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Volume Title: Signals of Recession and Recovery: An Experiment with Monthly Reporting

Volume Author/Editor: Julius Shiskin

Volume Publisher: UMI

Volume URL: <http://www.nber.org/books/shis61-1>

Publication Date: 1961

Chapter Title: Front matter, SIGNALS OF RECESSION AND RECOVERY

Chapter Author: Julius Shiskin

Chapter URL: <http://www.nber.org/chapters/c2295>

Chapter pages in book: (p. -12 - 0)

OCCASIONAL PAPER

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**SIGNALS OF
RECESSION AND RECOVERY**
AN EXPERIMENT WITH MONTHLY REPORTING

JULIUS SHISKIN

NATIONAL BUREAU OF



ECONOMIC RESEARCH

1961

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PRICE: \$3.00

Printed in the United States of America
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Contents

	PAGE
ACKNOWLEDGMENTS	ix
FOREWORD, BY GEOFFREY H. MOORE	xi
1. REQUIREMENTS FOR SHORT-TERM BUSINESS FORECASTING	1
<i>Need for Early Warnings of Recession and Recovery</i>	2
<i>New Findings in Business Cycle Research</i>	4
<i>Data and Computers</i>	10
2. THE MONTHLY REPORT ON CURRENT BUSINESS CYCLE DEVELOPMENTS	13
<i>General Characteristics</i>	13
<i>Principal Business Cycle Indicators</i>	15
<i>Analytical Measures of Current Trends</i>	17
<i>Cyclical Comparisons</i>	72
<i>Record of Performance</i>	89
3. PROSPECTIVE IMPROVEMENTS	115
<i>A Business Cycle Chronology of Important Events</i>	115
<i>Research on Current Business Cycle Measures</i>	116
<i>Need for Improved Data</i>	117
<i>Improvements in Statistical Techniques</i>	121
APPENDIX A: TECHNICAL NOTES ON AMPLITUDE-ADJUSTED GENERAL INDEXES, ADJUSTED RATES OF CHANGE, AND DIFFUSION INDEXES	123
APPENDIX B: MEASURES OF THE CYCLICAL BEHAVIOR OF SELECTED BUSINESS CYCLE SERIES	142
APPENDIX C: DATA AND SOURCES FOR BUSINESS CYCLE SERIES AND DIFFUSION INDEXES	149

Tables

	PAGE		
1. Seventy-Two Business Cycle Series: Timing Classification and Summary Measures of Leads and Lags	18		13. Timin dexes, Trough
2. Recent Seasonally Adjusted Data for Selected Indicators With High and Low Values Identified	41		14. Distri Month Peaks
3. Recent Month-to-Month Percentage Changes for Principal Monthly Indicators	45		15. Distri Month Trough
4. Monthly Amplitudes and Related Measures of General Indexes	48		16. Severit to Two
5. Distribution of Highs in Business Cycle Indicators During 1958-60 Expansion	57		17. Distrib 1957-58
6. Distribution of Lows in Business Cycle Indicators During 1960-61 Contraction	58		18. Disper: Three
7. Diffusion Indexes in the Monthly Report	59		19. Release Cycle
8. Measures of Smoothness for Comprehensive and NBER Diffusion Indexes, 1948-60	66		A-1. Compar
9A. Direction of Change in Component Series over Three-Month Spans and Percentage of Series Rising, 1957-59, Nonagricultural Employment	73		A-2. Compar
9B. Direction of Change over One-Month Spans and Percentage of Series Rising, 1959-61, Twenty-Six Aggregate Economic Indicators	74		B-1. Monthly Monthly
10A. Comparison of Nine Recent Business Cycle Contractions	76		B-2. Leads a
10B. Comparison of Nine Recent Specific Cycle Contractions	77		C-1. Basic D Indicato
10C. Comparison of Eight Recent Business Cycle Expansions	78		C-2. Amplitu
11. Comparison of Three Recent Expansions	81		C-3. Adjusted
12. Percentage Rising of Seventy-Nine Leading and Fifty-Seven Roughly Coincident Series over Spans of One to Eleven Months After Business Cycle Peaks	88		C-4. Comprel
			C-5. Diffusio 1958-61
			C-6. Diffusio Performa

	PAGE
Classification	18
Indicators	41
Principal	45
General	48
During	57
During	58
	59
NBER	66
Year-Month	
Nonagri-	73
Percentage	
Economic	74
Contractions	76
Expansions	77
	78
	81
Forty-Seven	
to Eleven	88

	PAGE
13. Timing of General Indexes, Comprehensive Diffusion Indexes, and Adjusted Rates of Change Around Peaks and Troughs, 1920-60	91
14. Distribution of Highs in Business Cycle Indicators at Selected Months Around November 1948, July 1953, and July 1957 Peaks	100
15. Distribution of Lows in Business Cycle Indicators at Selected Months Around October 1949, August 1954, and April 1958 Troughs	103
16. Severity Rankings of Eight Contractions Since 1920 from One to Twelve Months After Reference Peaks	106
17. Distribution of Lows in Business Cycle Indicators During 1957-58 Contraction	110
18. Dispersion About Business Cycle Peaks and Troughs for Three General Indexes and Nine Coincident Indicators	112
19. Release Dates of Current Figures for Sixty-Five Business Cycle Series	120
A-1. Comparison of Nine Recent Business Cycle Contractions	138
A-2. Comparison of Eight Recent Business Cycle Expansions	140
B-1. Monthly Amplitudes and Related Measures for Fifty-Five Monthly Business Cycle Series	143
B-2. Leads and Lags of Sixty-Two Business Indicators, 1948-60	146
C-1. Basic Data and Current Sources for Sixty-Five Business Indicators, 1958-61	151
C-2. Amplitude-Adjusted General Indexes, 1948-61	180
C-3. Adjusted Rates of Change, 1948-61	181
C-4. Comprehensive Diffusion Indexes, 1948-61	182
C-5. Diffusion Indexes for Thirteen Major Economic Activities, 1958-61	187
C-6. Diffusion Indexes of Businessmen's Anticipations and Actual Performance, 1958-61	191

Charts

	PAGE
1. A Comprehensive Diffusion Index and an Index of Business Activity, 1885-1961	7
2. Business Cycle Indicators, 1948-61	27
3. Amplitude-Adjusted Indexes and Adjusted Rates of Change for Leading, Coincident, and Lagging Series, 1919-40 and 1948-61	50
4. Current Diffusion Indexes, 1948-61	61
5. Comparisons of Cyclical Patterns of Amplitude-Adjusted General Indexes and Selected Individual Indicators	83
6. Standings of Key Indicators at Several Points Around Peaks and Troughs Since World War II	93
A-1. Comparisons of Rates of Change and a Diffusion Index, Auto Dealer Sales, 1954-57	126
A-2. Diffusion Indexes and Adjusted Rates of Change Based on 281 Components, 1948-58	128
A-3. Diffusion Indexes Based on 281 Components and Adjusted Rates of Change Based on Nine Aggregates, 1948-58	130
A-4. Adjusted Rates of Change Based on 281 Components and Nine Aggregates, 1948-58	131
A-5. Diffusion Indexes and Adjusted Rates of Change for Individual Groups of Series and Aggregates, 1948-58	133

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Acknowledgments

The large-scale experiment with NBER methods of analyzing business cycles, which is described in this paper, was initiated at the request of Raymond J. Saulnier, the Chairman of the Council of Economic Advisers from 1956 to 1960, and took the form of a monthly report prepared for the Council by the Bureau of the Census, Department of Commerce, until the end of 1960. The report would not have been possible without the unflagging interest and support of Dr. Saulnier.

I am deeply indebted to Arthur F. Burns of the National Bureau of Economic Research for his contributions to this work. Many features of the monthly report described in this paper are based upon the findings of his studies of business cycles. In addition, he made many constructive suggestions for improving the content and organization of the report and this paper, and reviewed the manuscript with his customary perspicacity and thoroughness. Geoffrey H. Moore of the National Bureau contributed invaluable advice at every stage of the work, and made available the results of his investigations of indicators as they proceeded. Both the monthly report and this paper owe much to his skillful guidance and unstinting cooperation.

The data-processing equipment and the skilled technical staff at the Bureau of the Census were indispensable. A. Ross Eckler and Morris H. Hansen of the Bureau of the Census provided helpful counsel in carrying out the project, particularly during the later stages, and Feliks Tamm, Betty F. Tunstall, and Allan H. Young assisted in preparing the monthly reports. Much of the research for this paper was carried out at the National Bureau of Economic Research, where Sophie Sakowitz, Dorothy O'Brien, Johanna Stern, Sandra-Lee Abu El-Haj, and Esther Reichner provided important data and computations and prepared Appendixes B and C. Useful suggestions for improving the manuscript were also made by Gerhard Bry, Raymond W. Goldsmith, Albert J. Hettinger, Jr., Maurice W. Lee, and Derek White. Marie-Christine Culbert skillfully edited the manuscript.

The views expressed in this paper are the author's and not necessarily those of the Bureau of the Census or any other government agency.

J. S.

	PAGE
Business	7
	27
Change 9-40 and	50
	61
Adjusted rs	83
and Peaks	93
Index, Auto	126
Based on	128
Adjusted 58	130
ents and	131
or Indivi-	133

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Foreword

The fruits of basic research, of which the economic reporting system described in this paper is one, are seldom predictable. Most of the methods and findings used here had their origins in research done at least as long ago as the First World War. The results were not foreseen by those, such as Wesley Mitchell and Warren Persons, who were then investigating business cycles and analyzing economic time series. Who could have known that many of the features of business cycles or of time series then being studied would survive a great depression and another world war? And who would have believed that laborious calculations which took months on a manual calculator would be done in minutes on an electronic computer?

Yet many of the fundamental features of business cycles have survived economic and military upheavals as well as powerful new government policies. The monthly reports that Julius Shiskin began to prepare for President Eisenhower's Council of Economic Advisers in the autumn of 1957 took advantage of this fact. The content and arrangement of these reports resulted directly from the basic research that had been started many years before.

Attempts at practical application of research findings, in economics at least, also have a scientific value. They provide a testing ground, and may either yield further support for or cast doubt upon previous findings. It is a far better ground than the one available to the original investigator since it lies in the future and cannot be bent to fit his preconceptions. Hence, the results described in this paper represent a contribution to basic research as well as a product of it.

The interest of the National Bureau of Economic Research in the development of what Shiskin calls "an early-warning system of economic intelligence" is twofold. First, like all institutions engaged in basic research, it wants to see its findings put to use. Second, it welcomes the further accumulation of evidence for or against its findings. The findings that are supported can then be regarded with more confidence; the others can be surrounded with question marks, or modified, or discarded.

Furthermore, Shiskin has made some new historical and statistical contributions. His distribution by months of the dates when certain

economic indicators reach their highest values to date is of particular interest as a way of recognizing an approaching or a recently passed downturn in general business. The method is equally applicable to the problem of recognizing an upturn. Another contribution is his standardization of series that normally experience different rates of rise or fall, which makes it easier to detect abnormal changes. Still another is his method of smoothing time series so that different degrees of irregularity are erased and cyclical swings are equally visible in all.

But the principal contribution of this paper is the demonstration that basic findings on cyclical behavior can, with the aid of a large-scale electronic data-processing system, be used to provide a comprehensive yet promptly available picture of current business cycle developments. The business forecaster, who may often feel that his greatest difficulty lies merely in keeping up to date, is here shown how that job can be done. He will discover a tested system for doing it, improved month by month over a period of more than three years, found highly useful by those who have made exacting demands upon it, yet still profoundly experimental. After some experience with it, he will perceive that it definitely reduces the area of uncertainty that surrounds current business analysis and forecasting.

Although, as I have indicated, this paper is the outcome of a long line of research, conducted not only at the National Bureau but also in universities and government agencies, a word should be said about its immediate ancestry. Its preparation was undertaken as one of several National Bureau studies of the use of electronic computers in business cycle research. This group of studies is being financed by a grant from the National Science Foundation, by a contribution of computing facilities by the International Business Machines Corporation, and by other funds of the National Bureau. Although Shiskin carried out some of the research and wrote most of the paper while on leave from the Bureau of the Census, the results he describes were largely obtained in the course of his work there. The vision, initiative, and cooperation of many individuals have therefore been indispensable to the economic experiment reported here.

GEOFFREY H. MOORE

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Appendix A
general indexes,
dix B shows var