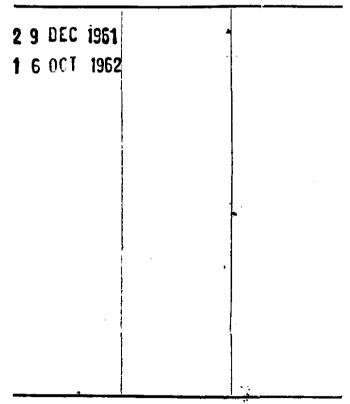


SERVANTS OF INDIA SOCIETY'S LIBRARY, POONA 4

Cl. No. X:74
Date of release for loan
Ac. No. 11344

This book should be returned on or before the date last mentioned below.

Failure to comply will involve cancellation of the Borrower's Card and forfeiture of deposit.



Dhananjayarao Gadgil Library
GIPE-PUNE-011344

BUSINESS CYCLES AND FORECASTING

BUSINESS CYCLES AND FORECASTING

By

ELMER C. BRATT, Ph.D.

Assistant Professor of Economics, Lehigh University.

Sometime, Member of Staff, Central Statistical Board; Industrial Economist, National

Bureau of Economic Research



BUSINESS PUBLICATIONS, INC.
CHICAGO
1937



COPYRIGHT 1937
BY
BUSINESS PUBLICATIONS, INC.

Printed in the United States of America

All rights reserved. This book, or parts thereof, may not be reproduced in any form without permission of the publishers.

Typography, Printing, and Binding by KINGSPORT PRESS, Inc., Kingsport, Tennessee

PREFACE

THE purpose of this book is to provide an explanation of the A nature of the economic change taking place at any given time. Economic change is one of the most vital and all-pervading of economic problems. The understanding of economic change is often the critical factor determining success or failure in business. Purchasing power of the money income of consumers is partially dependent upon the action taken in prosperity and in depression. If we understand the significance of low prices and of low production, we can use better judgment in the purchase of goods and investments when depressions occur. If we understand the significance of high prices and of high production, we can spend our incomes more advantageously in prosperity. Of even more importance, an understanding of economic change is essential to the development of a sound social policy. Much of the effort of society is now directed to the development of a social policy, and unless this development rests upon an understanding of economic change, not only will the effort be wasted but it is apt to impair seriously the efficiency of the economic system.

Economic change can be logically explained. If economic activity tends to be higher at one time of the year than at another, there are very good reasons for the difference. It is possible to state the factors responsible for economic growth. The alternations from prosperity to depression and from depression to prosperity become explainable if we are willing to take cognizance of all of the forces acting upon these changes. Even common stock prices move according to an ill-defined regularity. Explanations of these statements are given in detail in this book.

To explain economic change six major analytical steps are requisite, and are carried out to the extent of the author's ability with presently available knowledge. First, the reasons for the existence of economic change are presented. Second, the statistivi PREFACE

cal methods available for measuring economic change are outlined briefly. Third, the extent to which economic change can be prevented by forethought is stated. Fourth, methods of forecast and their adequacy are analyzed. Fifth, an answer is given to the question: what function, if any, does the forecast perform? Sixth, the book describes the available data which may be used to indicate what is currently happening.

But little can be accomplished by applying this analytical technique to an integral of economic change. As developed in Chapter I, we must consider separately the seasonal variation, the long-time trend movement, and the business-cycle fluctuation. The requisite analysis can best be made somewhat differently for each of these three component movements. The seriation of the analytical steps and the emphasis upon each step is adapted to each of the three component movements. A detailed statement of how this is carried out is given in Chapter I. Consideration of the business-cycle fluctuation is most urgent, and the major part of the book is concerned with it.

This book is written for use as a text for college courses in business cycles. The writer acknowledges his indebtedness to the many students in his classes in business cycles at Lehigh University during the past seven years. Without the opportunity to present this material to them, the book would have been impossible at this time. The material was used in mimeographed form in 1936, and the students in that year are to be specially acknowledged for their interest and for the many criticisms they offered.

While the needs of the college student have been constantly in mind, it is to be doubted if his needs in this type of analysis differ greatly from the needs of anyone desiring to understand economic change. The language has been kept as non-technical as possible, and the writer has endeavored to express the ideas in a succinct form.

The courtesy of various publishers in permitting the reproduction of published charts is appreciated. Many materials and ideas are used for which specific acknowledgement is impossible. Specific obligation, whenever this appears possible, is recognized at various points in the book.

PREFACE

vii

The author is deeply indebted to several scholars for suggestions made regarding the material presented here. Professor Roy B. Cowin of Lehigh University made detailed suggestions on the entire manuscript during the initial stages of writing. Professor Harry Jerome of the University of Wisconsin supplied comments on Chapter XV. Professor Frederick A. Bradford of Lehigh University supplied comments on Chapter XVII. Professor Edgar Z. Palmer of the University of Kentucky furnished specific comments and a general appraisal based on a careful study of an earlier mimeographed edition. The author's wife has contributed by rendering a measure of constant and generous assistance during the various stages of the book's development.

Bethlehem, Pennsylvania

ELMER C. BRATT

CONTENTS

CHAPTER	PAGE
I. Introduction	1
II. Seasonal Variations in Industry	7
Factors responsible for the seasonal variation. 2. Measurement of the seasonal and measurement of its adequacy. 3. Attempts to iron out the seasonal variation. 4. Technique of seasonal forecasting. III. NORMAL LEVELS OF INDUSTRY	34
 Meaning of normal. 2. Nature of the long-time trend. 3. Measurement of the long-time trend. 4. The long-time trend of total industry. Factors determining the long-time trend of total industry. 6. Need for forecasting the long-time trend. 7. Technique of forecasting the long-time trend. 	
IV. STATISTICAL METHODS FOR MEASURING AND ANALYZING THE	
Business Cycle	70
 Method of measuring the business cycle. 2. Method of making mechanically comparable the average cyclical fluctuation of two or more series. 3. Deflation technique. 4. Method of mechanically elimi- nating erratic fluctuations. 5. Techniques used in forecasting cyclical movements. 6. Contribution of statistical analysis to the study of business cycles. 	
V. FACTORS RESPONSIBLE FOR THE CYCLICAL NATURE OF BUSI-	
NESS 1. Originating causes. 2. General consideration of the causal position of various factors. 3. Certain characteristics of the business system which assist in explaining business responses.	84
VI. FACTORS RESPONSIBLE FOR THE CYCLICAL NATURE OF BUSI-	
NESS (Continued)	114
 The nature of business responses to originating causes. Business responses during the phase of incline. Business responses during the phase of decline. 	•
VII. Business Cycle Theories	141
 Originating cause theories. 2. Episodic theories. 3. Theories based on the self-generating cycle. 4. Uncertainty as cause of the business cycle. 	
VIII. BUSINESS CYCLE HISTORY	156
 The records of business cycles. Average length of the cycle. Length of cycle phases. Amplitude of the cycle. International agreement of cyclical movements. 	
IX. Business Cycle History (Continued)	181
1. Influence of specific originating causes at various times. 2. Effect of originating causes on the cycle.	

CHAPTER	PAGE
X. FACTORS RESPONSIBLE FOR LENGTH AND SEVERITY OF THE	
"Great" Depression	212
 Self-limiting factors in the preceding phase of incline. The phase of recession—June, 1929 to June, 1932. The phase of trough—July, 1932 to March, 1933. Initiation of the phase of recovery. 	
XI. FACTORS RESPONSIBLE FOR LENGTH AND SEVERITY OF THE	
"Great" Depression (Continued)	248
 Maladjustments tending to produce a severe depression. Originating causes reacting on the great depression. Relation of the great depression to the economic outlook. 	
XII. Schemes Proposed for Artificial Control of Cyclical	
Movements	264
1. Criteria for judging proposed schemes. 2. Merciless price cutting without artificial protection of vested interests as a cure for depressions. 3. Changes in the distribution of income. 4. Institution of a cost accounting system whereby depreciation is currently charged on only the part of capacity currently used. 5. Unemployment insurance. 6. The planning of public works. 7. Federal subsidies to new construction in depressions.	
XIII. Schemes Proposed for Artificial Control of Cyclical	
Movements (Continued)	284
 Stabilization of prices by bank policy. One hundred per cent money. Creation of government deficits in depressions. Estab- lishment of a state supervised semi-communistic system for the unem- ployed in depressions. Authoritative central business planning. Private business planning. Supplementary plans to assist recovery. 	
XIV. Business Stabilization and the Desirability of Moder-	
ATE CYCLICAL MOVEMENTS	310
 Growth and progress are dependent upon the cyclical movement. Need for correction of unbalance produced by originating causes. Self-generating forces and need for the business cycle. 4. Stabilization, prevention of deflation, and vested interests. 	
XV. Business Barometers: Integral Measures of General	
Business Conditions	321
1. Nature of business barometers. 2. Character of available data. 3. Data needed for understanding current economic change. 4. An integral measure of business conditions. 5. Criteria of a sensitive measure of general business conditions. 6. Available measures of physical production, employment, electric power production, carloadings, and bank debits as sensitive indicators of integral business conditions. 7. Prompt monthly indexes of business activity. 8. Weekly indexes of business activity. 9. Indexes of regional business conditions. XVI. BUSINESS BAROMETERS: MEASURES OF BUSINESS PROCESSES	
AND COMPONENT PARTS OF BUSINESS CHANGE	354
1. Measures of the production of durable and of short-lived goods. 2. Measures of the component processes of economic activity. 3. Measures of prices of various factors. 4. Measures of prices at different points in distribution. 5. Measures of the flow of goods to the consumer. 6.	

Measures of payments and income. 7. Measures of the growth of productive factors. 8. Measures of the unemployment of productive forces. 9. Measurable effects of originating causes.	PAGE
XVII. Business Barometers: Credit and Financial Conditions 1. Secondary credit. 2. Ratio of bank liabilities to the money base. 3. The extension of bank credit. 4. Investments of commercial banks. 5. Rate of use of bank credit. 6. Volume of long-term debt. 7. Increase in capital investment. 8. Measures of business insolvency. 9. Measures of business confidence.	393
XVIII. CHARACTERISTIC FLUCTUATIONS OF THE BUSINESS CYCLE 1. The timing of economic processes. 2. The amplitude of economic processes. 3. Relation of the characteristic fluctuations of the business cycle to the cyclical nature of business.	413
XIX. THE FORECASTING OF BUSINESS CYCLES 1. The logical basis for business-cycle forecasting. 2. Forecasting by the method of cross-cut analysis. 3. Forecasting by use of the three markets chart. 4. Methods of determining and mechanical significance of timing relationships. 5. Forecasting use of critical levels and of differences in cyclical amplitude. 6. Other methods of forecasting business cycles. 7. The forecasting of the cyclical movement in individual industries. 8. Nature of useful business-cycle forecasting and need for business-cycle forecasting. 9. Adequacy of business-cycle forecasts. 10. Extent to which forecasting the business cycle would eliminate it.	432
XX. PROBLEMS OF FORECASTING ECONOMIC CHANGE 1. The forecasting of agricultural-commodity prices. 2. The forecasting of common stock prices. 3. Social need for the forecasting of various types of economic change.	472
CHARTS	
I. Seasonal Movement of Production and Trade II. Seasonal Variation as Shown by Freight Car-	11
LOADINGS	16
III. CHART ILLUSTRATING THE METHOD OF TESTING FOR CHANGING SEASONAL	18
IV. Effect of Dividing Series by Their Own Measures	
of Dispersion	<i>7</i> 7
V. Test of the Periodicity of the Business Cycle	85
VI. Investments and Savings of Banks	111
VII. Conspectus of Business Cycles in Various Coun-	
TRIES, 1790-1925	160
VIII. Persons' Index of Industrial Production and Trade	
FOR THE UNITED STATES	162
IX. Index of British Business Cycles	164

	PAGE
X. Duration of Business Cycles as Shown by Busi-	
NESS ANNALS	166
XI. Industrial Production, Ten Years—1925-1934	179
XII. PRODUCTION, EMPLOYMENT, MONEY PAYROLLS, AND	
PURCHASING POWER OF PAYROLLS FOR ALL MANU-	
facturing Industries 1926–1934	
XIII. Some Price Changes in the Great Depression	214
XIV. CREDIT CONDITIONS IN THE GREAT DEPRESSION	215
XV. FAILURES IN THE GREAT DEPRESSION	216
XVI. Relative Changes in Industrial Production in	
Five Countries	217
XVII. STOCK PRICES DURING THE GREAT DEPRESSION	220
XVIII. THE CORN-HOG CYCLE	303
XIX. Industrial Production and Volume of Trade	
Indexes	329
XX. COMPARATIVE MOVEMENT OF SERIES USED TO REPRE-	
SENT BUSINESS CONDITIONS	345
XXI. METROPOLITAN REGIONS	348
XXII. Economic Regions	349
XXIII. DURABLE AND CONSUMERS GOODS IN DEVIATIONS FROM	
NORMAL PRODUCTION	355
XXIV. PRICE AND PRODUCTION OF DURABLE AND NON-DUR-	
ABLE GOODS	356
XXV. STEEL PRODUCTION COMPARED TO THE VOLUME OF	
Trade	358
XXVI. STOCKS OF ZINC COMPARED TO INDUSTRIAL PRODUC-	
TION	362
XXVII. MACHINE TOOL ORDERS AND INDUSTRIAL PRODUCTION.	364
XXVIII. Long- and Short-Term Interest Rates	367
XXIX. RELATIVE VIOLENCE OF WHOLESALE PRICE INDEXES	371
XXX. THE HARVARD SENSITIVE PRICE INDEX	373
XXXI. PLURALITY OF PRICE CHANGES COMPARED TO A WHOLE-	
SALE PRICE INDEX	374
XXXII. DEPARTMENT STORE SALES COMPARED TO L. C. L. CAR-	
LOADINGS	377
XXXIII. NATIONAL INCOME PRODUCED BY INDUSTRIAL DIVI-	
SIONS	380
XXXIV. NATIONAL INCOME PRODUCED COMPARED TO NATIONAL	
INCOME PAID OUT	381
XXXV. SECONDARY COURTE IN THE UNITED STATES	395

CONTENTS	xi ii
•	PAGE
XXXVI. GROWTH OF LONG-TERM DEBT IN THE UNITED STATES.	405
XXXVII. BOND PRICES, STOCK PRICES, AND BUSINESS ACTIVITY.	419
XXXVIII. THE PRE-WAR HARVARD INDEX CHART	438
XXXIX. THE POST-WAR HARVARD INDEX CHART	440
XL. RELATION OF PRODUCTION AND PRICE OF POTATOES	474
TABLES	
I. Frequency Tables, Arranged by Months, of Relatives	
Found by Expressing the Item for Each Month as a	
Percentage of the Item for the Preceding Month	14
II. Assumptions Made by Equations Commonly Used to	
Measure the Long-Time Trend	43
III. HYPOTHETICAL ILLUSTRATION OF DERIVED DEMAND	100
IV. A LIST OF CRISES IN ENGLAND FROM 1558 TO 1720	158
V. LENGTH OF BUSINESS CYCLES IN THE UNITED STATES	165
VI. LENGTH OF CYCLE PHASES IN THE UNITED STATES	169
VII. LENGTH OF CYCLE PHASES RELATED TO MAJOR AND MINOR	
Depressions	170
VIII. Amplitude of Business Cycle Fluctuations	174
IX. Dates of the Beginning of Business Recession	177
X. United States Cycles Compared to Those of Other	
Countries	178
XI. WEIGHTS USED IN INDEXES OF BUSINESS ACTIVITY	344
XII. THE NEW YORK TIMES WEEKLY BUSINESS INDEX	346
XIII. Typical Timing Relationships	425

A	Bank debits, 350, 379, 382, 439
Accounting system, proposal for change, 275-276	as a measure of business activity, 341-342
Adams, A. B., 145, 149-150, 154	timing of, 422
Aftalion, Albert, 148, 151, 154	Bank deposits
Agricultural Adjustment Act, 245	timing of, 422, 425
Agricultural conditions	turnover, 403, 404
depressed, 184, 190	as a measure of confidence, 409-410
effect on the business cycle, 389	Bank failures, 232, 234, 238, 240-243,
Agricultural cycle, 150	260, 1 08
Agricultural maiadjustment, 250-251	in 1930, 228
Agricultural overproduction, 87	in 1931, 231
Agricultural price forecasting, 472-476	Bank investments, 402-403, 423
need for, 484-485	timing of, 422-423, 425
Agricultural prices, amplitude of move- ment, 428	Bank loans, 204-205, 217-218, 225, 228, 249, 305, 399-402
American Telephone and Telegraph Co.,	classification of, 399-401
549, 361n	timing of, 422, 425
Index of General Business Conditions,	Bank reserves, excess, 397
3 93-39 5	Bank suspension, unlawful, 186
American Tobacco Co., 197	Banking holidays, 241-243, 260
Amplitude	Baranovski, M. Tugan, 147
adequacy of measurements, 426	Barber, J. H., 470
compared to timing relationships, 429-	Baring crisis, 191-192
431	Barometers, business, 321 ff.
measurements of, 354-360, 426-429	defined, 321-322
use in forecasting, 449-450, 458-459	Basle conference, 235
Andrew, S. L., 465, 466n, 467, 484n	Bean, Louis, 91n
Angell, J. W., 290n	Beney, M. A., 375n
Annalist Index of Business Activity, 343-345	Bercaw, L. O., 488
Annalist Index of Sensitive Prices, 373	Berle, A. A., 262, 307 Bernays, E. L., 409
	Bernheim, A. L., 488
Commodity Prices, 370-372	Bland-Allison Act, 188
Anti-trust legislation, 302	Bliss, C. A., 217
Arnold, J. R., 405n	Blodgett, R. H., 362n
Automobile models, effect on business	Bond prices, 367-368 (see also Bond
index, 23n	yields)
Automobile production	during depression, 133-134
seasonal in, 23	timing of, 442-443
timing of, 416, 425	Bond refunding, 133-134, 136
Axe, E. W., 139	Bond yields, 77-78, 418-419, 425
Ayres, L. P., 68, 84n, 139, 161, 179-180,	amplitude of movement, 427
241, 242, 256n, 262, 307, 354-355, 357	timing of, 429, 442-443
<u>•</u>	Borden Company, 24
В	Bouniatian, Mentor, 148, 154, 159n
Babson, R. W., 210, 390, 410, 470	Bradford, F. A., 237n, 393n, 398n, 411
Babson Statistical Organization, 436-437.	Brady, R. A., 307
400	Bratt, E. C., 45n, 49n, 63n, 68
Balance, lack of, 58-60	Brety, P. R., 488
Bank clearings, 379, 438-439	British business cycles, index of, 163, 164
Bank credit soundness, 402	Broker's loans, 400-401

Brookmire Economic Service, 438, 446,	cross-cut analysis, 435-437
465	cycle hypothesis, 450, 460
Brumbaugh, M. A., 75n	cyclical sequence, 437
Budget forecasting, 462	demand and supply, 453-454, 455
Building boom of the twenties, 214, 248	differences in amplitude, 449-450
Bullock, C. J., 390n	historical comparison, 437-443
Bureau of Labor Statistics Index of Fac-	law of action and reaction, 437, 469,
tory Employment, 336-338, 345, 360 Bureau of Labor Statistics Index of	486
Bureau of Labor Statistics Index of	most adequate, 458-460
Wholesale Commodity Prices, 369, 370-	prediction by analogy, 437
373	prediction by formula, 437
Burns, A. F., 46-48, 68, 78n	specific historical analogy, 450-451
Bursk, J. P., 32	steel industry forecast, 451
Business Annals, 159 ff.	summary of individual industries, 451
Business conditions, criteria of a sensitive measure, 329-334	three markets chart, 437-443
Business confidence, measures of, 409-410	Business cycle theories, 90-94, 114-115, 137, 141 ff., 271-275, 284 ff., 389-390,
Business cycle(s)	420-421, 429-430, 432-434
amplitude of, 56-57, 172-174	classification of, 153
average, 413	Business failures, 122, 136, 138, 467
beginning of, 159	as a measure of business confidence,
characteristic fluctuations, 413-431	410
conditioning causes, 99n	measures of, 408-409
confused with crises, 97	timing of, 423, 425
contribution of statistical analysis, 81-	Business insolvency, measures of, 408-409
82	Business responses to originating causes,
control of, 264 ff.	85-86, 97, 114 ff., 433-434
defined, 84	Buy now campaigns, 304-305
desirability of, 296-297, 310 ff.	C
factors determining violence, 261-262	•
fluctuation, mechanical comparability,	Calendar,
76-78 future of, 260-261	International fixed, 9
	World, 9
industrial developments responsible, 156	Calendar reform, 9
industrial developments responsible, 156 international agreement, 178	Calendar reform, 9 Callander, W. F., 473n
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff.	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff.	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff. method of measuring, 70-76	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff.	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n Capacity production, 275-276
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff. method of measuring, 70-76 effect of specific seasonal on, 75	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n Capacity production, 275-276 measures of, 387-388
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff. method of measuring, 70-76 effect of specific seasonal on, 75 relation to forecast of trend and seasonal, 75-76, 486-488 originating causes, 86 ff.	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n Capacity production, 275-276 measures of, 387-388 unused, 102-103, 122
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff. method of measuring, 70-76 effect of specific seasonal on, 75 relation to forecast of trend and seasonal, 75-76, 486-488 originating causes, 86 ff. phases, 115-116	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n Capacity production, 275-276 measures of, 387-388 unused, 102-103, 122 Capacity to produce, 49
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff. method of measuring, 70-76 effect of specific seasonal on, 75 relation to forecast of trend and seasonal, 75-76, 486-488 originating causes, 86 ff. phases, 115-116 of decline, 128-136	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n Capacity production, 275-276 measures of, 387-388 unused, 102-103, 122 Capacity to produce, 49 Capital, time concentration of production, 111-113, 122-123
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff. method of measuring, 70-76 effect of specific seasonal on, 75 relation to forecast of trend and seasonal, 75-76, 486-488 originating causes, 86 ff. phases, 115-116 of decline, 128-136 of incline, 116-128	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n Capacity production, 275-276 measures of, 387-388 unused, 102-103, 122 Capacity to produce, 49 Capital, time concentration of production, 111-113, 122-123 Capital charges, 103-106
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff. method of measuring, 70-76 effect of specific seasonal on, 75 relation to forecast of trend and seasonal, 75-76, 486-488 originating causes, 86 ff. phases, 115-116 of decline, 128-136 of incline, 116-128 psychological theories, 114-115, 142,	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n Capacity production, 275-276 measures of, 387-388 unused, 102-103, 122 Capacity to produce, 49 Capital, time concentration of production, 111-113, 122-123 Capital charges, 103-106 Capital goods production, 103, 313-314
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff. method of measuring, 70-76 effect of specific seasonal on, 75 relation to forecast of trend and seasonal, 75-76, 486-488 originating causes, 86 ff. phases, 115-116 of decline, 128-136 of incline, 116-128 psychological theories, 114-115, 142, 146, 435-436, 467	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n Capacity production, 275-276 measures of, 387-388 unused, 102-103, 122 Capacity to produce, 49 Capital, time concentration of production, 111-113, 122-123 Capital charges, 103-106 Capital goods production, 103, 313-314 (see also Durable goods production)
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff. method of measuring, 70-76 effect of specific seasonal on, 75 relation to forecast of trend and seasonal, 75-76, 486-488 originating causes, 86 ff. phases, 115-116 of decline, 128-136 of incline, 128-136 of incline, 116-128 psychological theories, 114-115, 142, 146, 435-436, 467 violence of, 101, 328-329	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n Capacity production, 275-276 measures of, 387-388 unused, 102-103, 122 Capacity to produce, 49 Capital, time concentration of production, 111-113, 122-123 Capital charges, 103-106 Capital goods production, 103, 313-314 (see also Durable goods production) cyclical amplitude, 354-360
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff. method of measuring, 70-76 effect of specific seasonal on, 75 relation to forecast of trend and seasonal, 75-76, 486-488 originating causes, 86 ff. phases, 115-116 of decline, 128-136 of incline, 116-128 psychological theories, 114-115, 142, 146, 435-436, 467 violence of, 101, 328-329 Business cycle forecasting	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n Capacity production, 275-276 measures of, 387-388 unused, 102-103, 122 Capacity to produce, 49 Capital, time concentration of production, 111-113, 122-123 Capital charges, 103-106 Capital goods production, 103, 313-314 (see also Durable goods production) cyclical amplitude, 354-360 subsidizing, 281-283
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff. method of measuring, 70-76 effect of specific seasonal on, 75 relation to forecast of trend and seasonal, 75-76, 486-488 originating causes, 86 ff. phases, 115-116 of decline, 128-136 of incline, 116-128 psychological theories, 114-115, 142, 146, 435-436, 467 violence of, 101, 328-329 Business cycle forecasting adequacy of, 464-467	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n Capacity production, 275-276 measures of, 387-388 unused, 102-103, 122 Capacity to produce, 49 Capital, time concentration of production, 111-113, 122-123 Capital charges, 103-106 Capital goods production, 103, 313-314 (see also Durable goods production) cyclical amplitude, 354-360 subsidizing, 281-283 timing of, 423
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff. method of measuring, 70-76 effect of specific seasonal on, 75 relation to forecast of trend and seasonal, 75-76, 486-488 originating causes, 86 ff. phases, 115-116 of decline, 128-136 of incline, 116-128 psychological theories, 114-115, 142, 146, 435-436, 467 violence of, 101, 328-329 Business cycle forecasting adequacy of, 464-467 basis of, 432-435	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n Capacity production, 275-276 measures of, 387-388 unused, 102-103, 122 Capacity to produce, 49 Capital, time concentration of production, 111-113, 122-123 Capital charges, 103-106 Capital goods production, 103, 313-314 (see also Durable goods production) cyclical amplitude, 354-360 subsidizing, 281-283 timing of, 423 Capital life, length of, effect on depres-
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff. method of measuring, 70-76 effect of specific seasonal on, 75 relation to forecast of trend and seasonal, 75-76, 486-488 originating causes, 86 ff. phases, 115-116 of decline, 128-136 of incline, 116-128 psychological theories, 114-115, 142, 146, 435-436, 467 violence of, 101, 328-329 Business cycle forecasting adequacy of, 464-467	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n Capacity production, 275-276 measures of, 387-388 unused, 102-103, 122 Capacity to produce, 49 Capital, time concentration of production, 111-113, 122-123 Capital charges, 103-106 Capital goods production, 103, 313-314 (see also Durable goods production) cyclical amplitude, 354-360 subsidizing, 281-283 timing of, 423 Capital life, length of, effect on depressions, 104-105
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff. method of measuring, 70-76 effect of specific seasonal on, 75 relation to forecast of trend and seasonal, 75-76, 486-488 originating causes, 86 ff. phases, 115-116 of decline, 128-136 of incline, 116-128 psychological theories, 114-115, 142, 146, 435-436, 467 violence of, 101, 328-329 Business cycle forecasting adequacy of, 464-467 basis of, 432-435 meaning, 432	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n Capacity production, 275-276 measures of, 387-388 unused, 102-103, 122 Capacity to produce, 49 Capital, time concentration of production, 111-113, 122-123 Capital charges, 103-106 Capital goods production, 103, 313-314 (see also Durable goods production) cyclical amplitude, 354-360 subsidizing, 281-283 timing of, 423 Capital life, length of, effect on depressions, 104-105 Carloadings, 16
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff. method of measuring, 70-76 effect of specific seasonal on, 75 relation to forecast of trend and seasonal, 75-76, 486-488 originating causes, 86 ff. phases, 115-116 of decline, 128-136 of incline, 116-128 psychological theories, 114-115, 142, 146, 435-436, 467 violence of, 101, 328-329 Business cycle forecasting adequacy of, 464-467 basis of, 432-435 meaning, 432 nature of useful, 457-461 relation to stabilization, 457-458 to eliminate the cycle, 467-470	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n Capacity production, 275-276 measures of, 387-388 unused, 102-103, 122 Capacity to produce, 49 Capital, time concentration of production, 111-113, 122-123 Capital charges, 103-106 Capital goods production, 103, 313-314 (see also Durable goods production) cyclical amplitude, 354-360 subsidizing, 281-283 timing of, 423 Capital life, length of, effect on depressions, 104-105 Carloadings, 16 as a measure of business, 339-340
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff. method of measuring, 70-76 effect of specific seasonal on, 75 relation to forecast of trend and seasonal, 75-76, 486-488 originating causes, 86 ff. phases, 115-116 of decline, 128-136 of incline, 116-128 psychological theories, 114-115, 142, 146, 435-436, 467 violence of, 101, 328-329 Business cycle forecasting adequacy of, 464-467 basis of, 432-435 meaning, 432 nature of useful, 457-461 relation to stabilization, 457-458 to eliminate the cycle, 467-470 use of, 461-463	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n Capacity production, 275-276 measures of, 387-388 unused, 102-103, 122 Capacity to produce, 49 Capital, time concentration of production, 111-113, 122-123 Capital charges, 103-106 Capital goods production, 103, 313-314 (see also Durable goods production) cyclical amplitude, 354-360 subsidizing, 281-283 timing of, 423 Capital life, length of, effect on depressions, 104-105 Carloadings, 16 as a measure of business, 339-340 merchandise, 377-378
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff. method of measuring, 70-76 effect of specific seasonal on, 75 relation to forecast of trend and seasonal, 75-76, 486-488 originating causes, 86 ff. phases, 115-116 of decline, 128-136 of incline, 116-128 psychological theories, 114-115, 142, 146, 435-436, 467 violence of, 101, 328-329 Business cycle forecasting adequacy of, 464-467 basis of, 432-435 meaning, 432 nature of useful, 457-461 relation to stabilization, 457-458 to eliminate the cycle, 467-470 use of, 461-463 use of mechanical techniques, 80-81	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n Capacity production, 275-276 measures of, 387-388 unused, 102-103, 122 Capacity to produce, 49 Capital, time concentration of production, 111-113, 122-123 Capital charges, 103-106 Capital goods production, 103, 313-314 (see also Durable goods production) cyclical amplitude, 354-360 subsidizing, 281-283 timing of, 423 Capital life, length of, effect on depressions, 104-105 Carloadings, 16 as a measure of business, 339-340 merchandise, 377-378 Carothers, Neil, 262
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff. method of measuring, 70-76 effect of specific seasonal on, 75 relation to forecast of trend and seasonal, 75-76, 486-488 originating causes, 86 ff. phases, 115-116 of decline, 128-136 of incline, 116-128 psychological theories, 114-115, 142, 146, 435-436, 467 violence of, 101, 328-329 Business cycle forecasting adequacy of, 464-467 basis of, 432-435 meaning, 432 nature of useful, 457-461 relation to stabilization, 457-458 to eliminate the cycle, 467-470 use of, 461-463 use of mechanical techniques, 80-81 Business cycle forecasting, methods of	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n Capacity production, 275-276 measures of, 387-388 unused, 102-103, 122 Capacity to produce, 49 Capital, time concentration of production, 111-113, 122-123 Capital charges, 103-106 Capital goods production, 103, 313-314 (see also Durable goods production) cyclical amplitude, 354-360 subsidizing, 281-283 timing of, 423 Capital life, length of, effect on depressions, 104-105 Carloadings, 16 as a measure of business, 339-340 merchandisc, 377-378 Carothers, Neil, 262 Case, W. W., 421n
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff. method of measuring, 70-76 effect of specific seasonal on, 75 relation to forecast of trend and seasonal, 75-76, 486-488 originating causes, 86 ff. phases, 115-116 of decline, 128-136 of incline, 116-128 psychological theories, 114-115, 142, 146, 435-436, 467 violence of, 101, 328-329 Business cycle forecasting adequacy of, 464-467 basis of, 432-435 meaning, 432 nature of useful, 457-461 relation to stabilization, 457-458 to eliminate the cycle, 467-470 use of, 461-463 use of mechanical techniques, 80-81 Business cycle forecasting, methods of by forecasting outlet industries, 452-	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n Capacity production, 275-276 measures of, 387-388 unused, 102-103, 122 Capacity to produce, 49 Capital, time concentration of production, 111-113, 122-123 Capital charges, 103-106 Capital goods production, 103, 313-314 (see also Durable goods production) cyclical amplitude, 354-360 subsidizing, 281-283 timing of, 423 Capital life, length of, effect on depressions, 104-105 Carloadings, 16 as a measure of business, 339-340 merchandise, 377-378 Carothers, Neil, 262 Case, W. W., 421n Cassel, Gustav, 319
industrial developments responsible, 156 international agreement, 178 in various countries, 177-179 length of, 163 ff. length of phases, 167 ff. method of measuring, 70-76 effect of specific seasonal on, 75 relation to forecast of trend and seasonal, 75-76, 486-488 originating causes, 86 ff. phases, 115-116 of decline, 128-136 of incline, 116-128 psychological theories, 114-115, 142, 146, 435-436, 467 violence of, 101, 328-329 Business cycle forecasting adequacy of, 464-467 basis of, 432-435 meaning, 432 nature of useful, 457-461 relation to stabilization, 457-458 to eliminate the cycle, 467-470 use of, 461-463 use of mechanical techniques, 80-81 Business cycle forecasting, methods of	Calendar reform, 9 Callander, W. F., 473n Campbell, C. E., 488 Campbell Soup Company, 25 Canadian Wheat Pool, 227, 229 Cannan, Edwin, 51n Capacity production, 275-276 measures of, 387-388 unused, 102-103, 122 Capacity to produce, 49 Capital, time concentration of production, 111-113, 122-123 Capital charges, 103-106 Capital goods production, 103, 313-314 (see also Durable goods production) cyclical amplitude, 354-360 subsidizing, 281-283 timing of, 423 Capital life, length of, effect on depressions, 104-105 Carloadings, 16 as a measure of business, 339-340 merchandisc, 377-378 Carothers, Neil, 262 Case, W. W., 421n

Census of manufactures, incompleteness
of, 337 Central bank, general purpose of, 393- 394
Central Statistical Board, 372 Chaddock, R. E., 186n
Chain store sales, 377-378
Chase, Stuart, 300, 301 Chawner, L. J., 359n
Clark, Evans, 404, 405n
Clark, Evans, 404, 405n Clark, J. M., 86, 99n, 139, 210n, 275n, 307, 414n, 417n, 418n, 423, 431
Clarke, Hyde, 317-318 Clearing house certificates, 187-188
Clothing industry, seasonal variation in,
Coefficient of expansion, 285-286
Cole, A. H., 210 Cole, G. D. H., 307
Columbia University Commission, 262
Comer, H. D., 466n Commercial loans, 401
Common stock prices, 368-369
Communistic communities as a cure for depressions, 294-296
Competition in industry, disadvantages of, 301-302
Compound interest curve, 43
Confidence, measures of, 409-410 Construction, tax exemption of, 306
Construction contracts, 350, 359
Construction cost indexes, 359n
Construction industry, seasonal variations in, 12
Consumer purchases, measures of, 376- 378
Consumer wants as cause of the business cycle, 91-92
Consumers' goods cyclical amplitude, 354-360
timing of, 423
Consumption habits, 123-126 Contraction Law of 1866, 187
Control of cyclical movements, 264-266
and forecasting, 432, 463
Coolidge-Smith Committee, 240 Copeland, M. A., 382n
Copeland, M. A., 382n Corn-hog cycle, 302-303 Correlation, use in determining lags, 416
Correlation coefficients, use in forecasting,
443-444 Cost of living index, 375-376
Costs compared to prices, 218-219
Corta
Cowin, R. B., 34n
Cowles, Alfred, 484n, 488
Cowden, D. J., 17n Cowin, R. B., 34n Cowles, Alfred, 484n, 488 Cox, G. V., 82, 139, 350n, 352, 378n, 391, 411, 431, 435, 437n, 438n, 439n, 446n, 450n, 465-466, 467, 470 Credit as cause of the business cycle, 108-
446n, 450n, 465-466, 467, 470
Credit as cause of the business cycle, 108- 111

Credit control, 284 ff., 394 ff., 441 measure of effectiveness, 403-404 Credit expansion, 123, 148, 316 Creditanstalt Bank in Austria, 230 Crises, early, 157-158 Crises, nineteenth century concept of, 97 Crisis of 1931, 254 Critical levels, 81, 448-449 use in forecasting, 458-459 Crops favorable, 185, 189, 192, 194, 202, 207 unfavorable, 184, 205, 205-206, 227, 228-229, 233, 254 Cross-cut analysis, 435-437 Crowder, W. F., 166n Croxton, F. E., 17n Crum, W. L., 79n, 452 Curves, trend free-hand, 40-41 mathematical, 43 Cycle hypothesis, 450, 460 Cycles. in individual processes, 302-303 of various lengths, 150-151, 254-255 D Data type available, 322-324 value of in studying economic change. 324-325 Davies, G. R., 166n, 263, 416n Day, E. E., 46n, 437n Deficit savings, 110-111, Deficits, government, 292-294 Deflation as cure for depressions, 267-271, 436 forced, 5 prevention of, 138, 223 ff., 257, 304, 312-313, 316-319, 428-429 Deflation technique, 37n, 79, 328, 341-342, 475 Demand nature of, 53-54 sufficiency of to create prosperity, 131-133, 134-135 Dennis, S. J., 373, 421n Dennison, H. S., 147, 154 Department store sales, 14-15, 350, 376-377 Depreciation effect on production of capital in depressions, 104-105 effect on financial markets, 134-135 Depression(s) control of, 223 ff.

depth of, 57 description of, 181 ff. effects of tariffs on, 95-96 forces making for, 119-128 major, 170-172 minor, 170-172

of 1884-85, 451n

of 1893-95, 175-176, 195	Edie, L. D., 404, 405n
of 1903-04, 176, 195-196	Efficiency of labor, 126-127, 135, 331
of 1908, 176, 196	Efficiency of selling and distribution, 55.
of 1921, 176, 200-201, 450	56
of 1930-36, 212 ff.	Electric power production as a measure
phase defined, 167, 168	of business, 338-339
relation of length to price level, 94	Ellsworth, D. W., 483n
severity of, 101	Emotional aberration, 114-115, 142, 146,
world wide, 175-180	435-436, 467
Derived demand for durable goods, 99 ff.,	Employables, measures of, 387
126	Employment
Derived effects of schemes for artificial	amplitude of movement, 428
control, 264 ff.	as affected by the price seasonal, 23, 28
Devaluation, profit from, 397	as a measure of business, 330-331
Dewey, D. R., 210	index of, 336-338
Dewing, A. S., 233n	Employment bureaus, national, 305
Difference series, 102, 445-448	Engel's Law, 124
Dividend payments	England, Minnie T., 144, 154, 319
amplitude of movement, 428	English crises, early, 158
measures of, 383	English economic council, 299
timing of, 422, 425	Episodic theories of the cycle, 145-146
Dividend yields, cyclical variation, 105	Equation of exchange, 403
Dodge Co., F. W., 350n, 359	Erratic fluctuation, mechanical elimina-
Douglas, Paul, 148-149, 203n, 262, 286n,	tion of, 79-80
307	European crisis of 1931, 229-232, 254
Dow theory, 481-482	Excess reserves of member banks, 397
Dunnigan, William, 431, 481n, 483, 488-	Excess savings, 110-111, 123
489	Exhortation, to produce recovery, 303-305
Durable consumers' goods, increase in,	Exports, 390
202	as a measure of business conditions, 89
Durable goods production, 57, 252-253,	the R lifetial of District voliditions, vi
301. 313-314	F
301, 313-314	
301, 313-314 accentuated cyclical fluctuation, 272-	Failures (see Business failures, Bank fail-
301, 313-314 accentuated cyclical fluctuation, 272- 273	Failures (see Business failures, Bank failures)
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427	Failures (see Business failures, Bank fail- ures) Fairchild's Index of the Price of Depart-
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods produc-	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods production, 125-126, 131-133, 354-360	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods production, 125-126, 131-133, 354-360 cyclical amplitude, 354-360	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods production, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods produc- tion, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods produc- tion, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224 intensified fluctuation of derived de-	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246 Farm price forecasting, 472-476
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods production, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224 intensified fluctuation of derived demand, 61	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246 Farm price forecasting, 472-476 Farrell, J. A., 457n
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods production, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224 intensified fluctuation of derived demand, 61 measures of, 354-360, 407	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246 Farm price forecasting, 472-476 Farrell, J. A., 457n Feldman, H., 8, 32
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods produc- tion, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224 intensified fluctuation of derived de- mand, 61 measures of, 354-360, 407 speculative production, 103	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246 Farm price forecasting, 472-476 Farrell, J. A., 457n Feldman, H., 8, 32 Federal Reserve Board, 17n
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods produc- tion, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224 intensified fluctuation of derived de- mand, 61 measures of, 354-360, 407 speculative production, 103 subsidizing, 281-283	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246 Farm price forecasting, 472-476 Farrell, J. A., 457n Feldman, H., 8, 32 Federal Reserve Board, 17n control of prices, 284 ff., 394 ff., 441
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods produc- tion, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224 intensified fluctuation of derived de- mand, 61 measures of, 354-360, 407 speculative production, 103 subsidizing, 281-283 timing of, 416-417, 423	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246 Farm price forecasting, 472-476 Farrell, J. A., 457n Feldman, H., 8, 32 Federal Reserve Board, 17n control of prices, 284 ff., 394 ff., 441
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods production, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224 intensified fluctuation of derived demand, 61 measures of, 354-360, 407 speculative production, 103 subsidizing, 281-283 timing of, 416-417, 423 violence of fluctuation, 146-147, 148-	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246 Farm price forecasting, 472-476 Farrell, J. A., 457n Feldman, H., 8, 32 Federal Reserve Board, 17n control of prices, 284 ff., 394 ff., 441 Index of Industrial Production, 334- 336, 345, 360
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods produc- tion, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224 intensified fluctuation of derived de- mand, 61 measures of, 354-360, 407 speculative production, 103 subsidizing, 281-283 timing of, 416-417, 423 violence of fluctuation, 146-147, 148- 149, 354-360	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246 Farm price forecasting, 472-476 Farnell, J. A., 457n Feldman, H., 8, 32 Federal Reserve Board, 17n control of prices, 284 ff., 394 ff., 441 Index of Industrial Production, 334- 336, 345, 360 Fetter, F. A., 307
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods produc- tion, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224 intensified fluctuation of derived de- mand, 61 measurea of, 354-360, 407 speculative production, 103 subsidizing, 281-283 timing of, 416-417, 423 violence of fluctuation, 146-147, 148- 149, 354-360 Durand, E. D., 210	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246 Farm price forecasting, 472-476 Farrell, J. A., 457n Feldman, H., 8, 32 Federal Reserve Board, 17n control of prices, 284 ff., 394 ff., 441 Index of Industrial Production, 334- 336, 345, 360 Fetter, F. A., 307 Financial houses in the twenties, 249
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods produc- tion, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224 intensified fluctuation of derived de- mand, 61 measures of, 354-360, 407 speculative production, 103 subsidizing, 281-283 timing of, 416-417, 423 violence of fluctuation, 146-147, 148- 149, 354-360	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246 Farm price forecasting, 472-476 Farrell, J. A., 457n Feldman, H., 8, 32 Federal Reserve Board, 17n control of prices, 284 ff., 394 ff., 441 Index of Industrial Production, 334- 336, 345, 360 Fetter, F. A., 307 Financial houses in the twenties, 249 Financial organizations in 1929, 216-218
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods produc- tion, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224 intensified fluctuation of derived de- mand, 61 measures of, 354-360, 407 speculative production, 103 subsidizing, 281-283 timing of, 416-417, 423 violence of fluctuation, 146-147, 148- 149, 354-360 Durand, E. D., 210 E	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246 Farm price forecasting, 472-476 Farrell, J. A., 457n Feldman, H., 8, 32 Federal Reserve Board, 17n control of prices, 284 ff., 394 ff., 441 Index of Industrial Production, 334- 336, 345, 360 Fetter, F. A., 307 Financial houses in the twenties, 249 Financial organizations in 1929, 216-218 Financing business in depression, 103-106
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods production, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224 intensified fluctuation of derived demand, 61 measures of, 354-360, 407 speculative production, 103 subsidizing, 281-283 timing of, 416-417, 423 violence of fluctuation, 146-147, 148- 149, 354-360 Durand, E. D., 210 E Eastman, R. M., 347n, 349n Easy money policies, 284 ff., 462	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246 Farm price forecasting, 472-476 Farrell, J. A., 457n Feldman, H., 8, 32 Federal Reserve Board, 17n control of prices, 284 ff., 394 ff., 441 Index of Industrial Production, 334-336, 345, 360 Fetter, F. A., 307 Financial houses in the twenties, 249 Financial organizations in 1929, 216-218 Financing business in depression, 103-106 Fisher, Irving, 139, 145, 154, 262, 370.
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods production, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224 intensified fluctuation of derived demand, 61 measures of, 354-360, 407 speculative production, 103 subsidizing, 281-283 timing of, 416-417, 423 violence of fluctuation, 146-147, 148- 149, 354-360 Durand, E. D., 210 E Eastman, R. M., 347n, 349n	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246 Farm price forecasting, 472-476 Farrell, J. A., 457n Feldman, H., 8, 32 Federal Reserve Board, 17n control of prices, 284 ff., 394 ff., 441 Index of Industrial Production, 334-336, 345, 360 Fetter, F. A., 307 Financial houses in the twenties, 249 Financial organizations in 1929, 216-218 Financing business in depression, 103-106 Fisher, Irving, 139, 145, 154, 262, 370, 403, 444
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods produc- tion, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224 intensified fluctuation of derived de- mand, 61 measures of, 354-360, 407 speculative production, 103 subsidizing, 281-283 timing of, 416-417, 423 violence of fluctuation, 146-147, 148- 149, 354-360 Durand, E. D., 210 E Eastman, R. M., 347n, 349n Easy money policies, 284 ff., 462 test of, 403-404 Eberle Economic Service, 349n	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246 Farm price forecasting, 472-476 Farrell, J. A., 457n Feldman, H., 8, 32 Federal Reserve Board, 17n control of prices, 284 ff., 394 ff., 441 Index of Industrial Production, 334- 336, 345, 360 Fetter, F. A., 307 Financial houses in the twenties, 249 Financial organizations in 1929, 216-218 Financing business in depression, 103-106 Fisher, Irving, 139, 145, 154, 262, 370, 403, 444 Fisher's Wholesale Price Index, 370, 374
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods produc- tion, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224 intensified fluctuation of derived de- mand, 61 measures of, 354-360, 407 speculative production, 103 subsidizing, 281-283 timing of, 416-417, 423 violence of fluctuation, 146-147, 148- 149, 354-360 Durand, E. D., 210 E Eastman, R. M., 347n, 349n Easy money policies, 284 ff., 462 test of, 403-404 Eberle Economic Service, 349n	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246 Farm price forecasting, 472-476 Farrell, J. A., 457n Feldman, H., 8, 32 Federal Reserve Board, 17n control of prices, 284 ff., 394 ff., 441 Index of Industrial Production, 334- 336, 345, 360 Fetter, F. A., 307 Financial houses in the twenties, 249 Financial organizations in 1929, 216-218 Financing business in depression, 103-106 Fisher, Irving, 139, 145, 154, 262, 370, 403, 444 Fisher's Wholesale Price Index, 370, 374 Fletcher-Rayburn Bill, 246
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods produc- tion, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224 intensified fluctuation of derived de- mand, 61 measures of, 354-360, 407 speculative production, 103 subsidizing, 281-283 timing of, 416-417, 423 violence of fluctuation, 146-147, 148- 149, 354-360 Durand, E. D., 210 E Eastman, R. M., 347n, 349n Easy money policies, 284 ff., 462 test of, 403-404	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246 Farm price forecasting, 472-476 Farrell, J. A., 457n Feldman, H., 8, 32 Federal Reserve Board, 17n control of prices, 284 ff., 394 ff., 441 Index of Industrial Production, 334- 336, 345, 360 Fetter, F. A., 307 Financial houses in the twenties, 249 Financial organizations in 1929, 216-218 Financing business in depression, 103-106 Fisher, Irving, 139, 145, 154, 262, 370, 403, 444 Fisher's Wholesale Price Index, 370, 374 Fletcher-Rayburn Bill, 246 Flinn, H. M., 465, 466n, 467, 484n
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods production, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224 intensified fluctuation of derived demand, 61 measures of, 354-360, 407 speculative production, 103 subsidizing, 281-283 timing of, 416-417, 423 violence of fluctuation, 146-147, 148- 149, 354-360 Durand, E. D., 210 E Eastman, R. M., 347n, 349n Easy money policies, 284 fl., 462 test of, 403-404 Eberle Economic Service, 349n Economic activity, processes of, 360-366 Economic change, types of, 1-2, 5-6 Economic councils, 298-299	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246 Farm price forecasting, 472-476 Farrell, J. A., 457n Feldman, H., 8, 32 Federal Reserve Board, 17n control of prices, 284 ff., 394 ff., 441 Index of Industrial Production, 334-336, 345, 360 Fetter, F. A., 307 Financial houses in the twenties, 249 Financial organizations in 1929, 216-218 Financial organizations in 1929, 216-218 Financing business in depression, 103-106 Fisher, Irving, 139, 145, 154, 262, 370, 403, 444 Fisher's Wholesale Price Index, 370, 374 Fletcher-Rayburn Bill, 246 Flinn, H. M., 465, 466n, 467, 484n Fluctuations in economic processes, am-
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods produc- tion, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224 intensified fluctuation of derived de- mand, 61 measures of, 354-360, 407 speculative production, 103 subsidizing, 281-283 timing of, 416-417, 423 violence of fluctuation, 146-147, 148- 149, 354-360 Durand, E. D., 210 E Eastman, R. M., 347n, 349n Easy money policies, 284 ff., 462 test of, 403-404 Eberle Economic Service, 349n Economic activity, processes of, 360-366 Economic change, types of, 1-2, 5-6	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246 Farm price forecasting, 472-476 Farrell, J. A., 457n Feldman, H., 8, 32 Federal Reserve Board, 17n control of prices, 284 ff., 394 ff., 441 Index of Industrial Production, 334- 336, 345, 360 Fetter, F. A., 307 Financial houses in the twenties, 249 Financial organizations in 1929, 216-218 Financing business in depression, 103-106 Fisher, Irving, 139, 145, 154, 262, 370, 403, 444 Fisher's Wholesale Price Index, 370, 374 Fletcher-Rayburn Bill, 246 Flino, H. M., 465, 466n, 467, 484n Fluctuations in economic processes, amplitude of, 426-429
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods produc- tion, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224 intensified fluctuation of derived de- mand, 61 measures of, 354-360, 407 speculative production, 103 subsidizing, 281-283 timing of, 416-417, 423 violence of fluctuation, 146-147, 148- 149, 354-360 Durand, E. D., 210 E Eastman, R. M., 347n, 349n Easy money policies, 284 ff., 462 test of, 403-404 Eberle Economic Service, 349n Economic activity, processes of, 360-366 Economic change, types of, 1-2, 5-6 Economic councils, 298-299 Economic plans for the United States, 299 ff.	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246 Farm price forecasting, 472-476 Farrell, J. A., 457n Feldman, H., 8, 32 Federal Reserve Board, 17n control of prices, 284 ff., 394 ff., 441 Index of Industrial Production, 334- 336, 345, 360 Fetter, F. A., 307 Financial houses in the twenties, 249 Financial organizations in 1929, 216-218 Financing business in depression, 103-106 Fisher, Irving, 139, 145, 154, 262, 370, 403, 444 Fisher's Wholesale Price Index, 370, 374 Fletcher-Rayburn Bill, 246 Flinn, H. M., 465, 466n, 467, 484n Fluctuations in economic processes, amplitude of, 426-429 Flynn, J. T., 300n
301, 313-314 accentuated cyclical fluctuation, 272- 273 amplitude of movement, 426-427 and credit expansion, 109-110 compared to short-lived goods produc- tion, 125-126, 131-133, 354-360 cyclical amplitude, 354-360 importance in the cycle, 118 in 1930, 224 intensified fluctuation of derived de- mand, 61 measures of, 354-360, 407 speculative production, 103 subsidizing, 281-283 timing of, 416-417, 423 violence of fluctuation, 146-147, 148- 149, 354-360 Durand, E. D., 210 E Eastman, R. M., 347n, 349n Easy money policies, 284 ff., 462 test of, 403-404 Eberle Economic Service, 349n Economic activity, processes of, 360-366 Economic change, types of, 1-2, 5-6 Economic councils, 298-299 Economic plans for the United States,	Failures (see Business failures, Bank failures) Fairchild's Index of the Price of Department Store Articles, 376 Farm machinery forecasting, 476 Farm marketings cash income, 389 quantity of, 389 Farm Mortgage Act, 246 Farm price forecasting, 472-476 Farrell, J. A., 457n Feldman, H., 8, 32 Federal Reserve Board, 17n control of prices, 284 ff., 394 ff., 441 Index of Industrial Production, 334- 336, 345, 360 Fetter, F. A., 307 Financial houses in the twenties, 249 Financial organizations in 1929, 216-218 Financing business in depression, 103-106 Fisher, Irving, 139, 145, 154, 262, 370, 403, 444 Fisher's Wholesale Price Index, 370, 374 Fletcher-Rayburn Bill, 246 Flino, H. M., 465, 466n, 467, 484n Fluctuations in economic processes, amplitude of, 426-429

Forecasting	Growth bias
adequacy of, 31	downward, 46-47
agricultural prices, 472-476	upward, 47
business cycles, 432-471	Growth curve, 42-44
by business men, 31, 457-458, 467	fitted to consumers' goods industries,
stock prices, 476-484	42-44
effect on business cycle, 457 ff., 486-488	fitted to population, 44-45
effect on seasonal, 27-29	fitted to raw material industries, 44
eliminating the cycle by, 467-470	Growth, economic, 310-314
individual industries, 452-455	Growth of industry (see Trend, long-
long-time trend, 62 ff.	time)
need for, 460-463, 484-488	Growth, stages of, 42-44
prevention by, 27-28, 467-470, 485-	Guaranty Trust Company Wholesale Price
488	Index, 370-371
testing, 464	H
with new orders data, 454-455	
Forecasts in 1923, 466-467	Handbooks of statistical sources, 324
Foreign business conditions, 89-90, 389-	Haney, L. H., 34n, 82, 333n, 352, 391,
390 Foreign investment, 199 ff., 249-250	400n, 402n, 411, 435, 442n, 448n,
Foreign trade, 57-58, 249	454n, 470, 478n, 489
Foreign trade restrictions, 94-96	Hansen, A. H., 39n, 60n, 141n, 148, 153,
Foster, W. T., 149, 154	154, 262, 289, 307, 398n
Frank, L. K., 147, 154	Hardy, C. O., 82, 139, 152, 154, 305n,
Frederick, J. G., 299n, 307	307, 350n, 352, 378n, 391, 411, 431,
French economic council, 299	435, 437n, 438n, 439n, 446n, 450n, 470
Frigidaire Corporation, 26	Harvard Committee on Economic Research, 78n, 440-441, 465
Frisch, Ragnar, 75n	
Fritz, W. G., 141n, 153	Harvard Index Chart of General Business Conditions, 438-442
	Harvard Sensitive Price Index, 373
G	Harwood, E. C., 110-111, 139, 213n,
Gainfully employed relative to total popu-	319, 411, 434n, 470
lation, 51-52	Hastings, H. B., 149, 154
Gayer, A. D., 278n, 307	Hatry failure, 222
General Foods Corporation, 24	Hawtrey, R. G., 148, 154
German Stock Market Panic of 1899, 195	Hawtrey, R. G., 148, 154 Hay, W. W., 44n
Gestation, period of in production of capi-	Hayek, F. A., 148-149, 154
tal, 111-113, 122-123	Hepburn, A. B., 186n
Gideonse, H. D., 262	Hexter, M. B., 146, 154
Glass-Steagall Act, 237, 397-398	Hickernell, W. F., 210, 489
Gold discovery, 185-186, 194	Hill, H. C., 308
Gold, maldistribution of, 201 ff., 251-252	Historical comparison, 435, 437 ff.
Gold Standard	Hoarding, 230, 232, 234, 238, 240-243
abandonment of, 232, 233, 244	measures of, 388
resumption of, 251-252	Hobson, J. A., 147, 154
Gompertz curve, 42-44	Homan, P. T., 307
Government deficits, 292-294	Hoover moratorium, 230-231, 235
Government loans to industry, 291	Hubbard, J. B., 262, 307
Governmental measures, 94-96, 253-254	Hull, G. H., 147, 154, 319
Great Depression of the thirties, 212 ff.	Huntington, Ellsworth, 142, 143, 146,
and the capitalistic system, 257	154, 319n, 320
and the cyclical movement of business,	I
258-259	·
maladjustments tending to produce,	Income, change in distribution of, 271-
249 ff.	275
phase of recovery preceding, 243-247	Income, national, 380-382
relative severity of, 173, 259-260	amplitude of movement, 428
Green, R. M., 476n	timing of, 422
Greenbacks, 186-187	Individual industry forecasting, 452-457
Gressens, Otto, 416n	Industrial production and trade, index of,
Griffin, C. E., 44n, 68	162-163

Juglar, C., 150

Juglar cycle, 150

Inefficiency cyclical climination of, 310-311 Kahn, R. F., 278n, 433n in 1929, 215-217 of labor, 331 Kantor, H. S., 488 Karsten, Karl, 391, 411, 431, 442n, 470, subsidization of, 313-314 489 489'
Keynes, J. M., 5, 149, 154
Kemmerer, E. W., 262
Kiekhofer, W. H., 34n, 124n
Killough, H. B., 488
King, W. I., 68, 84-85, 381n, 405n
Kinley, David, 320
Knight, P. H., 320
Kolesnikoff, V. S., 46n
Kondariseff cycle, 150 Inflation, 293-294 as a method of financing wars, 88-89 in 1815-19, 182-183 in 1837-43, 183-184 in Civil War period, 186 ff. in 1915-20, 199-200 Innovation, 144-145 as cause of the business cycle, 92-94 Installment sales, 124-125 Kondratieff cycle, 150 Kondratieff, N. D., 150 Institutions responsible for cycle, 156 Integration of probability curve, 43 Kurtz, E. B., 68 Interest charges, importance as a cost, Kuznets, Simon, 9n, 10n, 11, 19n, 32, 286-287 68, 147, 150n, 154, 354-356 Interest payments measures of, 383-384 timing of, 422, 425 Interest rates, 77-78, 366-368, 418-420, Labor efficiency, 126-127, 135 425 LaFollette, Robert, 300 Lag, distributed, 444-445 amplitude of movement, 427 Lags of series, 416-426 (see also Timing) Leads of series, 416-426 (see also Timin 1929, 219-221 long-term, 103-106 real, 106-108 ing) timing of, 438-442 International Industrial Relations Insti-Lederer, Emil, 149 Legal rules as cause of the cycle, 94-96 Length of working week, 52-53 Leong, Y. S., 355 Lescure, Jean, 146 tute, 307 Interrelation of the business system, 96-99 Interstate Commerce Act, 190 Leven, Maurice, 273 Invention and discovery, 144-145 commercial utilization, 134-135 Lightner, O. C., 210 Loan-deposit ratio, 402, 448-449 as cause of the business cycle, 92-94 Inventories, 362-363 Logistic curve, 42-44 accumulation, 102, 119-120, 213-214, Long cycle in prices, 94 469 Long-term debt, 404-406 and credit, 110 Long-time trend, 34 ff. (see also Trend, index of, 361 long-time) index of change in, 401 Lorwin, L. L., 299, 307 liquidation, 130-131, 200-201 Lyon, L. S., 245n, 262, 307 timing of, 417-418, 425 use in forecasting, 454, 455, 473-474 Investments Macaulay, F. R., 75n amplitude of movement, 427 Machine tool orders, 364 compared to savings, 110-111, 123, 133-134, 213, 291-292 Maladjustment, 81, 436 measures of, 406-409 Managed currency, 284 ff. Italian economic council, 299 Mann-Elkins Act, 197 Marget, A. W., 464n Marginal cost of production, 34-35 Jerome, Harry, 12n, 17n, 40n, 73, 78n, 93n, 387n Mata, C. Garcia-, 143, 155 May, R. E., 149 Jevons, H. S., 141, 154 Jevons, W. S., 90, 141, 154 Meteorological theories of the cycle, Johnson, N. O., 273n Metropolitan Life Insurance Co., 32 Jordon, D. F., 470 Micoleau, H. C., 390n Joy, Aryness, 336n Mills, F. C., 57n, 252n, 261-262, 391

Minimum wage laws, 96

Mitchell, T. W., 147, 155, 307

Mitchell, W. C., 34n, 82, 84, 94n, 96n, influence on length of cycle, 209-210 139, 141n, 145-146, 153, 156, 157n, 158n, 159n, 160n, 163, 164n, 165, 166, 177, 178, 181, 192n, 210, 211, measurable effects of, 388-390 Ottawa Conference, 239 Overhead, change in charging for, 275-320, 333, 352, 381n, 391, 414-415, 431 Overproduction, general, 4-5 Overproduction in 1929, 213-214 Mitchell's study of business cycles, 414-415 Over-saving, 147-148 Money in circulation, 395, 396 Overstone, Lord, 97n Money, one hundred per cent, 290-292 Money, scarcity of acceptable in 1784, Owen's cooperative communities, 294 181-182 Monopolistic agreements, 252 Months of uniform length, proposals, 9 Palmer, E. Z., 99a Moody's Investors Service, 368, 465 Panic of 1884, 190 of 1931, 232-235, 254 Moore, H. L., 90, 141-142, 155 Morley, Felix, 262 Moulton, H. G., 240n Parker, Frank, 470 Mouzon, E. D., 416n Parabola of logarithms, 43 Payments, measures of, 379-385 Payrolls, measures of, 384-385 Pearl, Raymond, 41-42, 63-64 Narrow triangles, 482 Pearson, F. A., 46n, 391, 411, 488 National Bureau of Economic Research, 17n. 380-381 Periodicity of the business cycle, 84-85 Periodogram analysis, 75n National Cash Register Co., 26 Persons, W. M., 46n, 116n, 139, 141n, 145, 153, 162, 163, 167, 168n, 169, 170, 194, 198, 211, 352, 391, 411, National City Bank of New York, 465 National Electric Light Association, 68 National Industrial Recovery Act, 244-245, 246, 300, 302 438, 451n, 470 Philips, C. A., 285-286 National Planning Board, 68 National Resources Committee, 348-350 Natural Resources, condition of, 55 Pigou, A. C., 114, 146, 155 Piser, L. M., 174n, 327n, 352, 355n Necessary condition, 97 Powell, O. S., 476n Planning, central, 296-298 New capital, efficiency of placing, 54, 61 Planning of public works, 276-283 Planning, private business, 298-299 New Deal, 243-247, 253-254 New Era philosophy, 208, 224 New orders, use in forecasting, 454-455 Plurality of price changes, 373-375 New York Times Weekly Business Index, Polk Co., R. L., 350n 345-346 Population forecasting, 44-45 Population growth, 50, 63-64, 133, 251 Normal level applied to physical quantity, 37, 38 measures of, 385-386 meaning of, 34 Population, optimum, 51 Potato price forecasting, 474 of individual industries, 36-37, 63 President's Conference of total industry, 34 ff., 45 ff. Unemployon relation to habits and institutions, 38ment, Committee of, 12n, 32 39 President's Research Committee on Social submerged, 58-59 Trends, 263 Northern Pacific corner, 195 Nourse, E. G., 49n, 87n, 387n Noyes, A. D., 210-211 Price-cutting, 267-271 and wage earners, 268, 269-270 in semi-monopolistic industries, 268-270 Price cycle, effect on the business cycle, 94 Odum, H. W., 307 Ogburn, W. F., 164 Price decline in prosperity, 191, 203, 208 Price element, mechanical elimination of, One hundred per cent money, 290-292 79, 328, 341-342, 475 Open market operations, 394 Price increase, relation to increase in Orders index, 361 Orders, new, 363-364 production, 117 ff. Price maintenance, 205, 226-227, 428-429 Orders, unfilled, 361, 365 Originating causes, 141-145, 314-316, Price rigidity, 252 432-433, 472 effect of, 208-210 Price rise, effect on society, 332 Price-supply relationships, 473-476, 488 Price wars, 270, 271

influence of, 181 ff.

Prices amplitude of movement, 449-450	certainty of, 136 ff., 258 forces making for, 130 ff.
and interest rates, 108	possibility of considering separately
as a measure of economic activity, 331-	from reform, 266-267
332	Recovery phase
declining in prosperity, 285	defined, 168
measures of, 369-376	length of, 169-171
prevention of decline, 287-288	Reed, H. L., 308
seasonal variation in, 28	Reed, L. J., 41-42, 63-64
stabilization of by bank policy, 284-	Reforecasting, 457-458
290, 394 ff., 441	Regional divisions, 348-349 Regional indexes, 347-352
timing of, 438-442	Regional indexes, 347-352
Production	Renooiz, D. C., 324n
as a measure of business, 330, 334	Rental rates index, 366
index of, 334-336, 342	timing of, 418, 425
seasonal in, 11	Rent payments, 385, 422, 425 Reserve bank credit, 393 ff. (see also Sec-
affected by price seasonal, 23, 28	
Production process, length of, 148-149	ondary bank credit)
Productivity, 93-94, 203	Reserve ratio, 398-399
measures of, 386	Residential building, 359, 368
Profits	timing of, 416-417, 425
amplitude of movement, 428	Resistance levels, 482
as a measure of economic activity, 333- 334	Resumption Act of 1875, 188 Retail prices, 375-376
measures of, 382-383	amplitude of movement, 428
timing of, 422	timing of, 421, 425
Proportionality, law of, 55	Retail trade
Prospective profits, shift in, 146	amplitude of movement, 428
Prosperity	timing of, 418, 421-422, 425
effect of tariffs, 95-96	Rhea, Robert, 481n, 489
of 1790-96, 182	Rice, S. A., 352, 391
of 1849-53, 185-186	Rich man's panic of 1903-04, 195-196
of 1887-90, 190-191	Richter, F. E., 320, 437n, 471
of 1891-93, 192-193	Riefler, W. W., //, 2040, 411
of 1901-03, 195	Robb, T. B., 320
of 1915-20, 199-200	Robbins, Lionel, 203n, 263, 308
of 1922-24, 201	Robertson, D. H., 320
of 1925-26, 202-205	Robey, Ralph, 263, 308
of 1928-29, 207-208, 212 ff.	Roos, C. F., 433n
uniformity of, 174	Rorty, M. C., 147, 155, 281-282
Prosperity phase defined, 167, 168	Rose, D. C., 477n Royal Baking Powder Co., 24-25
length of, 169-171	Russell, S. W., 303
Psychological theories, 114-115, 142, 146,	Russian economic council, 299
435-436, 467	
Public works, planning of, 276-283	S
<u>_</u> _	Sasuly, Max, 68
R	Savings
Railroad building, 185, 189, 190 Railway Pension Act, 246	amplitude of movement, 427
Railway Pension Act, 246	and investment, 149
Rally in the stock market, 480-482	compared to consumption, 123-126
Raw material prices, 135-136	deficit, 110-111, 123
Reaction in the stock market, 480-482	deposits, 388
Reading Railway failure, 193	during depressions, 133-134
Real estate loans, 401	effect on the cycle, 272-274
Real interest rates, 106-108	need for measure, 385 relation to capital building, 54-55
Recession phase	uninvested, 388, 407
defined, 168	Say's Law of Markets, 49
length of, 169-171 Reconstruction Finance Corporation, 235,	Schabacker, R. W., 489
237	Schluter, W. C., 148, 155, 398n
Recovery	Schneider, M. G., 488

Schultz, Henry, 488 Schumpeter, J. A., 68, 144, 155, 311n,	Sensitive commodity prices, 372-373, 421, 425
320 Scott, W. R., 157-159	Sensitivity of trade index, 329 Service industries
Seasonal index, statistical significance of,	cycle in, 84-85
19-20	increase in, 202-203
Seasonal unemployment, 277	Shaffner, F. I., 143, 155
Seasonal variation	Sherman Silver Purchase Act, 191, 193 Shirley, W. W., 263
and adaptation of product, 24-25 and stabilizing production, 20-22	Short-lived goods
changing or shifting, 17-19	amplitude of fluctuation, 131-133, 426-
controlling the causes of, 26-27	427
effect of length of months, 8	and durable goods, 125-126, 131-133,
correction for working days, 8-10	354-360
effect of preservation of food, 24	timing of, 423
effect of refusing orders at peak, 21	Silberling Business Reports, 349n Silver agitation, 188-189, 193-194
effect of social seasons, 7, 22 effect of specialization of output, 8, 12	Simons, H. C., 290n
effect of the weather, 7, 26-27	Simpson, H. D., 308
factors responsible for, 7	Sine curve, 445-446
ironing out of, 20-29	Slichter, S. H., 139, 263, 308
by building up stocks, 20-23	Smith, B. B., 488 Smith, E. S., 12n, 23n, 25n, 32
by diversifying the market, 25	Smith, E. S., 12n, 23n, 25n, 32
by dovetailing, 25-26	Smith, J. G., 308
by changing the date of new models,	Smith, L. C., and Corona Typewriter Co., 23
by engineering control, 27	Snider, J. L., 161n, 347n, 352, 378n, 391,
by forecasting, 27-29	411, 431, 437n, 440n, 452n, 456n, 471,
by price changes, 23	476n
by regularizing consumption, 23-25 by shifting employees, 26	Snyder, Carl, 46n, 79n, 173, 174n, 327-329, 332, 352, 355n, 357, 369, 391, 404, 405n, 411
meaning, 7 measurement of, 13-20	Snyder's Index of General Prices, 369
by link-relative method, 17	Snyder's Index of the Total Volume of
by ratio-to-twelve-months-moving-	Trade, 173-174, 327-329
average method, 17	Social accounting, 275
by simple average method, 16	Social need for forecasting, 484-488
normal or typical, 16, 75	Sombart, Werner, 150
resulting from consumption, 10-13 resulting from production, 10-13	Soule, George, 299, 300, 301, 308 Speculators' fluctuation, 478-479
specific, 16, 17-19, 75	Spiethoff, Arthur, 147
statistical elimination of, 72-75	Sprague, O. M. W., 211, 263, 308
by twelve-months moving average,	Square root scale, 483-484
80	Stabilization by engineering control, 27 Stabilization of prices by bank policy,
technique of forecasting, 29-32	Stabilization of prices by bank policy,
Secondary bank credit, 393-398	284-290, 394 ff., 441 Staggaring ampleument 205 206
sources of, 394-395	Staggering employment, 305-306 Standard deviation
uses of, 395-396	adjusted, 78
Second-degree parabola, 43 Securities, undigested, 196	effectiveness as a measure of disper-
Security issues, 406-407	sion, 78
Self-generating cycle, 84-85, 114-140,	Standard of living, rapid changes in, 123-
146-150, 316, 430-431, 433-434	124 5x-41 00 0- 107
influence on length of business cycle,	Standard Oil Co., 197
210	Standard Statistics Co., 361n, 391, 451, 457, 465
Self-limiting forces, 115	Standard Statistics Index of Industrial
during decline, 130-136	Production, 334-335, 360
during incline, 119-127	Stand-still agreement, 231 State socialism, 296, 298
Self-reinforcing forces, 115 during decline, 129-130	Statistics peeded to and amount account
during incline, 127-130	Statistics needed to understand economic change, 325 ff.

Statistics, regional, 348-350 Steel ingot production as a measure of durable goods production, 358-359 changing seasonal of, 18 forecasting of, 451, 452-454 Sterilization of credit, 201, 278, 279, 280 Stevenson Plan, 205 Stine, O. C., 476n, 488 Stock prices amplitude of movement, 427 as a forecaster, 419-420 as a measure of confidence, 410 business cycle in, 477-478 chart readers of, 482 comparison between high and low, 483- 484 forecasting, 476-484 in 1929, 220-221 long-time trend of, 476-477 speculative stocks, 220-221 timing of, 419-421, 425, 429, 438-442 need for forecasting, 485, 487 Stock market maxims, 482-483 technical fluctuations, 478-484 Stocks of goods (see Inventories) Straight line trend, 43 Stress, economic, 58 Sufficient condition, 97 Summation series, 445-448 Sumptuary legislation, 96 Survey of Current Business, 323 ff. Swope, Gerard, 299, 300, 302 Swope Plan, 300, 302	correlation of, 80-81 relation between component elements, 71-75 Timing of artificial control, 264 ff. Timing of public works, 278-279, 280-281, 283 Timing relationships, 437-443, 443-448 and amplitude differences, 149-150, 429-431 consistency of, 423-425 distributed lag, 444-445 method of measuring, 443-444 of short movements, 426 relation to derived effects, 265 use in forecasting, 424-425, 452, 458-459 Tintner, Gerhard, 71 Ton-miles of freight, 340-341 Total industry factors determining growth, 49 ff. future growth, 60-61 growth-of, 48-49 indexes of, 46-49 Trade associations, 302, 304 Trade index, 327-329 Trade, seasonal in, 11 Trading with the trend, 481 Transactions, volume of, 328-329 Trend, long-time, 34 ff. as representation of normal level, 37-39 changes in, 65, 127-128 computation of, 439-440 divergent movements, 261
Szeliski, V. S., 483-484, 489	dynamic, 261 elimination of, 72-75
T	equations of, 43, 63-65
Tabular standard, 290	factors determining, 65-67 forecasting
Tariff changes, 183, 186, 192, 193, 198, 201, 225, 239-240	effect on the business cycle, 486-488 effect on the stock market, 487
in a creditor nation, 95	technique of, 62 ff.
Taussig, F. W., 36n Tax exemption in depression, 306	logical nature of, 37-39, 63-64 measurement of, 42 ff.
Tebutt, A. R., 357	by free-hand curve, 40-41
Technological ability to distribute goods, 55-56	by use of mathematical equation 40 ff.
Technological ability to produce, 54	length of period to use, 43-44
Technological unemployment, 93-94	need for forecasting, 72, 297-298, 301,
Textile industry cycle, 455 Thermometer, business, 321	304, 461, 463, 468 of total industry, 45 ff.
Thomas, Dorothy, 163, 164	factors determining, 49 ff.
Thomas, Woodlief, 46n, 335n	series used to represent, 62-63
Thompson, W. S., 44, 52n	shift in level, 258-259
Three markets chart, 438-443	variables making for an unreliable
Thorp, W. L., 94n, 159, 160, 161, 162,	measurement, 45
163, 166, 177n, 211	Trough phase
Ther charting, 13	defined, 168 length of, 169-171
·Tillmam, C., 489 Time series	Trust company failures in 1907, 196
component elements, 5-6	Trust prosecutions, 197

Trusts, maintenance of prices, 428-429 Tucker, Donald, 466n Tugwell, R. G., 308

U

Uncertainty as cause of the cycle, 151-152. Under-saving, 110-111, 123, 147
Unemployed set to work for themselves, 294-296
Unemployment measures of, 386-387 permanent, 59
Unemployment insurance, 96, 276-278
Unfilled orders, 361, 365

V

United States Steel Corporation, 197

Value of output as a measure of economic activity, 332-333
Vance, Ray, 446n, 471
Vanderblue, H. B., 442, 452
Van Kleeck, Mary, 22
Variation, mechanical equalization, 76-78, 343, 346
Veblen, Thorstein, 145, 146, 155
Verwey, G., 324n
Vested interests, protection of, 316-319
Viner, Jacob, 305n
Volume of trade, index of, 174

W

Wage payments, 384-385 amplitude of movement, 428, 430 timing of, 422, 425 Wage rates, 120-122, 135-136, 418, 425, 428, 462 index of, 366 maintenance as a cure for depressions, 137, 223, 226, 227, 274 Wallace, H. A., 263

War as a cause of the business cycle, 86-89, 145 Wardwell, C. A. R., 150n Warren, G. F., 46n, 391, 411, 488 Watkins, M. W., 308 Watkins, R. J., 466n Waugh, F. V., 488 Weather as cause of the business cycle, 90-91, 141-143 Weekly business indexes, 345-347 Whalen, G. A., 308 Wheat price forecasting, 476 Whelpton, P. K., 44, 52n, 386n White, C. P., 32 White, Percival, 409 Wholesale prices, 369-375 amplitude of movement, 427-428 timing of, 421-425 Wholesale trade, 378-379 amplitude of movement, 428 timing of, 418, 421-422 Wide triangles, 482 Wiggin Committee, 231 Willis, H. P., 243 Winfrey, R., 68 Working, Holbrook, 145, 474-475, 476n, 488 Working hours, reduction of, 305-306 World Calendar Association, 9 World War, relation to Great Depression, 255-257 Wright, P. G., 320

Y

Yoder, Dale, 263

Z

Zempel, Arnold, 347n, 351 Zinc inventories, 362 2003-04

SERVANTS OF INDIA SOCIETY'S LIBRARY POONA 4. 1. Books taken from the Library may not

be retained for more than a fortnight.

Borrowers will be held strictly responsible for any damage done to books while the books are in their possession.