjusted by the source agency. Digitized for FRASPata are seasonally adjusted by the Bureau of the Census. (See "Seasonal and Related Statistical Adjustments", page 2.) http://fraser.stlouisfed.org/

Federal Resess Bank of St. Louis

SELECTED DIFFUSION INDEXES AND COMPONENTS—Continued



1

#### Directions of Change—Continued

	1-month spans													6	mont	n span	IS	÷		
	1965					1966			-		1965					1966				
Diffusion index title and components	Nov-Dec	Dec-Jan	Jan-Feb	Feb-Mar	Mar-Apr	Apr-May	May-June	June-July	July-Aug	Aug-Sept	June-Dec	July-Jan	Aug-Feb	Sept-Mar	Oct-Apr	Nov-May	Dec-June	Jan-July	Feb-Aug	Mar-Sept
D41. NUMBER OF EMPLOYEES IN NONAGRICULTURAL ESTABLISHMENTS-Con.							•													
Finance, insurance, real estate Service and miscellaneous Federal government State and local government	+ + - +	+ + +	0 + + +	+ + +	+ + +	+ + +	+ + +	+ + +	+ + + 0	- 0 + +	+ + + +	+ + +	+ + + +	+ + + +	+ + +	+ + +	+ + +	+ + + +	+ + +	+ + + +
D47. INDEX OF INDUSTRIAL PRODUCTION (24 industry components)																				
Percent rising <sup>1</sup>	9 <b>2</b> +	71 +	79 +	85 +	67 +	62 +	90 +	42 +	62 +	46 -	88 +	88 +	88 +	100 +	96 +	92 +	88 +	71 +	83 +	67 +
Durable goods: Primary and fabricated metals	• • + + • • + + • • + + + • • + + +	· + + · + + + + • + + -	· + + · + + + + · + + · + +	· + + · + + · + + · + + · + + · + + · + + · + + · + + · + + · + + · + + · + +	:+:+:+:+:+:	:++;++;++;++;++	· + · · + + + + + + • • + •	· + - · + + + · + · - · · · ·	::++-:+-:++	· · + + + + + • • • • • •	· - + · + + + + + + + + + + + + + + + +	· - + · + + + + • + + • + + •	• - + • + + + + • + + • + +	· + + · + + + + • + + • + +	· + + · + + + + + + + + + + + + + + + +	· + + · + + + + · + + · + + · + + · · + + · · + · + · · + + · · + · · + · · · · · · · · · · · · · · · · · · · ·	· + + · + + + + · + + · + + ·	;++;+++;;++	;++;+++;++;++;++	;+-;++++-NA;+-
Textiles, apparel, and leather     Textile mill products     Apparel products     Leather and products     Paper and printing     Paper and products     Printing and publishing     Chemicals, petroleum, and rubber.     Chemicals and products     Petroleum products     Rubber and plastics products     Foods, beverages, and tobacco     Foods and beverages     Tobacco products	· · + + + · · + + + · · + + + - · · + + - · ·	· · · · + · · + + · + +	· + + · · + + · + · · · + +	:01+:++:++:++	:+++:00:+++:01	:++ - :+ ++ + - A : - +	;+++;+++++A;++	· · + + + + - NA · + -	NA NA ++++ NA NA	H NA NA NA NA NA NA NA	• + + + • + + • + + • + -	• + + + • + + • + + • + • + • + • + • +	• + + + • + + • + - + • + + +	:+++;++;++;++	:+++ :++ :+++ :++	;+++;+++++A;+I	:+++:++++ 1 A :++	·++ - ·++++ - NA ·+ -	+ + + A NA + + + + + + + + + + + + + + +	+ NA NA + NA + NA NA NA NA NA
Minerals: Coal Crude oil and natural gas Metal, stone, and earth minerals Metal mining Stone and earth minerals	+ + •• + +	- - :+ -	- +  +	+ + + +	-+ +.+ -	+ +  -	+ + + + + + +	· + · - · - +	- + -+ -	- + NA NA	+ + •• +	- +  +	- + •• +	+ + •• +	- +  +	+ + + + -	+ +  -	+ + + -	+ + + + -	+ NA NA
D58. INDEX OF WHOLESALE PRICES, ALL MANUFACTURING (23 manufacturing industries)																				
Percent risingAll manufacturing industries	74 +	63 +	80 +	72 +	74 0	72 +	74 +	78 +	52 +	39 0	72 +	74 +	87 +	89 +	89 +	96 +	89 +	96 +	91 +	<b>8</b> 0 +
Durable goods: Lumber and wood products Furniture and other household durables Nonmetallic mineral products Iron and steel	+ + +	+ 0 + +	+ ' + 0 +	+ - 0 +	+ + +	+ + +	- + +	- + + 0	- + - +	+ 0 + +	+++++	+ + +	+ + + +	+ + +	++++	+ + +	+ + + +	+ + +	++++++	<b>i</b> + + +

+ = rising; o = unchanged; - = falling. NA=Not available.

<sup>1</sup>The percent rising is based on 24 industry components. Where actual data for separate industries are not available, estimates are used to compute the percent rising. Directions of change for the most recent spans are computed before figures for the current month are rounded. Digitized for FRASER

bcd OCTOBER 1966

# ANALYTICAL MEASURES



#### SELECTED DIFFUSION INDEXES AND COMPONENTS—Continued

#### **Basic Data—Continued**

	19	65		1966				1966		
Diffusion index title and components	Nov.	Dec.	Jan.	Feb.	Mar.	May	June	July	Aug. <sup>r</sup>	Sept. <sup>p</sup>
					Index: 195	7-59 = 100				
D58. INDEX OF WHOLESALE PRICES, ALL MANUFACTURING1-Continued			,							
Durable goods-Continued Nonferrous metals	117.8 101.9 109.9 106.3 105.3 96.4 100.5 112.9	117.1 102.0 109.6 106.4 105.6 96.5 100.5 111.1	118.4 102.2 109.9 106.6 105.5 97.1 100.5 112.5	119.9 102.7 110.1 106.8 105.6 97.8 100.4 115.1	121.0 103.4 110.6 107.3 105.7 98.3 100.3 113.0	122.4 103.8 111.0 109.3 105.9 98.5 101.0 117.3	123.3 104.1 111.4 109.9 106.0 98.7 100.5 117.7	123.6 104.3 111.6 110.3 106.2 99.2 100.6 120.9	120.6 104.2 112.6 110.8 106.2 99.2 100.5 121.8	119.7 104.2 112.5 111.2 106.5 99.3 100.3 119.9
Nondurable goods:     Processed foods.     Tobacco products and bottled beverages     Cotton products.     Wool products.     Manmade fiber textile products     Apparel     Pulp, paper, and allied products     Chemicals and allied products     Petroleum products, refined.     Rubber and rubber products     Hides, skins, leather, and leather products	107.1 107.6 100.9 105.4 92.6 104.1 100.8 97.5 98.0 93.1 113.3	109.8 107.9 100.9 105.5 91.9 104.3 100.9 97.7 97.7 93.4 114.6	109.5 108.3 100.7 105.6 91.4 104.7 101.1 97.5 97.0 93.4 116.6	111.9 108.3 101.1 105.6 91.1 104.9 101.1 97.5 97.9 94.0 118.8	112.1 109.6 101.5 105.8 90.7 105.0 101.6 97.4 97.5 94.1 119.3	111.8 109.5 102.8 106.4 89.7 105.1 102.7 97.6 98.3 95.4 122.7	110.6 109.8 103.1 106.5 89.8 104.8 103.0 97.6 99.6 95.9 122.7	111.0 109.9 103.4 107.0 89.8 104.8 103.5 98.1 99.6 95.7 122.2	113.7 109.9 103.8 106.8 104.8 103.5 98.2 101.6 95.4 120.8	113.4 109.8 103.4 106.4 88.8 104.8 103.5 98.3 101.5 94.8 119.8

p = preliminary. r = revised.

<sup>1</sup>Data are seasonally adjusted by the Bureau of the Census. (See "Seasonal and Related Statistical Adjustments", page 2.)

Basic data for components of diffusion index D19, Index of stock prices, 500 common stocks, and of diffusion index D5, Initial claims for unemployment insurance, State programs, are not available from the Census Bureau.

SELECTED DIFFUSION INDEXES AND COMPONENTS-Continued



# Directions of Change—Continued

				1	-montl	h spar	ns							6.	-month	n spar	IS			
	1965	<u> </u>				1966	r		, 		1965					1966			r <sup>1</sup>	
Diffusion index title and components	Nov-Dec	Dec-Jan	Jan-Feb	Feb-Mar	Mar-Apr	Apr-May	May-June	June-July	July-Aug	Aug-Sept	June-Dec	July-Jan	Aug-Feb	Sept-Mar	Oct-Apr	Nov-May	Dec-June	Jan-July	Feb-Aug	Mar-Sept
D58. INDEX OF WHOLESALE PRICES, ALL MANUFACTURING-Continued					•														<b></b>	
Durable goods-Continued Nonferrous metals	- + - + + + + • -	+ + +     + 0 +	+ + + + - +	+ + + + +	+ + + + o + o o	- + + + + + + + + + + + + + + + + + + +	+ + + + + <b>-</b> +	+ + + + + + + +	+ + 0 0   +	- • + + + + + +	+ + + + 0	+ + + + - 0 -	+ + - + + + + + + + + + + + + + + + + +	+ + + + + + + + +	+ + + + + + + + +	+ + + + + + +	+ + + + + + + + + + + + + + + + + + + +	+ + + + + + + + + + + + + + + + + + + +	+ + + + + + +	<b>I</b> + + + + + o +
Nondurable goods: Processed foods Tobacco products and bottled beverages Cotton products Wool products Manmade fiber textile products Apparel Pulp, paper, and allied products Chemicals and allied products Petroleum products, refined Rubber and rubber products Hides skins leather and leather products	++ 0+ -+ ++ ++ ++	-+ + + + + + + + + + + + + + + + + + +	+ 0 + 0 1 + 0 0 + + +	+ + + + + + + + + + + + + + + + + + + +	<b>- o + + -</b> o + o + + +	0 + + - + + + - 0 +	<b>-++</b> ++ - + o <b>+ +</b> o	+ + + + + 0 0 + + 0 1 1	+ 0 + 1 0 0 0 + + 1 1		+ + + + + + + + + + + + + + + + + + + +	++-++++++++++++++++++++++++++++++++++++	+ + + + + + + + + + +	+ + + + - + + + + + + +	+ + + + - + + + + + + + + + + + + + + +	+ + + + - + + + + + +	+ + + + - + + - + + +	+ + + + - + + + + + +	++++ ++ +++	+ + + + + + + + +
				1.	month									٥.	mont	n snar	is is			
	1065					3901 1966					1965					1966				
	1303			<u> </u>		1300					1303		<u> </u>			1500				<u> </u>
D19. INDEX OF STOCK PRICES, 500 COMMON STOCKS <sup>1</sup> (23 industry components) <sup>2</sup>	Nov-Dec	Dec-Jan	Jan-Feb	Feb-Mar	Mar-Apr	Apr-May	May-June	June-July	July-Aug	Aug-Sept	Mar-Dec	Apr-Jan	May-Feb	June-Mar	July-Apr	Aug-May	Sept-June	Oct-July	Nov-Aug	Dec-Sept
Percent rising <sup>3</sup> Index of 500 stock prices	57 -	74 +	49 -	14	64 +	4	23 -	38 -	6 -	4 -	59 +	64 +	60 +	68 +	70 +	52 +	44 -	38 _	22	12
Coal, bituminous Food composite. Tobacco (cigarette manufacturers) Textile products Paper Publishing Chemicals. Drugs Oil composite Building materials composite	+ - + + + + + + + + + + + + + + + + + +	+   + + + + + + + +	+ + + + +		+ + + + + + + +		+		+	+	+ - + + - + 0 + + -	+ - + + + + + + + + -	+   + + +   + +	+ - + + + +	+ - + + + + + + + + + +	+ + - +	+ + - +	+ +		
Metal fabricating	+ + + + + + + + + + + + + + + + + + + +	+ + + - +	-+-+-	+ + -	- + + + + .			-+-+			- + + +	+ + + +	+ + + -	-+++	+ + + + +	<b>-</b> + + + + .	- + + + - ,,	- + + +	-+	
Electronics. Automobiles Radio and television broadcasters Telephone companies Electric companies Natural gas distributors. Retail stores composite Life insurance	+ - + +	+++	+	+ - +	+ - + + + - + -		+ - +	+ + - + +	+	+		+ + + + + + + + + + + + + + + + + + + +	+ - +	+ - +	+ - +	+ - +	+ - +	+ - +	+ - +	+ - +

<sup>1</sup>Data are not seasonally adjusted. <sup>2</sup>The 23 components shown here include 18 of the more important industries and 5 composites representing an additional 23 of the industries used in computing the diffusion index in table 4. Digitized Based on 27 components.

Federal Reserve Bank of St. Louis

bcd OCTOBER 1966



#### SELECTED DIFFUSION INDEXES AND COMPONENTS—Continued

#### **Directions of Change—Continued**

				1-	month	ı span	s							9-	month	span	s			
	1965					1966					1965					1966				
Diffusion index title and components	Nov-Dec	Dec-Jan	Jan-Feb	Feb-Mar	Mar-Apr	Apr-May	May-June	June-July	July-Aug	Aug-Sept	Mar-Dec	Apr-Jan	May-Feb	June-Mar	July-Apr	Aug-May	Sept-June	Oct-July	Nov-Aug	Dec-Sept
D5. INITIAL CLAIMS FOR UNEMPLOYMENT INSURANCE, STATE PROGRAMS <sup>1</sup> (26 area components)																				
Percent rising	51 +	38 -	45 +	83 +	53 +	46 -	57 -	17 -	72 +	81 +	87 +	70 -	63 +	92 +	96 +	9 <b>2</b> +	74 +	45 -	6 <b>8</b> +	77 -+
Northeast region:       Boston (7)       Buffalo (19)       Newark (11)       New York (1)       Paterson (20)       Philadelphia (4)       Pittsburgh (9)       Providence (25)	+ + + + + 1 =	+ + +	+ + - + - + -	-+++++++	+ + + + + + -	<b>  + + +   + +  </b>	+ + +	+	+ + + +	+ + + = = + +	+ + + + +	+ - + - + + - +	+   + + +   +	+ + + + + + +	+ + + + + + +	+ + + + + + +	+ + + + + +	+ - + + +	+ + + + + + 1	+ +
North Central region:       Chicago (2)       Cincinnati (21)       Cleveland (10)       Columbus (26)       Detroit (5)       Indianapolis (23)       Kansas City (18)       Milwaukee (15)       Minneapolis (13)       St. Louis (8)		-+	+ + - + + + +	+ + + + - + + - + +	+	+ + + + + + + +	+ + + - + - + -	+	+ + + + + + + + + + + + + + + + + + + +	+     + + + + + + +	+ + + + - + + + + +	+ + - + + + -	+     +   0     +	÷ + +   + + +   + +	+ + + + + + +	+ + + + + + + + +	+ + +     + +   +	+	+ + + +   +   + +	+ + + + +   + + +
South region: Atlanta (17) Baltimore (12) Dallas (16) Houston (14)	+ + +			+ + +	- + -	- - + +	- -+ -		+ + + +	+ + + +	+ + +	+ + + +	+ + +	+ + +	+ + +	+ + + +	+ + + +	- + - +	- + +	• -++++
West region: Los Angeles (3). Portland (24). San Francisco (6). Seattle (22).	+   +	+ + - +	+ - + +	- + - +	- + +	+ - -	<b>-</b> + + + +		+ - - +	+ + + +	+ + +	+ + +	+ + + +	+ + +	+ + +	+++++	+ + - +	+ + - +	+ -+++	++-+

- = rising; o = unchanged; + = falling. The signs are reversed because this series usually rises when general business activity falls and falls when business rises. Data used are for the week including the 12th of the month.

<sup>1</sup>Series components are seasonally adjusted by the Bureau of the Census before the direction of change is determined. (See "Seasonal and Related Statistical Adjustments", page 2.) The percent rising is based on 47 labor market areas. Directions of change are shown separately for only the 26 largest areas. The number in parentheses indicates the size rank for each labor market area.

# LONG TERM ECONOMIC GROWTH, A STATISTICAL COMPENDIUM

#### Julius Shiskin Chief Economic Statistician Bureau of the Census

#### INTRODUCTION

The Census Bureau is issuing a new statistical report, Long Term Economic Growth. This report is designed to show, in convenient form, the principal annual economic time series needed by students of economic growth. It represents a response to the increasing interest in expanding economic welfare, both in developed and developing countries; the economic competition among countries with different economic systems; and the establishment of economic growth as a major policy objective of the U.S. Government. It supplements many descriptive studies and causal analyses on this subject that have been prepared in recent years. It is expected to simplify the task of students in this field, whatever their explanations of economic growth and standards for judging performance happen to be, by providing a broad base of information related to economic growth and relieving those concerned with theoretical issues and economic policies of a large part of the laborious task of compiling basic data and making computations from them.

There is, at present, considerable uncertainty regarding the appropriate measures of economic growth, the methods of compiling the measures, and the accuracy of the historical records. While there is some agreement about the factors which affect long-term economic growth, there is less about their quantitative importance. In fact, there is only one comprehensive series of estimates of the quantitative importance of these factors-that by Edward F. Denison. Denison's study has had a major impact on investigations of economic growth, with one of its many contributions being the demonstration of the tenuousness of many of the estimates that are available and the need for more basic information. Another major objective of this publication, therefore, is to encourage and facilitate the development of better estimates by providing a convenient framework for such work and by bringing the statistical gaps out into the open.

Thus we hope that this report will provide an information base that will facilitate judgments on economic performance, aid in the formulation of economic policy to accelerate growth, contribute to development of the theory of economic growth, and point up some of the gaps in the statistical intelligence system.

Limited resources and experience have confined this first edition to those data most readily available. For this reason and because of the large task of inspecting and appraising all the series that could have been included, it is recognized that this issue will have to serve as a working document to break the ground and set a pattern for subsequent reports. The objective of this paper is to describe this new report and invite suggestions for improving it.

Our plan is to issue a revised edition in about a year. Experience with similar new reports indicates that substantial changes may be expected as a result of suggestions made by those making practical uses of such material. We, therefore, welcome the comments and criticisms of those who make use of our report. As in the case of many other reports of the Bureau, we expect future issues to be considerably different and more useful.

Before discussing the new report itself, however, I would like to make a few observations on the relations of our seasonality and business cycle work to this new "growth" report.

This paper was presented at the American Statistical Association meeting on Time Series, Los Angeles, Calif., August 18, 1966.

ACKNOWLEDGMENTS: During the past 2 years, the technical work for the <u>Long Term Economic Growth</u> report has been under the immediate supervision of Allan H. Young who was assisted by Gerald Donahoe, Norman Bakka, and Robert Taylor. The early planning work was under the immediate supervision of Samuel L. Brown who contributed substantially to the basic organization of the report. He was assisted during this period by James Hines and Judith Faust. Mr. Young also contributed substantially in the preparation of this paper, especially the part on Problems of Measurement. Murray D. Dessel provided valuable technical advice throughout. For the many other persons in government agencies, private research organizations, and universities who contributed, see the acknowledgments to Long Term Economic Growth.

#### THE CENSUS BUREAU PROGRAM FOR THE ANALYSIS OF ECONOMIC FLUCTUATIONS

The new statistical report on economic growth may be considered as the third phase of our research and development work on economic fluctuations, conducted over a period of more than 10 years. The first phase was the development of computer programs for analyzing seasonal, trading-day, and irregular fluctuations in economic time series. The second phase was the development of a set of statistical tools, including <u>Business</u> <u>Cycle Developments</u>, for analyzing intermediate fluctuations lasting from about 3 to 8 years. Each of these three projects should be considered in relation to the others, not as independent undertakings. As a result of this continuing research program, the Census Bureau can now provide facilities for studying nearly all types of economic fluctuations in the United States.

The first project, our time series analysis program— Census Method II—is designed for the intensive study of short-term movements. The latest variant of this program, X-11, has greater generality and scope than any of the earlier programs. It has a separate routine for quarterly as well as monthly series, and for series with negative and positive numbers as well as those with positive numbers alone. The X-11 version not only measures and adjusts for seasonal variations, but also for trading-day variations. Further, it computes many summary and analytical measures of the behavior of each series and includes various techniques such as spectral analysis, F-tests, and variance analysis for use in extending the scope of time-series studies.

The second project, our Business Cycle Developments (BCD) report, permits the timely yet comprehensive study of intermediate economic movements. This monthly report brings together several hundred monthly and quarterly "economic indicator" series for the analysis of short-term economic trends and prospects. These particular series have been selected, tested, and evaluated, after half a century of continuing research, as the most useful and reliable for this purpose. The publication not only provides the basic data, but also various charts and analytical tables to facilitate studies of intermediate-term fluctuations. In addition, a timeseries punch-card file, a diffusion index program, and a separate summary-measures program are available for those who wish to carry on further research in business cycle analysis.

The third and latest project is this "growth" report, modeled after <u>BCD</u>, and designed specifically for the study of long-term economic movements. Since the remainder of this paper is concerned with the content of this new report, I shall defer discussion of it for a few moments. It is sufficient to say here that the experience we have already had with the Census Method II seasonal adjustment program and with <u>BCD</u> indicates that the new report on economic growth will be widely used by government, business, and research organizations.

The capabilities that have been developed for this "time-series analyzer facility" are available to the public in various forms: (a) Periodic publication of the basic data required for studies of economic fluctuations; (b) published computer-generated charts and analytical measures which present and summarize conveniently the underlying trends of the basic data; (c) computer programs (written in a simplified computer language, Fortran IV) which permit further analysis of the fluctuations; and (d) data files in the form of punched cards and computer tapes, which provide the statistical raw material for these computer programs and publications.

Taken together, this "system" will help to improve and extend the techniques used by economic analysts in their study and understanding of economic fluctuations. This system makes it possible for the academic or business economist, who has a computer available, but not a research staff or programers, to carry out extensive research in the field of economic fluctuations.

#### PROBLEMS OF MEASUREMENT

Many conceptual and statistical problems beset the measurement of economic growth and analysis of its sources. Some of them are briefly reviewed below. The purpose of this review is only to indicate the nature of the problems and the many uncertainties that now surround them. More comprehensive statements of these problems, the alternative solutions and their implications, especially for data compilation, appear in the references.<sup>1</sup>

Concepts for Judging Economic Growth

Economic growth is usually considered to be growth in the output of the economy. Such growth can be measured in terms of output either on a total, a per capita, or a per worker basis, with the choice depending on the Alternatively, economic growth is problem at hand. sometimes defined in terms of per capita consumption or personal welfare. Another alternative view is in terms of changes which take place in the economic and social structure of a nation as it undergoes economic growth; for example, the changes in the rate of population growth and the amount of the labor force in agriculture which a nation about to begin economic development may experience. All the above definitions are directed to the long term, that is, to the changes or trends which occur over several years, perhaps a decade or longer, and sometimes a century.

#### Definition and Measurement of Output and Related Economic Processes

There are many problems in defining and measuring total output and the other economic activities presented in this report. Some of the principal ones concerning

<sup>&</sup>lt;sup>1</sup>For the most part, this review is based on more detailed discussions of the same problems in <u>The Sources</u> of <u>Economic Growth</u> in the United States and the Alter-<u>natives Before Us</u>, by Edward F. Denison, Supplementary Paper No. 13, Committee for Economic Development, January 1962, and "The Measurement of Aggregate Economic Growth" by George Jaszi, <u>Review of Economics and Statistics</u>, November 1961. Also, see <u>The Study of Economic</u> <u>Growth</u> by Solomon Fabricant, Thirty-Ninth Annual Report, National Bureau of Economic Research, pp. 1-13, May 1959, and <u>Six Lectures on Economic Growth</u> by Simon Kuznets, The Free Press, 1959; and the additional references given in the bibliography to the new Census Bureau publication.

total output are indicated below. Similar problems affect many of the other types of measures presented in the report.

All growth analysts consider real gross national product, as distinguished from money gross national product, as the appropriate measure of output. However, money data are sometimes used as a proxy for data on the physical volume of output because of the difficulties of compiling "real" data, either directly or through price For the most part, data on real output are deflation. derived through price deflation. In many areas there is a paucity of actual output data so that physical-volume measures cannot be built up directly. This is particularly true for the service industries and government Therefore, the indirect way of measuring services. output is used; that is, dollar-volume figures are divided by price deflators. In some sectors where physicalvolume data are available, the advantages of the price deflation method are inusory, because price data are no more abundant nor any more accurate than physicalvolume data. However, some direct measures of physical volume are included in this report; for example, the Federal Reserve index of industrial production.

Total output as compiled in the U.S. National Income and Product Accounts prepared by the Office of Business Economics (OBE) is the market value of the final output of goods and services produced by the Nation's economy. In addition to the sales of final products to their ultimate consumer, the value of total output includes additions to business inventories and the value of force-account construction.<sup>2</sup> The services of housewives and similar nonmarket items are excluded. The effect of this may lead to some overstatement in the long-run growth of output since many services which were previously performed in households and excluded from GNP are now included. A similar problem is inherent in international comparisons, where in many countries a larger portion of productive activity-than in the United States-occurs outside the market economy.

There is also the point of view, held most notably by Simon Kuznets, that the concept of total output should be less inclusive than that used by OBE. Kuznets defines total output as final output intended to satisfy wants of individual consumers. Under this definition he excludes those government expenditures which represent services to business enterprises and many expenditures for national defense.

In addition, there are the conceptual and practical problems of taking quality changes into account. While there is general agreement that improvements in product quality should be considered as increases in the quantity of output, quality changes cannot be fully taken into account in practice. It is generally believed that the price deflators do not completely reflect quality changes, since the relative quality of new products must be higher than their relative prices for them to replace the old products in the market place. Consequently, there is a tendency for the rate of growth to be understated in the output measures.

Several related problems may be mentioned. One is that of deflating the output of the construction industry. The present price deflators measure, in general, the costs of inputs rather than the outputs of the construction industry. The result is generally an understatement of the rate of growth of construction, since productivity increases are not adequately allowed for. Another problem is that the output of government is not directly measured, but is based on compensation of government employees. The deflated value of government output, obtained by adjusting for changes in the government wage level, does not include productivity changes. Similar methods are used to obtain the "output" of domestic and nonprofit institutions. As is well known, gross national product (GNP) is often used in the place of net output because of difficult conceptual and measurement problems in arriving at the capital consumption allowance; that is, the amount of capital used up in the production process, especially when the replacement capital embodies newer technology.

Still another problem is that of weighting the components of aggregate output. Since relative prices change over time, the selection of the base year determines the weighting of the various components of national product and affects its trend. Studies show that those output components growing most rapidly tend to show the smallest price increases while those growing least rapidly tend to show the largest price increases. Thus, a recent price base gives greater weight to the slowly growing components than does an earlier price base, and vice versa.

Finally, earlier data are less comprehensive and less accurate than recent data, themselves still subject to From 1810 to 1899 industrial important limitations. censuses were decennial and from 1899 to 1919 they were quinquennial. Also, relatively fewer data were compiled on activities other than manufacturing in the early years of the period covered by the report and these are still inadequate in various respects. World Wars I and II and and the depression of the 1930's demonstrated the need for more information, and the passage of the Employment Act of 1946 stimulated further interest in statistics and their uses. In addition, the increasing interdependence of economic activities and the growth of the economics and statistics professions led to the development of improved methods of statistical compilation. In many cases the government has taken over the series and methods of private investigators and provided better current statistics through the use of the more comprehensive and more accurate underlying data it is able to collect.

In this connection it is to be noted that the effects of estimating errors are reduced as the span of comparison is extended. Thus an error in the figures involved in a comparison, which affects the year-to-year percentage change by 5 percentage points, will affect the average annual percentage change over 50 years by only one-tenth of 1 percentage point. Similarly, the longer the period over which the comparison is made, the smaller the

<sup>&</sup>lt;sup>2</sup>Also, imputations are made for four nonmarket items. They are (1) employee compensation received in kind, (2) food and fuel produced and consumed on farms, (3) services derived from owner-occupied residences, and (4) the services rendered by financial intermediaries without explicit charge. The resulting net addition is about 7 percent.

effects of cyclical and irregular factors. Because there may be persistent biases in some measurements of change, however, and because significant differences in trends may take place during a nation's economic history, a single measure of the average long-term trend must be used with caution.

#### Selection of Statistical Indicators

The selection of statistical indicators useful in studying the sources of economic growth is beset with many difficulties. One is that a comprehensive theory of economic growth is at an early stage of development and does not yet provide adequate guidelines. A second is that despite the relative abundance of our statistics, there is a paucity of data in certain key areas. For example, our national wealth data are piecemeal, particularly on the age and efficiency of capital. Also, few data are available on quality of education or quality of labor. A third difficulty is that many of the series available cover only a relatively short span of years. This point is true of our series on capacity (which start in the late 1940's) and research and development (which start in the 1930's).

The series included in this report as measures of the sources of economic growth represent a selection which several experts in the field of economic growth now consider most relevant. To a large extent, the selection relies on the list of 31 factors presented by Edward F. Denison which potentially could affect the rate of growth (some to a much greater degree than others). Many of these factors are presented in Parts I and II of the report. Several, however, are not directly presented in this report because data are not available. They include the elimination of several types of institutional barriers to the most efficient use of resources, the increased mobility of labor, the reduction of crime, and an increase in the advance of knowledge.

Some studies emphasize other sources of growth such as the availability and utilization of natural resources and energy; or the intangibles such as the role of the innovator and risk-taker and our method of economic organization, dominated by free markets and competition. In general, series for such additional factors have not been included in this report principally because adequate relevant data do not now exist.

# Separation of Long-Term Growth from the Business Cycle

Since 1834, the American economy has experienced 31 business cycles from about 3 to 8 years' duration. These cycles have been characterized by alternating periods of expansion and contraction. In addition, there have been four wars with major effects upon the pace of economic activity. The measurement of economic growth and long-term trends in many of the series is greatly complicated by the presence of fluctuations associated with business cycles and the types of irregular movements caused by wars.

For example, from 1919 to 1965, the annual percentage changes in total real GNP ranged from -14.7 to +16.1 a year. These changes primarily represent the year-toyear effect of the business cycle as the economy shifts from high- to low-level operation or vice versa. Such shifts do not represent growth in output in the sense that we are concerned with in the report. Rather, growth is represented by various types of measures which "adjust" for business cycles and long-term irregular movements. Thus, year-to-year changes in measures of potential GNP, that is, estimates of GNP assuming reasonably full employment, range from -0.2 to 6.5 with most measures concentrated in the interval from 0.1 to 3.9 as can be seen from the following table.

Four techniques are used in our report to show measures of long-term trends as distinguished from cyclical and irregular fluctuations.

- Potential GNP estimates made by the Council of Economic Advisers (CEA) and by the staff of the Joint Economic Committee (JEC) of Congress (Knowles) are presented. These measures show estimates of GNP assuming reasonably full employment.
- (2) A new technique was developed to distinguish rates of change which may be taken as "true" measures of growth from those that are biased from this point of view. This technique, suggested by Denison, is used in the presentation of the growthrate triangles in Part V. The total unemployment rate is used as a measure of how close the economy

Table 1.—DISTRIBUTION OF YEAR-TO-YEAR GROWTH RATES IN ACTUAL AND
POTENTIAL REAL GNP

Tutomal of	Actual GM 1909 to	NP (OBE) 1965	Potential GNP 1909 to	(JEC, Knowles) 1964	Potentia 1952 t	1 GNP (CEA) o 1965
percent change	No. of measures	Percent	No. of measures	Percent	No. of measures	Percent
All intervals -4.0 and lower -0.1 to -3.9 0.0 0.1 to 3.9 4.0 to 7.9 8.0 to 11.9 12.0 and greater	56 8 1 11 15 6 7	100.0 14.3 14.3 19.6 26.8 10.7 12.5	55 - 1 - 34 20 -	100.0 1.8 - 61.8 36.4 -	13 - - 13 - -	100.0 - - 100.0 -

is operating to its potential output in selecting appropriate years for comparison. Comparisons between years with similar unemployment rates are taken as more valid measures of economic growth than (a) comparisons between years of relatively high unemployment rates and years with relatively low rates, or conversely, (b) between years of relatively low unemployment rates and years of relatively high rates.

- (3) An averaging technique was used to combine annual data into measures of the average level of activity over each business cycle. These business cycle averages then provide the basic data in computing growth rates and in showing the relative importance of geographic divisions and industries in Part III. They minimize the effects of the varying cyclical amplitudes of the geographic divisions and industries. These cycle averages, unlike the comparison of selected years in which the unemployment rates are equal, measure the average level over the business cycle, thus reflecting an "output" rather than a "capacity" concept of growth.
- (4) Growth-rate comparisons of U.S. geographic divisions and industries and of the United States and foreign countries are presented only for long spans where the terminal dates have been picked carefully in order to minimize the effect of cyclical fluctuations. In general, growth rates were computed from one cycle average to another or between years of approximately equal unemployment. In some instances, the standards have been relaxed a little to include comparisons based on the current period which does not include a complete business cycle. Therefore, current comparisons may be influenced more than longer, historical comparisons by the business cycle and other short-term effects.

Although it is highly useful to separate the short-term from the long-term fluctuations in measuring economic growth, as is done in this report, the two types of economic movements are interrelated to some extent. For example, cyclical fluctuations often influence business and government decisions concerning the timing and scope of long-term investment commitments. In the 1930's, they also affected the birth rate with a consequent effect on today's labor force. Likewise, expected long-run increases in economic activity, foreshadowed by such indicators as population, affect the patterns and magnitude of cyclical fluctuations.

Selection of Growth-Rate Formulas

A growth rate can be defined as the slope of the trend line of a historical series. A constant rate of growth over a period of years is usually expressed as the "average percentage increase per year." A trend line with a constant rate of growth appears as a straight line on a ratio scale chart. Two widely accepted alternatives for computing such growth rates are (1) the method of selected points, and (2) a linear trend fitted by least squares to the logarithms of the data. A linear trend fitted by least squares to the logarithms of the data minimizes the sum of the squared deviations of the logarithms of the data from the logarithms of the trend and equates the sum of the logarithms of the data with the sum of the logarithms of the trend. Thus, it is influenced by the particular pattern of cyclical variations between the initial and terminal years.

There are several alternatives to the more common technique described above of fitting a linear trend to the logarithms by least squares, which involve fitting an exponential curve directly to the data themselves. The advantage of these alternatives is that they equate the sum of the data with the sum of the trend values rather than with the sums of the logarithms (sums are more meaningful for economic data than products; i.e., sums of logarithms). However, the results are usually quite similar to those obtained by the standard technique. <sup>4</sup>

In estimating growth rates, the time period to be covered should be carefully selected. If the period is too short, say 5 to 10 years, the estimated growth rate may be greatly influenced by transitory conditions in the economy. In such instances, the estimated rate will not actually represent the long-term trend of the series. On the other hand, a growth rate can be computed over too long a period. The path of development of some series over long periods cannot be approximated by a trend line representing a constant percentage rate of increase. In such cases, it may be more meaningful to compute growth rates for various sub-periods or to fit a trend line which does not have a constant rate of growth. In addition, the time period should be selected in such a way that shortterm cyclical fluctuations do not bias the calculated growth rate, particularly for a relatively short period where the effect of the business cycle may be large.

Trend lines for GNP in the United States, derived by various methods of computing growth rates, are shown for selected periods in chart I of this paper.

<sup>&</sup>lt;sup>3</sup>The trend line is given by the compound interest-rate formula which in logarithms is  $\log X_t = \log X_1 + n \log (1 + r')$  where  $X_1$  is the initial value and  $X_t$  the terminal value of the series, n is the span of years, and  $r = r' \ge 100$  is the percentage rate of growth. To calculate the rate of growth the formula is rearranged  $r = (\sqrt[n]{X_t}/X_1 - 1.0) \ge 100$ .

<sup>&</sup>lt;sup>4</sup>Two methods of fitting an exponential trend to the actual data are discussed by Neville L. Rucker and Dudley J. Cowden in <u>Tables for Fitting an Exponential Trend by the Method of Least Squares</u>. Technical Paper 6, University of North Carolina School of Business Administration. Other procedures for fitting an exponential trend directly to the data are described by Boris P. Pesek in "Economic Growth and Its Measurement," <u>Economic Development and Cultural Change</u>, Vol. IX, No. 3, April 1961.

#### CHART I

#### Comparison of alternative growth rate formulas, U.S. GNP. 1890 to 1965

Charted below are the trend lines fitted by four alternative growth rate formulas. The growth rates are shown in parentheses after the letters designating the formulas



C. Trend line calculated by fitting an exponential equation to annual data -- Pesek.
D. Trend line calculated using initial and terminal business cycle averages as selected points.

Digitized for FRASER http://fraser 62 ouisfed.org/ Federal Reserve Bank of St. Louis It seems appropriate to close this section on "Problems of Measurement" with a quotation from Simon Kuznets, an outstanding authority in this field:

"... the conceptual and other difficulties of measurement do not justify the refusal to measure and the substitution of a cavalier treatment of uncontrolled impressions . . . for the strenuous task of empirical corroboration and testing. Despite the limitations resulting from a scarcity of basic, underlying data and from concepts that are outmoded because of a serious cultural lag, much can be learned by a determined scrutiny of the data-provided that one looks at them with significant questions in mind and is sufficiently familiar with the characteristics of both the data and the underlying processes. Whatever mistakes one may make in the process-and they will be many-can at least be corrected by others; cumulative improvement and learning are possible so long as the data are mobilized to serve as a basis of one set of generalizations and as a check on another." \*

\*Simon Kuznets, <u>Six Lectures on Economic Growth</u>, The Crowell-Collier Publishing Company, 1961.

#### DESCRIPTION OF THE REPORT

#### General Plan

Long-Term Economic Growth brings together almost 400 aggregate annual economic time series and almost 800 additional component series that seem useful for studying economic growth. The report carries each series far back in history-sometimes to 1860-and will update them in subsequent editions. Future issues will also incorporate all revisions of source data as they become available. The adequacy and appropriateness of particular series are undergoing a continuing review by the Census Bureau research personnel, in consultation with specialists in the field of long-term economic growth. It is expected that new series will be added to future editions, while some of the present group may be dropped after further review. Annual publication is planned until the expected suggestions of users are incorporated and the report is stabilized in this sense. Subsequently, less frequent publication may suffice.

The report is organized into five major parts. The first part presents about 150 annual time series, measuring aggregate output, input, and productivity. These are the basic measures of economic growth. First, various measures of the growth of actual output of goods and services along with measures of potential output are presented. These are followed by measures of the growth of inputs of various human and material productive factors. The input measures indicate the changing levels of economic resources which have been used, or are available, over the time period covered. Finally, measures of productivity, obtained simply by dividing the volume of output by the number of units of input, are presented.

The second major section covers economic processes importantly related to economic growth. In some cases the relation to economic growth is clear. This is true for the series on education, health, and research and development. Other series represent background economic activities which certainly affect long-term ecònomic growth, though how is less clear. These include data on prices and interest rates, saving and debt, the assets of financial institutions, the balance of payments, and monetary gold stock. The measures of the intensity of utilization of labor and capital resources and of the magnitude of seasonal and cyclical forces which are also included in this section, provide quantitative information which furnishes a perspective against which the measures of long-term growth can be better appraised.

The third section presents measures below the aggregate level which can be used to understand and interpret economic growth more effectively. Both regional and industry series are shown.

The fourth section shows measures of output, input, and productivity for six foreign countries. The countries are United Kingdom, Canada, West Germany, Italy, France, and Japan.

Various analytical aids are included in section V and the appendixes: (1) Growth triangles, which make it possible to compare growth rates in the United States for any pair of years between 1890 and 1965, for GNP, manhours, and productivity. Criteria are provided to help in making judgments regarding the comparability of any two years used in the comparison. (2) A growth rate conversion table, which facilitates similar computations for the many other series in which the user may be interested. To use this table, all that is needed is the ratio of the values for last and first years to be compared. The growth rate can then be found in this table. (3) Basic data and brief descriptions with references to more detailed explanations.

Since growth is essentially a long-term phenomenon, it cannot be considered in terms of developments since last year, the year before, 5 years ago, or perhaps even 10 years ago. Consequently, data in this report go back many years, wherever possible, to 1860.

In order to observe such long-term trends, we have had to build up series from different sources. Official government series on gross national product extend back only to 1909 and the components only to 1929. However, various research students, particularly those at the National Bureau of Economic Research, have provided estimates extending back to the beginning of the industrial history of the United States, and these have been brought together with corresponding official government figures. Even when they are intended to measure the same thing, these series, being estimates, are often somewhat different. In addition, since different investigators were involved, there are some differences in concepts. Thus the series are not strictly comparable. In order to indicate the extent of differences, an overlap of about 10 years is provided, and a detailed description of each series and references to the author's original discussion are given in the descriptive appendix. For this first edition we have not been able to consider data prior to 1860. We may do so for the next issue.

#### Aggregate Output, Input, and Productivity

Altogether 58 output series are included in the first section. Because of the difficulties of taking out depreciation, gross national product data instead of national income are used to measure output throughout this report. However, a single series on national income is shown so that we do not lose sight of the fact that this is the more ideal measure. Then, some of the principal breakdowns of gross national product are presented—e.g., the gross private domestic product, gross nonagricultural product, gross manufacturing product, gross farm product, personal consumption expenditures, gross private domestic investment, and so on. Series on industrial production and personal income are also included. Finally, various income distributions are provided.

Next we turn to the input factors. These are viewed in broad terms and cover the supply and utilization of labor and capital. Two basic sets of total input estimates are available, one prepared by the National Bureau of Economic Research under the direction of John Kendrick and the other prepared by Edward Denison. The principal difference is that Denison allows for changes in the quality of labor. Unfortunately, the record for these series is not as long as that for output. Kendrick has decade estimates for 1869-78 and 1879-88, and then provides an annual series beginning in 1899. His series extend only to 1957, but we understand that he will bring these series up to date in the not too distant future. Denison's series start in 1909 and extend only to 1958.

In addition to these comprehensive measures of input, separate series for labor and capital input are also shown, not only at the aggregate level, but also for major components. Thus, series for total private man-hours as well as man-hours in nonagricultural, manufacturing, and agricultural industries are shown. Similar breakdowns are also shown for total employment. An occupational distribution of the labor force shows, on a percentage basis, the number of farm workers, manual workers, and white collar workers. Lebergott's early series for the labor force are included along with recent Bureau of Labor Statistics (BLS) data. Next, total population, the farm and nonfarm population, and the age distribution of the population are shown. These are followed by series for the birth, death, and immigration rates. Finally, Goldsmith's estimates of the civilian tangible wealth and many of its components (for example, the net reproducible private business wealth, the net stock of private residential nonfarm structures, and the stock of private inventories) are shown. The estimates available from the Office of Business Economics for the stock of fixed business capital, based on alternative service lives and business depreciation schedules for the period 1929-61, are also included.

The final part of the first section shows indexes of productivity. Here are included Kendrick's and Denison's series on output per unit of total input and details for labor input and capital input. These are followed by various series on output per employee and output per man-hour.

# Economic Processes Importantly Related to Economic Growth

The next section of this report presents measures of processes that appear to be strategic in determining the rate of productivity; that is, the factors which explain why output has grown more rapidly than input. Many scholars in this field hold the view that it is not a matter of one, two, or even three key factors, but rather that a large number of different factors have been responsible for the high productivity in the United States. Unfortunately, data are not available for many of them, and we are able to present information for only a few of the most strategic-in particular, education, health, and research and development. For education, such series as school enrollment, the average length of the public school term, and total expenditures in the education system are shown. Improvements in health represent another way of expanding the input of human resources, both in terms of quantity and quality. Under health, there are data for public expenditures for medical research, days lost by employed persons because of illness, and average life expectancy at birth. Research and development has increasingly been looked to as a way of improving the quality of capital; for this area, data on funds for scientific research and development, and applications for patents are given.

This section also includes a large number of series which provide a broad background of information which is helpful in making judgments of past and prospective performance. These include data on the money supply, narrowly defined to include both currency and demand deposits and broadly defined to include also time deposits. Two series on the velocity of the money supply are also shown here. Prices of commodities, money, and equities<sup>-</sup> are included; and the implicit price deflators for total GNP and its major components. Series on profits, saving, the balance of payments, and the monetary gold stock follow.

Third, data on the utilization of resources, both of labor and of capital, which show how close to capacity the economy actually operated in particular periods of our history, and measures of the magnitude of cyclical fluctuations are also given here. These data are expected to contribute to good judgments about the validity of growth estimates over various time periods.

#### Regional and Industry Trends

The presentation up to this point is at the aggregate level and provides some relatively simple guidelines of overall performance. It is commonly recognized, however, that an aggregate is only a convenient summary of a large variety of activities that take place below this level, and detailed inspections of the pattern of events beneath is required for a thorough appreciation of factors affecting economic growth.

There are, of course, great volumes of U.S. data for regions and industries. To provide all such information in detail would swamp this whole report. Therefore, in order to bring out the principal regional and industrial developments without taking an undue amount of space, two presentation techniques have been employed in the third section of the report. The first technique is the familiar method of plotting all the data for all the regions on the same time scale. Such charts for the nine Census Geographic Divisions are shown for several measures including population, per capita personal income, and value added per employee in manufacturing. To indicate the relative importance of the development of the different geographic divisions, however, the data for each are shown as a percentage of the national average. As a result, most of the charts are quite similar to that illustrated below (chart II) for per capita personal income, with fairly broad gaps among the divisions in the earlier periods of our history, 1880 and 1890, gradually being narrowed over the years until they are fairly close together now.

The second technique is a special type of scatter diagram. Here the growth rate for one period is plotted against the growth rate for another. For example, growth rate for each State and Census Division for the period from 1929 to 1960-65 (vertical scale) is plotted against the growth rate for the period from 1880 to 1929 (horizontal scale). In this kind of chart the national average for the latter period is shown as a line drawn parallel to the horizontal scale and the national average for the earlier period as a line drawn parallel to the vertical scale. For States or Divisions falling in the upper left-hand portion of the chart, the rate of growth has been greater than the national average in the recent period and below the national average in the early period. For those falling in the upper right portion, growth rates were above the national average in both the recent and early periods. Those falling in the lower left-hand portion were below the national average in both periods and States or Divisions in the lower right-hand portion were below the national average in the recent period, but above in the early period. Thus this chart shows that, on a per capita basis, Florida, North Carolina, Texas, and West Virginia 'fared well in both periods. South Carolina, Arkansas, and Georgia did especially well in the recent period, but not so well in the early period. California was below the national average in both periods. In considering these statistics, it is to be borne in mind, of course, that it is the changes which have been plotted. In terms of the level of per capita income, California, of course, rates very high.

Similar charts are shown for other comparison periods and for the various manufacturing industries. Thus, our chart for the manufacturing industries shows that, compared to total GNP, the best growth record since 1948 has been for the transportation, communication, and public utilities industries; the services industries; and the finance, insurance, and real estate industries—both from 1948 to 1960 and since 1960. Construction has done relatively poorly. Among the individual manufacturing industries, the recent record of the chemical industries, electrical machinery, and rubber is especially good.

#### International Comparisons

The interest in economic growth has come to the fore in recent years partly because of the greater awareness of the importance of this factor in determining the welfare of our own population and in resolving many of the difficult

social problems affecting the poor, but also because economic growth has become an international issue. Thus, accelerating economic growth has become a principal objective of economic policy in many of the underdeveloped countries. Adversary nations have pointed with pride to their rapid rates of economic growth and challenged our economic system to demonstrate that it can match theirs. In addition, the relatively poor economic performance in the United States during the later years of the fifties and the first few years of the sixties, compared to economic performance in Japan, Germany, France, and other Western nations, has been a cause of considerable concern here, and led to a careful reexamination of our own economic policy. For these reasons, a section showing the rates of growth in the United States and the principal industrialized countries with which we trade-United Kingdom, Canada, West Germany, Italy, France, and Japan-is included. The number of countries covered in this section has been limited partly because fewer historical data are available for foreign countries than for the United States, partly because there are serious problems of comparability, and partly because of our own staff resources. In later editions we hope to add other countries to this section.

#### Analytical Measures

In this publication we depart from the more familiar types of statistical publications in several respects. First, the basic data are supported by computergenerated charts. Today charts are, of course, a common feature of many statistical publications. The fact that they are computer generated means that they can be developed in much larger quantities. Indeed, they have become the primary method of presentation with tables occupying a relatively minor role. Most charts in this new publication are the familiar time-series charts. Others are special types, such as the scatter diagrams which provide a great deal of information in a small amount of space.

In addition, we have included special analytical charttables to facilitate studies of economic growth. The first of these are growth triangles. Growth triangles, now a familiar tool in growth presentations, show the same years along the horizontal and vertical scales. The growth rate between any two years can be found at the point of intersection between two lines perpendicular to the dates. Thus, it is possible to find growth rates in GNP for any pair of years from 1890 to 1965 in our first growth triangle.

We have also introduced a new type of criterion, suggested by Edward F. Denison, in this chart-table. Because of differences in the extent to which resources are utilized, or in other words, differences in the stage of the business cycle, every pair of years is not comparable from the point of view of measuring economic growth. For instance, the growth rate computed from a business cycle trough year to a business cycle peak year will be higher than the true rate of growth. Similarly, if we start with a business cycle peak year and end up with a business cycle trough year, the growth rate computed between these two years will be lower than the true rate of growth.





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A measure that would be suitable for this purpose would be percent of total capacity with appropriate comparisons being those periods in which the economy operated at about the same rate of capacity. But such data are not available. The unemployment rate may be considered a measure of the extent to which the labor force is utilized and, therefore, when inverted, can serve as a proxy for a measure of capacity operation. Since data on the unemployment rate are available back to 1890, it has been used to call attention to those pairs of years that will result in biased growth rates and to indicate years that are essentially comparable. Growth rates between years for which the unemployment rate is about the same are printed in black on a white background. Growth rates for which the unemployment rate in the initial year exceeds the rate in the terminal year are printed in black on a shaded background; these growth rates are likely to be greater than the true rate of economic growth. Growth rates for years in which the unemployment rate in the terminal year exceeds that in the initial year are printed in brown on a shaded background; for these, the growth rate shown is likely to be less than the true rate of economic growth.

Two different standards have been used in preparing these chart-tables. In one case we have had fairly exacting standards and in another more relaxed standards. Consequently, 13 percent of the 2,850 possible comparisons in the first chart-table show growth rates which are comparable under our assumptions. In the chart-table with the more relaxed standards, 35 percent of the 2,850 possible comparisons show growth rates that are comparable under our assumptions. In addition to these two growth triangles for GNP, there are also included growth triangles for total man-hours and gross private product per man-hour. In these four triangles, the compound interest-rate formula is used to compute the growth rates between the initial and terminal year. As an alternative, the growth rate computed with a linear trend fitted to the logarithms of the data is shown for total output.

One of the principal requests made by those who reviewed earlier editions of our new report was for more growth-rate triangles. Since these are very space consuming and we could have had one for just about every series in the book, we sought a simple way of meeting this interest without unduly expanding the volume. Our solution was the preparation of a growth-rate conversion table. Here the familiar compound-interest-rate table is modified so that the user no longer has to interpolate between tabled values. To use this new type of table, three simple steps are necessary: (1) Compute the ratio of the value in the later year to the value in the earlier year; (2) check the stub of the table to find the number of years over which the comparison is being made; and (3) search on that line for the two values between which this ratio falls. The rate of growth is then given on the top row between these two values. For example: GNP was \$452.5 billion in 1957 and \$614.4 billion in 1965. The ratio of 614.4 to 452.5 is 1.35779, and the number of years spanned from 1965 to 1957 is 8. The average annual growth rate is then found by locating the interval within which 1.35779 falls on the 8-year horizontal line; i.e., 3.9 percent.

This table covers 70 years and the growth rate is shown to one decimal. We have also prepared, and can make available on a cost basis, similar tables showing the growth rate to two decimal places or growth rates above the 10-percent limit in the present table. In addition, we have provided a formula for computing growth rates for periods longer than 70 years but less than 140.

The growth-rate conversion table is useful for computing the growth rate for any series between any pair of historical years. For extrapolating growth rates, we have also provided a standard compound-interest-rate table for periods from 1 to 20 years. More detailed compound-interest tables can be obtained from other sources.

#### LONG-TERM PROJECTIONS

Long Term Economic Growth is a statistical history of economic growth in the United States. Such a history is of interest for its own sake, but the information it presents also may reveal important knowledge that can be helpful in stimulating growth in future years. A related use of these data is to provide the basis for forecasts of future growth in the United States. These forecasts, in turn, are helpful in a large variety of necessary long-range planning projects, such as the aggregate demand for goods and services, urban development, transportation facilities, educational requirements, and so on.

To close this paper, I thought it might be helpful to provide one illustration of how this new report can be used by presenting a few representative long-term projections.

Chart III and tables 2 and 3 show two types of projections of GNP to 1980. First are analytical projections, which attempt to allow explicitly for factors that may affect future economic growth. They have been prepared by various government agencies and private planning organizations. <sup>5</sup>

Two major assumptions underlie all these analytical projections: (1) There will be no deep or prolonged depressions, and (2) the unemployment rate will fall in the range 4.0 to 4.5 percent in the terminal year.

The second type are "naive" projections, which assume that the trend of a given historical period will continue into the future. They do not take into account, in a systematic way, prospective policy changes and structural shifts in the economy, and for this reason are not forecasts in an economic sense. But they do provide a broad perspective for judging future prospects. At a minimum, they provide a standard against which analytical projections can be judged, by establishing a range within which an analytical projection would be expected to fall, if past conditions do not change much. Conversely, the naive projections can help to indicate the impact of any major change in past conditions assumed in preparing an analytical projection.

<sup>&</sup>lt;sup>5</sup>The government agencies are the Council of Economic Advisers and Joint Economic Committee of Congress and the nongovernment agencies are the Committee for Economic Development, National Planning Association, Resources for the Future, McGraw-Hill, and National Industrial Conference Board.

RATIO SCALE Analytical Projections 1400 C ŏ 1200 Α B 1000 80.0 A-RFF (1960 to 1980) B-CED-Denison (1960 to 1980) C-NPA (1965 to 1980) D-Mc Graw-Hill (1965 to 1980) 600 GROSS NATIONAL PRODUCT (Billions of 1965 Dollars) 400 200 Extrapolations of Historical Growth Races 1400 4 1200 3 2 1 1000 800 1 1- 1909 to 1965 2- 1929 to 1965 3- 1948 to 1965 4- 1960 to 1965 600 GROSS NATIONAL PRODUCT (Billions of 1965 Dollars) 400 1 200 1980 1970 1930 1940 1950 1960

CHART III Gross national product in 1965 dollars projected to 1980

(

	CEA	CED, D	ension	JEC, Knowles	N	IPA.	RFF	NICB	McGraw-Hill	
Item	1964 to 1970	1960 to 1975	1960 to 1980	1959 to 1975	1965 to 1975	1965 to 1980	1960 to 1980	1964 to 1975	1965 to	
Total labor force	1.7	_	1.7	1.7	1.8	1.7	1.7	1.8	1.7	
Total employment	-	-	1.68	1.7	1.9	1.8	1.8	1.9	1.9	
Average weekly hours Private Total	· - ·		-0.53	- -0.5	-0.4 -0.4	-0.4 -0.4	-0.3 -	-0.4 -0.4	-0.5	
Man-hours Private Total	-	-	-	1.2	1.3 1.5	1.2 1.4	1.1 -	1.5	- 1.3	
Output per man-hour Private Total	- -	-		3.5	3.3 3.0	3.4 3.0	2.7	3.0 2.8	2.75	
Output Private GNP	-	_	-	_	4.7	4.5	3.8	-	4.1	
Actual <sup>1</sup> Potential <sup>2</sup>	4.7 4.0	3.55 3.30	3.52 3.33	4.7 4.0	4.5 4.3	4.4 4.3	3.8 -	4.35 -	4.1 -	

PART A.-Analytical Projections Average Annual Growth Rates

Item	1909 to 1965	1929 to 1965	1948 to 1965	1960 to 1965
Total labor force	1.4	1.3	1.3	1.4
Total employment	1.4	1.3	1.3	1.6
Average weekly hours Civilian Total (NPA)	-0.4 <sup>3</sup> -0:-5	-0.5 4-0.5	-0.3 -0.4	0.0 -0.1
Man-hours Private Total (NPA)	0.6 0.9	0.3 0.6	0.5 0.9	1.3 1.6
Output per man-hour Private Total (NPA)	2.3 2.1	2.7 2.5	3.4 2.9	3.5 3.1
Output Private GNP	2.9 3.0	3.1 3.1	3.9 3.8	4.9 4.7
Per capita disposable income1965 \$ Industrial pro- ductionindex: 1957-59=100	- 3.8	1.6 3.7	2.1 4.4	3.3 5.7

#### PART B.-Historical Average Annual Growth Rates

<sup>1</sup>4 percent unemployment rate assumed in terminal year, except for MICB which assumes 4.5 percent.

 $^2 Potential defined as the GNP which would be produced if unemployment were 4.0 percent in initial and terminal year.$ 

<sup>3</sup>Initial year is 1910.

<sup>4</sup>Initial year is 1930.

# Table 3.--LEVELS IN 1957 AND 1980 IMPLIED BY ANALYTICAL PROJECTIONS BY EXTRAPOLATION OF HISTORICAL GROWTH RATES

(The levels shown below were calculated by extrapolating the currently published data with the growth rates shown in table 2. For part B, the extrapolations were made from 1965 and for part A from the years enclosed in parenthesis.)

			1	.975			19	80	
Item	1965 value	JEC, Knowles (1959)	CED, Denison (1960)	NPA (1965)	NICB (1964)	RFF (1960)	CED, Denison (1960)	NPA (1965)	McGraw- Hill (1965)
Total labor forcethousands	78,357	<b>94,2</b> 20	-	9 <b>3,93</b> 0	<b>93,</b> 000	102,445	102,445	101,400	101,400
Total employmentthousands	74,901	89,226	-	90,280	<b>89,</b> 000	9 <b>8,8</b> 62	<b>96</b> ,557	97,500	94,900
Average weekly hours Private (NPA)hours Total (NPA)hours	<b>38.8</b> 6 <b>3</b> 8.69	35.8	-	37.28 37.17	- 36.7	36.8 -	35.0	36.52 36.43	- 35 <b>.5</b>
Man-hours Privateindex: 1965 = 100 Total (NPA)index: 1965 = 100	100.0 100.0	-		113.7 115.8	_ 117.6	116.6	-	118.8 122.6	- 121.6
Output per man-hour Privateindex: 1965 = 100 Total (NPA)index: 1965 = 100	100.0 100.0	-	-	139.0 134.4	138.4 135.5	144.8	-	164.1 155.8	- 150.2
Output Privateindex: 1965 = 100 GNPbil. of 1965 \$	100.0 100.0 681.2	162.9 1101.4	135.0 913.0	158.0 155.6 1057.9	159.3 1027.5	168.0 168.7 1140.6	159.8 1080.6	194.9 191.0 1299.5	- 1244.6

P/	ART	A.—Analytica	al Projections
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PART B.-Extrapolation of Historical Growth Rates

			19	75			19	80	
Item	1965 value	1909 to 1965	1929 to 1965	1948 to 1965	1960 to 1965	1909 to 1965	1929 to 1965	1948 to 1965	1960 to 1965
Total labor forcethousands	78,357	90,045	89,1ċ0	89,160	90,045	96,526	95,108	95,108	96,526
Total employmentthousands	74,901	86,073	85,228	85,228	87,786	92,269	90,913	90,913	95,037
Average weekly hours Civilianhours Total (NPA)hours	40.5 38.69	38.9 36.81	38.5 36.81	39.3 37.18	40.5 38.31	38.1 35.90	37.6 35.90	38.7 36.44	40.5 38.11
Man-hours Privateindex: 1965 = 100 Total (NPA)index: 1965 = 100	100.0 100.0	106.2 109.4	103.0 106.2	105.1 109.4	113.8 117.2	109.4 114.4	104.6 109.4	107.8 114.4	121.4 126.9
Output per man-hour Privateindex: 1965 = 100 Total (NPA)index: 1965 = 100	100.0 100.0	125.5 123.1	130.5 128.0	139.7 133.1	141.1 135.7	140.6 1 <b>36.</b> 6	149.1 144.8	165.1 153.5	167.5 158.1
Output Privateindex: 1965 = 100 GNPindex: 1965 = 100 GNPbil. of 1965 \$	100.0 100.0 681.2	133.1 134.4 915.5	135.7 135.7 924.4	146.6 145.2 989.1	161.3 158.3 1078.3	153.5 155.8 1061.3	158.1 158.1 1076.8	177.5 175.0 1191.9	204.9 199.2 1356.7
Per capita disposable income	2,411 143.3	- 208.1	2,826 206.1	2,968 220.4	3,336 249.5	- 250.7	3,059 247.1	3,293 273.4	3,924 329.1

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The figures used to make up these projections are provided in tables 2 and 3 and, in addition, corresponding projections for labor input and productivity are shown. First, an observation about the relations between the analytical and naive projections: The naive projections fall over a wider range than the analytical projections. If our recorded history is used as the basis for projecting, the range of possibilities in the future would appear to be greater than if the analytical projections are used. Most experts believe the analytical projections will prove to be more accurate than the naive projections. One reason is some of the underlying conditions, particularly the future population of working age, can be fairly accurately estimated on the basis of the present population. The naive projections implicitly allow for more variation because the population of working age has grown at different rates in different historical periods. However, we have learned from experience that it is very difficult to make accurate projections. One danger of the analytical projections is that most forecasters are heavily swayed by

The sources of the projections shown in tables 2 and 3 are listed below.

- CEA: Council of Economic Advisers, <u>Annual Report</u>, January 1965.
- JEC-Knowles: James W. Knowles, <u>The Potential</u> <u>Economic Growth in the United States</u>, prepared for the Study of Employment Growth, and Price Levels, Joint Economic Committee, Congress of the United States, January 30, 1960.
- CED-Denison: Edward F. Denison, <u>The Sources of</u> <u>Economic Growth in the United States and The</u> <u>Alternatives Before Us</u>, Committee for Economic Development, 1962.
- NPA: <u>National Economic Projections to 1976-77</u>, National Economic Projections Series, National Planning Association, to be published in September 1966. The 1980 figures were taken from NPA worksheets.
- RFF: Hans H. Landsberg, Leonard L. Fischman and Joseph L. Fisher, <u>Resources in America's Future</u>, Resources for the Future, Inc.,1963.
- NICB: Supplied by the National Industrial Conference Board. See also "Economic Potentials of the United States for the next decade," reprinted from The Conference Board Record, December 1965, NICB.
- McGraw-Hill: American Prospects for Growth Through 1980, McGraw-Hill Economics Department, McGraw-Hill, Inc.

the conventional wisdom of the day, and base their work on similar assumptions. This may be part of the explanation why the range is smaller than that of the naive projections.

To consider some of the prospects, I have selected three different projections. One is the highest among them, the other is one of the lowest among them and the third is the median. These all turn out to be naive projections, but similar conclusions could be drawn from the analytical projections.

The implications of the recent improvement in economic growth and stability are staggering to the imagination. A continuation of recent trends will carry us to unbelievable levels of economic activity in our own lifetimes.

The divergence of these various curves as they approach 1980 indicates how important relatively small difference in annual growth rates can be when cumulated over longer periods of time. However, even if we repeat the experience since 1929, one of the slowest growth rates projected, we shall have by 1980 a 58 percent growth in gross national product in constant dollars and 27 percent growth in per capita disposable personal income. A continuation of the record since 1948 will yield an increase of about 75 percent in GNP and 35 percent in per capita disposable income. If we have, indeed, conquered the business cycle, we shall do far better. The increase in gross national product in constant dollars will be almost double and the increase in per capita disposable personal income about 60 percent. Industrial production could increase even more rapidly, 70 percent on the most unfavorable assumption and 130 percent on the most favorable. It seems most unlikely, however, that consumers would want to take so much of their increased income in terms of goods. What would we do with all of them? More likely there will be substantial shifts from goods to more services and from goods and services to more leisure.

Thus there is in sight, within our own lifetimes, the prospect of another vast improvement in economic welfare. This is not to say that by 1980 we shall have enough to meet all our economic aspirations, but we shall have a great deal more than we have now, even though we encounter many unexpected pitfalls which impede our progress.

This projection exercise illustrates one important way of exploiting some of the data brought together in this report. We are hopeful that it will facilitate the preparation of new and better projections and that it will be put to many different additional uses. We shall be very glad to hear of your experiences with it.

## LONG TERM ECONOMIC GROWTH

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#### **30 NBER LEADING INDICATORS**

- \*1. Average workweek of production workers, manufacturing (M,I).--Department of Labor, Bureau of Labor Statistics
- \*2. Accession rate, manufacturing (M,I).--Department of Labor, Bureau of Labor Statistics
- \*3. Layoff rate, monufacturing (M,I).--Department of Labor, Bureau of Labor Statistics
- Number of persons on temporary layoff, all industries (M,I),--Department of Labor, Bureau of Labor Statistics; seasonal adjustment by Bureau of the Census
- Average weekly initial claims for unemployment insurance, State programs (M,I).--Department of Labor, Bureau of Employment Security; seasonal adjustment by Bureau of the Census
- \*6. Value of manufacturers' new orders, durable goods industries (M,III).--Department of Commerce, Bureau of the Census
- \*7. New private nonfarm dwelling units started (M,III).--Department of Commerce, Bureau of the Census
- \*9. Construction contracts awarded for commercial and industrial buildings, floor space (M,III).--F. W. Dodge Corporation; seasonal adjustment by Bureau of the Census and National Bureau of Economic Research, Inc.
- 10. Contracts and orders for plant and equipment (M,111).--Department of Commerce, Bureau of the Census, and F. W. Dodge Corporation; seasonal adjustment by Bureau of the Census and National Bureau of Economic Research, Inc.
- Newly approved capital appropriations, 1,000 manufacturing corporations (Q,III).--National Industrial Conference Board; component industries are seasonally adjusted and added to obtain seasonally adjusted total
- Number of new business incorporations (M,III).--Dun and Bradstreet, Inc.; seasonal adjustment by Bureau of the Census and National Bureau of Economic Research, Inc.
- \*14. Current liabilities of business failures (M,VI).-Dun and Bradstreet, Inc.; seasonal adjustment by Bureau of the Census and National Bureau of Economic Research, Inc.
- Number of business failures with liabilities of \$100,000 and over (M,VI).--Dun and Bradstreet, Inc.; seasonal adjustment by Bureau of the Census and National Bureau of Economic Research, Inc.
- \*16. Corporate profits after taxes (Q,V).--Department of Commerce, Office of Business Economics
- 17. Price per unit of labor cost index-ratio, wholesale prices of manufactured goods index to index of compensation of employees (sum of wages, salaries, and supplements to wages and salaries) per unit of output (M,V),--Department of Commerce, Office of Business Economics; Department of Labor, Bureau of Labor Statistics; and Board of Governors of the Federal Reserve System; seasonal adjustment by Bureau of the Census
- 18. Profits (before taxes) per dollar of sales, all manufacturing corporations (Q,V),--Federal Trade Commission and Securities and Exchange Commission; seasonal adjustment by Bureau of the Census
- \*19. Index of stock prices, 500 common stocks (M,V).--Standard and Poor's Corporation; no seasonal adjustment
- 20. Change in book value of manufacturers' inventories of materials and supplies (M,IV),--Department of Commerce, Bureau of the Census
- \*21. Change in business inventories, farm and nonfarm, after valuation adjustment (GNP component) (Q,IV).--Department of Commerce, Office of Business Economics
- 22. Ratio of profits (after taxes) to income originating, corporate, all industries (Q,V).--Department of Commerce, Office of Business Economics
- \*23. Index of industrial materials prices (M,V).--Department of Labor, Bureau of Labor Statistics; no seasonal adjustment
- 24. Value of manufacturers' new orders, machinery and equipment industries (M,III).--Department of Commerce, Bureau of the Census
- 25. Change in manufacturers' unfilled orders, durable goods industries (M,IV).--Department of Commerce, Bureau of the Census
- 26. Buying policy--production materials, percent reporting commitments 60 days or longer (M,IV),--National Association of Purchasing Agents; no seasonal adjustment
- 29. Index of new private housing units authorized by local building permits (M,III).--Department of Commerce, Bureau of the Census
- Nonagricultural placements, all industries (M,I).--Department of Labor, Bureau of Employment Security; seasonal adjustment by Bureau of the Census

- 31. Change in book value of manufacturing and trade inventories, total (M,IV).--Department of Commerce, Office of Business Economics
- 32. Vendor performance, percent reporting slower deliveries (M,IV).--Chicago Purchasing Agents Association; no seasonal adjustment
- 37. Percent reporting higher inventories, purchased materials (M,IV).--National Association of Purchasing Agents; seasonal adjustment by Bureau of the Census
- \*38. Index of net business formation (M,III).-Dun and Bradstreet, Inc., and Department of Commerce, Bureau of the Census; seasonal adjustment by Bureau of the Census and National Bureau of Economic Research, Inc.

#### 15 NBER ROUGHLY COINCIDENT INDICATORS

- Unemployment rate, married males, spouse present (M, I).--Department of Labor, Bureau
  of Labor Statistics
- \*41. Number of employees in nonagricultural establishments (M,I).--Department of Labor, Bureau of Labor Statistics
- 42. Total nonagricultural employment, labor force survey (M,I).-Department of Labor, Bureau of Labor Statistics, and Department of Commerce, Bureau of the Census
- \*43. Unemployment rate, total (M,I),--Department of Labor, Bureau of Labor Statistics, and Department of Commerce, Bureau of the Census
- 45. Average weekly insured unemployment rate, State programs (M,I).--Department of Labor, Bureau of Employment Security
- 46. Index of help-wanted advertising in newspapers (M,I).--National Industrial Conference Board
- \*47. Index of industrial production (M,II).--Board of Governors of the Federal Reserve System
- \*49. Gross national product in current dollors (Q,II).--Department of Commerce, Office of of Business Economics
- \*50 Gross national product in 1958 dollors (Q,II).-Department of Commerce, Office of Business Economics
- \*51. Bank debits, all standard metropolitan statistical areas except New York (224 SMSA's) (M,11).--Board of Governors of the Federal Reserve System
- \*52. Personal income (M,II).--Department of Commerce, Office of Business Economics
- 53. Labor income in mining, manufacturing, and construction (M,II).--Department of Commerce, Office of Business Economics
- \*54. Sales of retail stores (M,II) .-- Department of Commerce, Bureau of the Census
- \*55. Index of wholesale prices, all commodities other than farm products and foods (M,V).--Department of Labor, Bureau of Labor Statistics; seasonal adjustment by Bureau of the Census
- 57. Final sales (series 49 minus series 21) (Q,II).--Department of Commerce, Office of Business Economics

#### 7 NBER LAGGING INDICATORS

- \*61. Business expenditures on new plant and equipment, total (Q,III).--Department of Commerce, Office of Business Economics, and the Securities and Exchange Commission
- \*62. Index of labor cost per unit of output, total manufacturing--ratio, index of compensation of employees in manufacturing (the sum of wages and salaries and supplements to wages and salaries) to index of industrial production, manufacturing (M,V).--Department of Commerce, Office of Business Economics, and the Board of Governors of the Federal Reserve System; seasonal adjustment by Bureau of the Census
- \*64. Book value of manufacturers' inventories, all manufacturing industries (EOM,IV),--Department of Commerce, Bureau of the Census
- 65. Book value of manufacturers' inventories of finished goods, all manufacturing industries (EOM,IV).-.Department of Commerce, Bureau of the Census
- \*66. Consumer installment debt (EOM,VI).--Board of Governors of the Federal Reserve System. FRS seasonally adjusted net change added to seasonally adjusted figure for previous month to obtain current figure
- \*67. Bank rotes on short-term business loans, 19 cities (EOQ,VI).--Board of Governors of the Federal Reserve System; no seasonal adjustment
- 68. Index of labor cost per dollar of real corporate gross national product (ratio of compensation of employees in corporate enterprises to value of corporate product in 1958 dollars) (Q,V).--Department of Commerce, Office of Business Economics, National Income Division

OPPICIAL BUSINESS FIRST CLASS MAIL

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#### Titles and Sources of Principal Business Cycle Series and Diffusion Indexes--Con.

28 OTHER SELECTED U.S. SERIES

- Index of consumer prices (M,V).--Department of Labor, Bureau of Labor Statistics; seasonal adjustment by Bureau of the Census
- 82. Federal cash poyments to the public (M,VHI).--Treasury Department, Bureau of Accounts, and Executive Office of the President, Bureau of the Budget; seasonal adjustment by the Bureau of the Census
- 83. Federal cash receipts from the public (Q,M,VIII).-Treasury Department, Bureau of Accounts, and Executive Office of the President, Bureau of the Budget; seasonal adjustment by the Bureau of the Census
- 84. Foderal cash surplus or deficit (Q,M,VIII)... Treasury Department, Bureau of Accounts, and Executive Office of the President, Bureau of the Budget; seasonal adjustment by the Bureau of the Census
- 85. Percent change in total U.S. money supply (demand deposits plus currency) (M,VI).--Board of Governors of the Federal Reserve System
- 86. Exports, excluding military aid shipments, total (M,VII):--Department of Commerce, Bureau of the Consus
- 87. General imports, total (M,VII) .- Department of Commerce, Bureau of the Census
- Merchandise trade balance (series 86 minus series 87) (M,VH).--Department of Commerce, Bureau of the Census
- 89. Excess of receipts or payments in U.S. balance of payments (Q,VII).--Department of Commerce, Office of Business Economics
- 90. Defense Department obligations, procyrement (M,VHI).-Department of Defense, Fiscal Anatysis Division; seasonal adjustment by Bureau of the Census
- 91. Defense Department obligations, total (M,VIII).-Department of Defense, Fiscal Analysis Division; seasonal adjustment by Bureau of the Census
- 92. Military prime contract awards, U.S. business firms (M,VIII).-Department of Defense, Directorate for Statistical Services; seasonal adjustment by Bureau of the Census
- 93. Free reserves (member bank excess reserves minus borrowings) (M,VI).--Board of Governors of the Federal Reserve System; no seasonal adjustment
- 94. Index of construction contracts, total value (M,III) .-- F. W. Dodge Corporation
- Surplus or deficit, Federal income and product account (Q,VIII).-Department of Commerce, Office of Business Economics
- 96. Manufacturers' unfilled orders, durable goods industries (EOM,III).--Department of Commerce, Bureau of the Census
- Bocklog of capital oppropriations, manufacturing (EOQ,III),--National Industrial Conference Board; component industries are seasonally adjusted and added to obtain seasonally adjusted total
- 98. Percent change in total U.S. money supply (demand deposits and currency) and commercial bank time deposits (M,VI).--Board of Governors of the Federal Reserve System
- 99. New orders, defense products (M,VIII) .-- Department of Commerce, Bureau of the Census
- 110. Total funds raised by private nonfinancial borrowers in credit markets (Q,VI).-Board of Governors of the Federal Reserve System
- 111. Gross retained earnings of nonfinancial corporations (Q,IN).--Board of Governors of the Federal Reserve System

- 112. Net change in bank loens to businesses (M,VI)...Board of Governors of the Federal Reserve System; seasonal adjustment by Bureau of the Census
- 113. Net change in consumer installment debt (M,VI).-Board of Governors of the Federat Reserve System
- 114. Discount rate on new issues of 91-day Treasury bills (M,VI).-Board of Governors of the Federal Reserve System; no seasonal adjustment
- 115. Yield on long-term Treasury bonds (M,VI).--Treasury Department; no seasonal adjustment
- 116. Yield on new issues of high-grade corporate bonds (M,VI)...First National City Bank of New York and Treasury Department; no seasonal adjustment
- 117. Yield on municipal bonds, 20-bond average (M,VI).--The Bond Buyer; no seasonal adjustment
- 118. Secondary market yields on FHA mortgages (M,VI)...Federal Housing Administration; no seasonal adjustment

#### 7 INTERNATIONAL COMPARISONS

- 121. Organization for Economic Cooperation and Development, European Countries, index of industrial production (M,IX).-Organization for Economic Cooperation and Development
- 122. United Kingdom, index of Industrial production (M,IX).--Central Statistical Office (London)
- 123. Canada, index of industrial production (M,IX) .-- Dominion Bureau of Statistics (Ottawa)
- 125. West Germany, index of industrial production (M,IX).-Statistisches Bundesamt (Wiesbaden)
- 126. France, index of industrial production (M,IX).-Institut National de Statistique et des Etudes Economiques (Paris)
- 127. Italy, index of industrial production (M,IX),-Instituto Centrale di Statistica (Rome)
- 128. Japan, index of industrial production (M,IX),--Ministry of International Trade and Industry (Tokyo); seasonal adjustment by compiler and Bureau of the Census
- ... United States, index of industrial production (M,11).--See series 47.

#### DIFFUSION INDEXES

The "D" preceding a number indicates a diffusion index. Diffusion indexes and corresponding business cycle series bear the same number and are obtained from the same sources. See sources above for D1, D5, D6, D11, D19, D23, D41, D47, D54, and D61. Sources for other diffusion indexes are as follows:

- D34. Profits, monufacturing, FNCB (Q).--First National City Bank of New York; no seasonal adjustment of series components. Diffusion indexes are seasonally adjusted by National Bureau of Economic Research, Inc.
- D35. Net soles, total monufactures (Q) .-- Dun and Bradstreet, Inc.; no seasonal adjustment
- D36. New orders, durable manufactures (Q).--Dun and Bradstreet, Inc.; no seasonal adjustment
- D48. Freight corloadings (Q) .-- Association of American Railroads; no seasonal adjustment
- D58. Wholesale prices, manufacturing (M).-Department of Labor, Bureau of Labor Statistics; seasonal adjustment by Bureau of the Census