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RECENT ECONOMIC CHANGES

**SIGNIFICANT ECONOMIC
REPORTS**

WASTE IN INDUSTRY

By the Committee on Elimination of Waste in Industry of the Federated American Engineering Societies, with a Foreword by Herbert Hoover.

BUSINESS CYCLES AND UNEMPLOYMENT

By a Committee of the President's Conference on Unemployment, including an Investigation made under the auspices of the National Bureau of Economic Research, with a Foreword by Herbert Hoover.

**SEASONAL OPERATION IN THE CON-
STRUCTION INDUSTRIES: THE FACTS
AND THE REMEDIES**

By a Committee of the President's Conference on Unemployment, with a Foreword by Herbert Hoover.

CIVIL AVIATION

By the joint Committee on Civil Aviation of the U. S. Department of Commerce and the American Engineering Council.

RECENT ECONOMIC CHANGES

IN THE UNITED STATES

REPORT OF THE COMMITTEE ON RECENT ECONOMIC CHANGES,
OF THE
PRESIDENT'S CONFERENCE ON UNEMPLOYMENT

HERBERT HOOVER, CHAIRMAN

INCLUDING THE REPORTS OF A SPECIAL STAFF OF THE
NATIONAL BUREAU OF ECONOMIC RESEARCH, Inc.

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APPENDIX A

FIELD INTERVIEW SCHEDULE USED IN MANAGEMENT SURVEY

The field investigators were given standard instructions for using the Interview Schedule. The instructions included three items which the reader will find it helpful to keep in mind when considering the various questions:

Regard the words "recent" and "recently" as meaning during the past 10 years, with particular emphasis on the period since 1921.

Wherever the word TREND appears, give the years in which practice changed or new developments occurred and attempt to indicate the nature and direction of very recent changes in policy or practice, including changes which the person interviewed anticipates in the near future.

Words printed in *italics* directly after a question should be used, wherever applicable, as the answer, by encircling the particular words which constitute a correct answer. But expand the answer wherever necessary for clearness.

RECENT ECONOMIC CHANGES MANAGEMENT SURVEY FIELD INTERVIEW SCHEDULE	Company..... Location..... Interviewer..... Date.....				
Persons Interviewed Names	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center; vertical-align: top;">Titles</td> <td style="width: 50%; text-align: center; vertical-align: top;">Number of years with this company</td> </tr> <tr> <td style="height: 100px;"> </td> <td style="height: 100px;"> </td> </tr> </table>	Titles	Number of years with this company		
Titles	Number of years with this company				

IDENTIFYING DATA

- A. Character of enterprise: *Manufacturing, Wholesale, Mail Order, Public Utility, Other* (describe). (Note changes during recent years, giving years).
- B. Products:
 1. Lines of products made or sold. (Note recent changes).
 2. Per cent (of total dollar volume) sold for use by "ultimate consumers"?.....
 3. Per cent sold for use by "producers" (*i.e.*, for capital or material accounts)?..
 4. Price range or sector: *Top? Middle? Low?* (If this question is inapplicable, explain why).
 5. Per cent of manufacturing cost spent for materials?.....direct labor?.....indirect labor?.....burden?.....

C. History:

1. Year business was established?.....
2. First and subsequent locations of major plant and general office, with reasons for and years of moves.

D. Corporate relations and control:

1. Recent corporate changes. (Note subsidiaries, mergers, or any other special forms recently developed, giving years).
2. Present ownership: *Closely controlled?* *Widely diffused?*
3. Per cent of capital stock held by employees?.....
4. Per cent of employees owning stock?.....
5. Further comments regarding control.

E. Expansion: List all manufacturing, sales, and other branch plants, offices, stores, etc.

Location	Date established	Date acquired	Date abandoned or disposed of	Functions (e.g., manufacturing, sales, general office, etc)	Approximate number of employees in 1919 (or when established, if since then)	Approximate number of employees (now and when discontinued)

GENERAL OBSERVATIONS OF FIELD INTERVIEWER (TO BE RECORDED AFTER COMPLETING SURVEY)

Note your observations, citing evidence where possible, regarding such things as:

- A. Tendencies toward centralization or decentralization of authority and responsibility.
- B. Apparent changes in character of managerial personnel, e.g., scientist type replacing opportunist.
- C. Notions of obligation or responsibility to consumers, investors, employers, competitors, public at large, Government.
- D. Influence of banks and other financial houses on business control.
- E. Opinions regarding the value of various types of business associations, e.g., trade associations, chambers of commerce, employers' associations, etc.
- F. Opinions regarding the value of various types of business publications, e.g., general business periodicals, trade journals, books, and other similar channels of information.
- G. Opinions of executives regarding training for business, and relation of business and educational institutions.
- H. Does the management aim for improved results more from perfection of facilities and methods or from increased employee skill and morale?

RELATIVE IMPORTANCE OF MANAGERIAL PROBLEMS

In the judgment of the ranking person interviewed, what was (or is), in each of the years shown, the relative importance to the business of—

	1919	1924	1928
Organizing ability.....			
Supervision of subordinate executives.....			
Labor management.....			
Management of plant, equipment, processes.....			
Purchasing.....			
Creation of product demand.....			
Supplying market with product.....			
New product development.....			
Finance.....			
Other (specify):.....			

I. ORGANIZATION

A. Functionalization:

1. What instances have there been of positions or departments recently established to perform staff or functional duties—rather than to exercise executive or “lines” control—affecting either the entire concern or certain divisions only, *e.g.*, manufacturing, sales, accounting, etc.? (Describe briefly the nature of functions in each case, give year established or discontinued.)
2. What instances have there been of staff positions or departments recently established to investigate problems or carry on research, submitting findings, but purely advisory? (Indicate scope and place in organization and give examples of more important researches. Give year established or discontinued).
3. Who else (position, not name) in the organization in recent years has carried on research, and in relation to what subjects?
4. What outside research agencies have been utilized, when, and how?
5. What use has been made of the results of your own and of outside researches?

B. Co-ordination:

1. Upon what means (or combination of means) do you chiefly rely for co-ordination? (*e.g.*, one-man control; systematic interchange of information; occasional conferences; staff positions; established committees; executive committee replacing chief executive for control and co-ordination; organization chart; standard practice instructions; others—describe).
2. Which of the foregoing have been used and discontinued recently, when and why?
3. If committees are used, what are the functions of the more important ones, when were they established and what departments are represented in each case?
4. Indicate for organization charts and/or standard practice instructions, if used—
 - (a) By whose authority are they issued?
 - (b) How and by whom are they kept current?
 - (c) Whether they define job duties and relations?
 - (d) Whether they are published to the organization—how?.....
to whom?.....

C. Executive technique:

1. What changes have occurred in recent years in personnel of major executive positions? (Give positions and years, but *not* names).

2. How many persons have been promoted within past (give years) to important executive, supervisory, or staff positions?
 3. How many persons have been hired from outside within past five years for important executive, supervisory, or staff positions?
 4. What special means are used to prepare or qualify employees for positions of responsibility? (Briefly describe and give history).
 5. What outside sources for executive and expert talent have been found most satisfactory? (Note especially recent experience and TREND).
 - (a) For immediate assignment (*e.g.*, other companies; same or other business; college faculties; etc.).
 - (b) Potential (*e.g.*, college, business or technical graduates; others).
 6. What methods of evaluating executive ability and performance have been tried, and with what success or results? (*e.g.*, tests, ratings).
 7. What special methods of remuneration for executives have been tried, when, and with what success or results? (Recent changes).
- D. Preplanning and budgeting:
1. How, by whom, and when are major or "master" plans of the company determined? (Note especially use of internal and external statistics).
 2. Are you finding it possible (or advisable) to *plan further in advance* than formerly? or are business conditions enforcing (or counselling) a shorter planning interval?
 3. (If systematic budgets are prepared): In what year was budgeting begun? . . .
 4. Are preliminary estimates made by department heads?
 - If so, are department heads furnished data to guide them?
 - (a) Relating to future company policies.how?
 - (b) Relating to the business trend.how?
 5. Are there budget conferences?
 6. Is the final budget determined *in conference?* or by the *budget officer?* or by the *chief executive?* or *otherwise?* (specify).
 7. Are departmental budgets divided into controllable and uncontrollable expenses?
 8. For what period is the budget prepared?
 9. How are revisions effected?
 10. Is the budget used as basis for loans from banks?
 11. Do the banks require it?
 12. What essential changes in your budget practice have been made in recent years, when, and why?
- E. Forecasting:
1. To what statistical or forecasting services does the company subscribe?
 2. Who (positions, not names) receive the publications of these services, and how are they used?
 3. Are the amounts of material purchased, or the amounts of inventory carried, influenced in any regular way by the predictions published by such services?
 4. Has such influence in the past been generally helpful?
 5. (If new buildings have been built since 1920) was decision to enlarge based solely on evident growth of the business, or were you seriously influenced as to the time of expansion by predictions of such services?
 6. Did experience later show that it had been wise to rely on such statistical or forecasting assistance?

II. MANUFACTURING

A. Purchasing:

1. Who (position, not name) buys major materials?
2. Who buys minor materials?
3. What purchasing records are maintained and how used?
4. Which is your more usual practice: To seek *competitive bids*? To continue purchases from *tested vendors*? (TREND).
5. Which is your more usual practice: To *split orders* among several vendors? To place orders with exclusive vendors? (TREND).
6. What methods have you adopted to help reduce sales expenses of your vendors? (*e.g., appointments with salesmen; increased use of annual contracts; repeat orders placed by correspondence or by telephone; other—specify*).

B. Inventory control:

1. What departments or executives are responsible respectively for the inventory investment in—
 - (a) Raw materials?.....
 - (b) Goods in process?.....
 - (c) Finished goods?.....
2. Do you have established maxima and minima?

How long have you used them?

How are they kept up to date?

C. Production management:

Planning—

1. Is planning functionalized?.....When first?.....
2. Does it include *routing, scheduling, despatching*?
3. What important changes have there been in recent years in the functions or organization of the planning department or in its relation to other departments?

Recording and costing—

1. (If “standard costs” are used): How are standard costs established for—
 - (a) Direct labor?.....
 - (b) Indirect labor?.....
 - (c) Material?.....
 - (d) Overhead?.....
2. Are standard costs modified from time to time in the light of changing business conditions?.....How often?.....
3. How are standard costs used? (*e.g., fixing selling prices; prompt determination of profit and loss; standard for department heads to work to; other—specify*).
4. Are actual (not standard) costs used as check against performance of separate portions of the organization?.....
5. Are costs (*actual or standard?*) used to determine cost of idleness, thus influencing contracting for extra work?

Material standards—

1. Are you—
 - (a) Increasing the precision of your material specifications?.....
 - (b) Making greater use of generally accepted trade standards?

If so, are they mainly standards approved by the United States Bureau of Standards?
 - (c) Doing both (a) and (b) with respect to different materials?.....
2. What new methods of testing materials have you adopted in recent years, and what did they supplant?

Processing standards—

1. What methods are now used in establishing quality standards?
2. What recent changes in such methods have been made?
3. In what cases (if any) have the possibilities of poor product been practically eliminated through improvements in method or equipment?
4. What means are used to maintain quality standards? (*e.g., executive pressure; standard job instructions; financial incentives—what sort? nonfinancial incentives—what sort? inspectors; automatic inspection. TREND*).
5. In what ways have you enlisted the co-operation of employees in waste elimination?

Maintenance—

1. How old is the major portion of the plant? Recent addition?
2. Do you check operating conditions of buildings, power, machinery, lighting, and other equipment periodically, against standards?
How long has this practice been followed?
3. Do you schedule (a) replacements? (b) maintenance? How?

Quantity standards—

1. What methods are now used in establishing quantity standards? (*e.g., analysis of past records; time study—over all? or elemental? ascertainment of machine speeds; motion study; other—specify*).
2. Is it customary, before establishing a quantity standard, to standardize methods and/or equipment to reduce likelihood of delays or errors?
3. What recent changes in methods of establishing quantity standards have been made?
4. What means are used to maintain quantity standards? (*e.g., executive pressure; standard job instructions; financial incentives—what sort? nonfinancial incentives—what sort? mechanical handling equipment; other—specify. TREND*).

D. Output:

1. To what extent has your product per employee-hour (or on other suitable basis) increased or decreased in recent years?
2. What have been the major causes of this change in efficiency? (*e.g., mechanization; process changes; layout; simplification; production control; employees' attitude; training; labor turnover; other—specify*).

E. Technical changes (in manufacturing methods or equipment):

1. What have been the major reasons for recent technical changes? (*e.g., to offset high labor costs? to meet price competition? to meet quality competition? other—specify*).
2. Which of the recent technical improvements resulted from continuous research or experimentation to improve methods?
3. Are further improvements already developed awaiting expedient time for use?
4. Do you anticipate that future advances (*i.e., in next decade or two*) will be *more rapid? or equally rapid? or less rapid?*
5. Do you anticipate that future increases in efficiency will result principally from technical improvements and/or from better handling of "human element," or other causes? (*specify*).

F. Extent and fullness of operation:

1. Use of facilities—

- (a) Has there been in recent years marked over-expansion of this company's facilities? When? For what purpose?
- (b) Has there been in recent years marked over-expansion of the industry through new or enlarged plants? When? Due to what situation?

- (c) What increase in output would be possible for this company without added facilities?
- (d) To what extent are present idle facilities obsolescent? (Note whether written off, if mentioned).
- (e) When (approximately) were present idle facilities purchased?
- (f) What are present normal working schedules (hours and shifts), and in what respects have they changed materially in recent years?
- (g) How would working two or three shifts affect costs?
- 2. As a result of recent technical changes, approximately how many employees were (and in what years)—
 - (a) Transferred to other work?.....
 - (b) Trained for new operations on same work?.....
 - (c) Released from company?.....
- 3. What classes of workers, as regards types of skill, were affected in each of the ways indicated in the previous question?
- 4. How are those who were released from company now employed (if known)? *e.g.*, other industries in district, especially new concerns, retail or other concerns, etc.
- 5. What effects have recent technical changes had upon the type or period of initial training required?
- 6. Has there been in recent years a marked increase in the proportion of jobs so specialized as to involve practically no carry-over of skill? (Note examples).

G. Personnel practice:

- 1. Organization—Through what changes, as regards organization, function, and relation to other departments, has the personnel department passed in recent years, and what is its present status?
- 2. Employment technique—
 - (a) Who (position, not name) is responsible for selection of new employees? (TREND).
 - (b) When and how have you altered recently your personnel standards? (regarding, *e.g.*, sex, age, race, nationality, citizenship, religion, physique, education, marital status, union membership, other—specify).
 - (c) Which of the following aids to selection have you found practicable, and which have you tried and abandoned? (TREND).
 - Interview (who does?).....
 - Tests (what sort?).....
 - Medical examination?.....
 - Job specifications?.....
 - Other (specify).....
 - (d) Are labor turnover figures tabulated?.....
 - How often?.....
 - How refined is the analysis?.....
 - How used?.....
 - Are data submitted to any outside agency for comparison with other companies?..... What? (TREND).
- 3. Vocational adjustment—
 - (a) In following up the progress of new employees, which of these are used: *performance records; attendance records; ratings; tests* (what sort?); *medical examination; other?* (specify). (TREND).
 - (b) What is the practice regarding transferring from job to job or from department to department? (TREND).

- (c) What systematic practice for making promotions has been developed, when put into effect? (Describe briefly).
- (d) Are employees leaving interviewed, by whom, and for what purposes? What exceptions, if any? (TREND).
4. Training and education—
- (a) What are the organization and facilities, including relations with outside agencies, for training or advancing the educational interests of employees? (TREND).
- (b) Which of the following training means do you use: *Preliminary job training; apprentice course (what trades or subjects?); classes—company subjects; classes—general or cultural; foremen's conferences; executive training courses; "flying squadron;" special training of college men; alien education; library; company publications; other?* (specify).
- (c) Which of the foregoing have been tried and discontinued?..... When?..... Why?.....
5. Incentives—
- (a) How are job or trade differentials (for wage rates and salaries) determined? (*e.g., market; union scale; job classification based on job study; job evaluation by some special method—describe*).
- (b) What are the prevailing types of rates? (*e.g., time; piece, bonus or premium; etc.*) (TREND).
- (c) Is an extra wage paid employees upon dismissal? (TREND). Under what conditions?
- (d) What special bonuses are paid? (*e.g., annual; length-of-service; group; etc.*)
- (e) What is the practice, and how altered in recent years, regarding payment for—
- Overtime?
- Absences?
- Holidays?
- Vacations?
- Transportation?
- Lunches?
- (f) What financial rewards are offered for employees' suggestions, and with what results? (TREND).
6. Separations—
- (a) Age of retirement.
7. Wages.
8. Provisions for workers' security—
- (a) What has been done toward regularizing employment, when and how? What are the outstanding obstacles to regularization?
- (b) What has been done along the lines of accident prevention?
- (c) What studies have been made of fatigue and monotony?
- (d) What company provisions are there for insurance? (Include mention of mutual benefit associations, insurance provisions of unions, and indicate company's part in their support).
- Pensions? formal? contributory? funded? actuarially sound? reinsured?
- Savings plan?
- Stock (or bond) purchase plan?
- Others?
9. Services for employees—Which of the following have been provided and when—social, athletic, recreational activities; employee magazine; store, or

special buying privileges; loan fund; credit unions? Which discontinued—when? why?

10. Joint relations—

- (a) Are relations between the management and employees based upon—
Supervisory contact only with individuals?
Occasional special committees (how composed and selected)?
Employee representation plan?
When established? (Note any comments as to its effectiveness).
Union agreement? (Note comments).

(b) In what respects have joint relations altered in recent years?

11. Personnel research—What special research has been conducted, when, and how utilized? (*e.g.*, tests for selection and placement; application blank data correlated with performance; rating procedure; fatigue; health; accidents; compensation methods; labor turnover).

III. MARKETING

A. Selling:

1. Organization—

- (a) What is the structure of your selling organization? (Brief description, showing relationships within sales department and to other departments).
- (b) What structural changes have occurred in recent years?
- (c) What auxiliary or functional sales activities have been performed in recent years by special divisions of the sales organization or designated individuals? (Note when each was established and when any were discontinued, *e.g.*, sales promotion, sales engineering, sales counsel [outside], etc.)
- (d) To what extent, and when, in recent years, have you increased or decreased the number of missionary salesmen as compared with regular salesmen?
- (e) In what respects and when have there been changes in policy respecting employing sales engineers for designing and engineering service, demonstration, or installation?

2. Personnel—What are your practices, and in what respects and when during recent years have they changed respecting methods of—

- (a) Selecting salesmen?
(b) Training salesmen?
(c) Remunerating salesmen?

3. Sales control—

- (a) In what respects, and when in recent years, have methods of routing salesmen been changed? (*e.g.*, respecting permitting salesmen to choose own routes; length of trips; other—specify).
- (b) In what respects, and when recently, have the sizes of sales territories been altered?
- (c) When was the use of sales quotas instituted? When abandoned? When were (or are) quotas used as a basis for remuneration?
- (d) When recently, and to what extent, have changes been made in the frequency of calls? in frequency of sales reports?

4. Sales costs—

- (a) What methods of analyzing costs of distribution have been adopted recently, and with what results? (*e.g.*, by *classes of product*; by

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classes of customers; by types of salesmen; by territories; others—specify).

- (b) What per cent of total sales represented direct selling expense in 1919? in 1924? in 1928?

5. Advertising—

- (a) In what respects, and when recently, have advertising methods been changed with respect to media used, area (*e.g.*, local, sectional, national, international), type (*e.g.*, institutional or product), etc.?

- (b) What per cent of total sales represented advertising expense in 1919? in 1924? in 1928?

B. Merchandising:

1. In what respects, and when recently, have methods of co-ordinating sales with production been changed? (*e.g.*, appointment of *merchandise manager*; *merchandise committee*—how composed? *other*—specify; briefly describe present process).

2. Where is responsibility now placed for—

- (a) Selection of products?.....Where previously?.....When changed?
.....

- (b) Design of products?.....Where previously?.....When changed?
.....

- (c) Pricing of products?.....Where previously?.....When changed?
.....

- (d) Scheduling production in relation to sales?.....Where previously?
.....When changed?.....

3. (If market analyses are (or were) made)—

- (a) When begun?.....When discontinued?.....

- (b) What objectives? (*e.g.*, *setting quotas*; *allocation of sales territories*; *evaluation of competition*; *determination of proper sales channels*; *other*—specify).

4. (If distribution analyses are (or were) made)—

- (a) When begun?.....When discontinued?.....

- (b) What objectives? (*e.g.*, *discovery of new uses*; *reaction of market to product*; *other*—specify.)

5. Market—

- (a) What per cent of your market is local?.....Sectional?.....National?
.....International?.....

- (b) What changes in policy respecting market areas have occurred in recent years? When?

- (c) What per cent of sales are through brokers?.....Through sales agents?
.....To manufacturers and other industrial users?.....To wholesalers?
.....To chain store companies.....To individual retailers?
.....To individual consumers?.....(through your own stores or by canvassers). *Other?* (specify).

- (d) What changes in policy respecting trade channels have occurred in recent years? When?

- (e) Do you face competition from concerns producing *similar products* from industries making *substitute products*?

- (f) On what basis is a share of total business sought? (*e.g.*, *territorial advantages*; *product advantages*; *varying price sector*; *other*—specify).

- (g) What special means are used to protect from competition? (*e.g.*, *patents*; *trade marks*; *brands*; *secret processes*; *other*—specify).

6. Trade channels—

Wholesalers.

Small retailers.
 Department stores.
 Chain stores.

IV. OFFICE MANAGEMENT

- A. Functionalization: (If there is an "office manager"): What are the major functions and scope of authority of the office manager? (TREND).
- B. Control: What has been done in recent years along such lines as layout? Routing of work? Job study? Salary classification? Standardization and simplification of forms? Standard instructions? etc. (TREND).
- C. Mechanization: What types of office equipment have been—
 - 1. Recently installed.
 - 2. Recently abandoned.

Supplement	1919	1924	1928
Number of employees in production (direct labor).....			
Number of employees in sales.....			
Annual sales (index number).....			
Product—physical volume (state unit).....			

APPENDIX B
ECONOMIC MOVEMENTS IN THE UNITED STATES

TABLE 1.—INDEXES OF PRICES, 1922-1927

Index	Average annual rate of change (per cent)
Wholesale commodity prices:	
Index of United States Bureau of Labor Statistics ^a	- 0.1
Foods.....	+ 2.3
Farm products.....	+ 1.2
Hides and leather products.....	+ 0.2
Chemicals and drugs.....	- 0.5
Building materials.....	- 1.3
Textile products.....	- 1.5
House furnishing goods.....	- 1.5
Fuel and lighting.....	- 2.7
Metals and metal products ^b	- 1.5
Clothing ^c	- 1.8
Raw materials (1923-1927).....	- 0.2
Finished products (1923-1927).....	- 0.7
Semimanufactured articles (1923-1927).....	- 4.8
Indexes for minor groups, United States Bureau of Labor Statistics:^a	
Foods—	
Meats.....	+ 5.1
Butter, cheese, and milk.....	+ 1.9
Other foods.....	+ 0.3
Farm products—	
Livestock and poultry.....	+ 5.5
Grains.....	+ 3.5
Other farm products.....	- 1.2
Hides and leather products—	
Boots and shoes.....	+ 0.8
Leather.....	+ 0.4
Hides and skins.....	- 1.5
Chemicals and drugs—	
Chemicals.....	+ 0.6
Drugs and pharmaceuticals.....	+ 0.4
Fertilizer materials.....	- 1.0
Wholesale chemical prices (index of the <i>Oil and Paint Reporter</i>)—	
Drugs and pharmaceuticals (40 drugs).....	+ 4.6
Essential oils (20 oils).....	+ 2.7
Crude drugs (35 drugs).....	+ 1.2
Building materials—	
Brick.....	- 1.1
Structural steel.....	- 1.4
Portland cement.....	- 1.7
Lumber.....	- 1.9
Composite lumber prices (indexes of the <i>Lumber Manufacturer and Dealer</i>)—	
Hardwood.....	- 0.9
Softwood.....	- 1.7
Textile products—	
Textile products, other than cotton, silk and wool.....	+ 6.0
Woolen and worsted goods.....	0.0
Cotton goods.....	- 1.8
Silk and rayon.....	- 5.8
House furnishing goods—	
Furnishings.....	+ 0.1
Furniture.....	- 3.7

TABLE 1.—INDEXES OF PRICES, 1922-1927 (Continued)

Index	Average annual rate of change (per cent)
Fuel and lighting—	
Anthracite coal.....	- 0.2
Petroleum products.....	- 1.8
Bituminous coal.....	- 4.5
Coke.....	- 5.6
Miscellaneous—	
Rubber, crude.....	+16.8
Cattle feed.....	+ 0.1
Paper and pulp.....	- 0.5
Metals and metal products—	
Nonferrous metals.....	+ 1.9
Iron and steel.....	- 1.9
Agricultural products, at wholesale ^{a,d}	+ 0.7
Nonagricultural products, at wholesale ^{a,d}	- 1.8
Index numbers of the prices of raw materials and of manufactured goods made from these materials (United States Bureau of Labor Statistics) ^b	
Raw materials (27 price series).....	+ 1.1
Manufactured goods (70 price series).....	+ 1.8
Group index numbers, wholesale prices, of the National Bureau of Economic Research: ^c	
Index numbers for major groups—	
Agricultural products.....	+ 1.0
Nonagricultural products.....	- 1.1
Foreign products.....	+ 3.4
Domestic products.....	- 0.4
Products of American farms.....	+ 0.7
All other commodities.....	- 0.5
All agricultural products, excluding rubber, processed textiles, leather, and shoes.....	+ 1.8
All other commodities (i.e., industrial goods).....	- 0.9
Raw materials.....	+ 1.4
Processed materials.....	- 0.4
Consumers' goods.....	+ 0.3
Producers' goods.....	0.0
Foods.....	+ 2.0
Nonfoods.....	- 0.9
Animal products.....	+ 1.2
Cultivated vegetable products.....	+ 0.5
Mineral products.....	- 0.9
Forest products.....	- 1.6
Index numbers for minor groups—	
Agricultural products—	
Producers' goods.....	+ 1.3
Consumers' goods.....	+ 0.7
Raw materials.....	+ 2.1
Processed materials.....	+ 0.4
Producers' goods, raw.....	+ 1.9
Producers' goods, processed.....	+ 0.6
Consumers' goods, raw.....	+ 2.8
Consumers' goods, processed.....	+ 0.4
Foreign.....	+ 3.0
Domestic.....	+ 0.8
Nonagricultural products—	
Consumers' goods.....	- 0.5
Producers' goods.....	- 0.9
Raw materials.....	0.0

TABLE 1.—INDEXES OF PRICES, 1922-1927 (Continued)

Index	Average annual rate of change (per cent)
Processed materials.....	- 1.3
Producers' goods, raw.....	+ 0.1
Producers' goods, processed.....	- 1.2
Consumers' goods, raw.....	+ 0.8
Consumers' goods, processed.....	- 0.8
Foreign.....	+ 6.0
Domestic.....	- 1.5
Products of American farms—	
Raw materials.....	+ 1.2
Processed materials.....	+ 0.4
Commodities not products of American farms—	
Raw materials.....	+ 1.7
Processed materials.....	- 1.1
Agricultural products, excluding rubber, processed textiles, leather, and shoes—	
Raw materials.....	+ 1.9
Processed materials.....	+ 1.7
All other commodities (industrial goods)—	
Raw materials.....	+ 0.5
Processed materials.....	- 1.2
Raw materials—	
Agricultural products.....	+ 2.1
Nonagricultural products.....	0.0
Commodities not products of American farms.....	+ 1.7
Products of American farms.....	+ 1.2
Agricultural products, excluding rubber, processed textiles, leather, and shoes.....	+ 1.9
All other commodities (industrial goods).....	+ 0.5
Consumers' goods.....	+ 2.3
Producers' goods.....	+ 1.3
Foods.....	+ 3.0
Nonfoods.....	- 0.1
Forest products.....	+ 0.6
Cultivated vegetable products.....	+ 3.1
Animal products.....	+ 0.3
Mineral products.....	- 0.3
Processed materials—	
Agricultural products.....	+ 0.4
Nonagricultural products.....	- 1.3
Products of American farms.....	+ 0.4
Commodities not products of American farms.....	- 1.1
Agricultural products, excluding rubber, processed textiles, leather, and shoes.....	+ 1.7
All other commodities (industrial goods).....	- 1.2
Consumers' goods.....	0.0
Producers' goods.....	- 0.7
Foods.....	+ 1.4
Nonfoods.....	- 1.0
Animal products.....	+ 1.6
Cultivated vegetable products.....	- 0.6
Mineral products.....	- 1.0
Forest products.....	- 1.9
Consumers' goods—	
Raw materials.....	+ 2.3
Processed materials.....	0.0
Agricultural products.....	+ 0.7

TABLE 1.—INDEXES OF PRICES, 1922-1927 (Continued)

Index	Average annual rate of change (per cent)
Nonagricultural products.....	- 0.5
Foods.....	+ 1.7
Nonfoods.....	- 1.0
Producers' goods—	
Raw materials.....	+ 1.3
Processed materials.....	- 0.7
Agricultural products.....	+ 1.3
Nonagricultural products.....	- 0.9
Foods.....	+ 2.6
Nonfoods.....	- 0.6
Foods—	
Raw materials.....	+ 3.0
Processed materials.....	+ 1.4
Producers' goods.....	+ 2.6
Consumers' goods.....	+ 1.7
Producers' goods, raw.....	+ 3.0
Producers' goods, processed.....	+ 1.1
Consumers' goods, raw.....	+ 2.8
Consumers' goods, processed.....	+ 1.4
Nonfoods—	
Raw materials.....	- 0.1
Processed materials.....	- 1.0
Producers' goods.....	- 0.6
Consumers' goods.....	- 1.0
Producers' goods, raw.....	0.0
Producers' goods, processed.....	- 0.8
Consumers' goods, raw.....	+ 0.8
Consumers' goods, processed.....	- 1.1
Animal products—	
Processed materials.....	+ 1.6
Raw materials.....	+ 0.3
Cultivated vegetable products—	
Raw materials.....	+ 3.1
Processed materials.....	- 0.6
Mineral products—	
Raw materials.....	- 0.3
Processed materials.....	- 1.0
Forest products—	
Raw materials.....	+ 9.6
Processed materials.....	- 1.9
Prices of commodities at the farm:	
Index of United States Bureau of Agricultural Economics.....	+ 1.1
Meat animals.....	+ 6.6
Grain.....	+ 4.3
Fruits and vegetables.....	+ 4.0
Dairy and poultry.....	+ 0.2
Unclassified commodities.....	- 3.7
Cotton.....	- 7.5
Retail food prices:	
Index of the U. S. Bureau of Labor Statistics.....	+ 2.4
Meats.....	+ 3.2
Cereals.....	+ 2.2
Dairy products.....	+ 1.2
Retail sugar prices, index, 51 cities.....	- 4.0
Retail coal prices, index, 51 cities.....	- 0.1

TABLE 1.—INDEXES OF PRICES, 1922-1927 (Continued)

Index	Average annual rate of change (per cent)
Cost of living:	
Index of the United States Bureau of Labor Statistics.....	+ 0.7
Food.....	+ 2.6
Miscellaneous.....	+ 0.4
Fuel and light.....	+ 0.3
Housing.....	0.0
Furniture and furnishings.....	- 0.6
Clothing.....	- 1.2
General price level:	
Index of the Federal Reserve Bank of New York.....	+ 1.5
Security prices.....	+ 0.1
Wages.....	+ 2.8
Food prices, retail.....	+ 2.4
Equipment and machinery.....	+ 1.3
Prices at the farm.....	+ 1.1
Automobile prices.....	+ 0.9
Hardware prices, wholesale.....	+ 0.3
Rents.....	0.0
Realty values.....	- 0.1
Cost of living items other than food and rents.....	- 0.3
Transportation costs.....	- 1.5
Industrial commodity prices, at wholesale.....	- 1.8
Building costs:	
Building material prices (Bureau of Standards)—	
Frame buildings.....	- 0.2
Brick buildings.....	- 0.5
Construction costs—	
Index of construction costs, <i>Engineering News Record</i>	+ 1.8
Index of construction costs, Associated General Contractors of America.....	+ 0.9
Factory building costs, Aberthaw Construction Co.....	+ 1.4
Indexes of costs, by building types—	
Indexes of the American Appraisal Co.—	
Brick building, wood frame.....	+ 0.9
Frame building.....	+ 0.8
Reinforced concrete building.....	+ 0.4
Brick building, steel frame.....	+ 0.2

APPENDIX B

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FOOTNOTES FOR TABLE 1.

* Unless otherwise noted, the index numbers of the United States Bureau of Labor Statistics which have been employed in the present calculations are the revised measures, on the 1926 base. For the purpose of the present computations, the revised sub-group index numbers have been carried back one year to include 1922.

† Computed from unrevised (1913 base) index numbers of the United States Bureau of Labor Statistics.

‡ Index numbers computed by the Bureau of Agricultural Economics and the Bureau of Labor Statistics.

§ These index numbers are those begun by the Federal Reserve Board, employing the data of the Bureau of Labor Statistics, and carried through 1927 by the Bureau of Labor Statistics. The classifications are those of the Federal Reserve Board. The classifications are arbitrary, as pointed out by the Bureau of Labor Statistics, "Index Numbers of Wholesale Prices on Pre-war Base." They do not agree with the classifications employed in constructing the index numbers from which the measures in the next section have been computed.

¶ The measures included in this section are based upon unpublished index numbers prepared by the National Bureau of Economic Research. The data employed are the price quotations compiled by the United States Bureau of Labor Statistics. The index numbers are unweighted geometric means of relatives on the 1913 base. In certain cases the classifications of commodities upon which these index numbers are based differ from the classifications employed in the construction of currently published index numbers in which the same group names are used. This is true of the classifications of agricultural and nonagricultural products, producers' goods and consumers' goods, raw materials and processed materials. A complete account of the present classifications will be published by the National Bureau of Economic Research.

‡ The goods upon which these index numbers are based are of purely domestic origin and of purely foreign origin (or practically so), in so far as consumption in the United States is concerned. Goods coming from both domestic and foreign sources have been omitted.

• Among products of American farms are included goods of which part of the American supply may come from foreign sources. There is, thus, an important difference between this group and the group of "agricultural products, domestic" which is listed on p. 923.

TABLE 2.—COMMODITY PRICES, 1922-1927

Commodity	Average annual rate of change in—	
	Farm price (per cent)	Wholesale price (per cent)
Agricultural products, raw:		
Grains—		
Wheat.....	+ 5.8	+ 5.2
Wheat.....	.....	+ 3.2
Rye.....	+ 4.6	+ 5.0
Barley.....	+ 3.8	+ 4.2
Corn.....	+ 2.7	+ 4.0
Oats.....	+ 2.2	+ 2.7
Fruits and vegetables—		
Potatoes, white.....	+13.6	+13.1
Sweet potatoes.....	+ 4.5	+ 3.4
Grapefruit.....	+ 3.0	.....
Beans.....	- 1.1	- 5.8
Oranges.....	- 2.2	+ 0.2
Apples.....	- 4.3	- 6.6
Meat animals—		
Hogs.....	+ 7.8	+ 6.9
Calves.....	+ 6.1	.....
Cattle.....	+ 5.9	+ 4.5
Sheep.....	+ 3.9	+ 1.5
Lambs.....	+ 3.5	+ 1.0
Dairy and poultry products—		
Butter.....	+ 2.7	+ 1.8
Chickens.....	+ 2.4	+ 2.4
Eggs.....	+ 0.5	+ 0.8
Milk.....	- 1.6	+ 2.6
Cotton and cottonseed—		
Cottonseed.....	- 7.3	- 7.3
Cotton.....	- 7.5	- 7.0
Unclassified commodities—		
Hay.....	+ 0.7	- 2.7
Wool.....	- 0.2	- 4.1
Horses.....	- 1.3	.....
Flaxseed.....	- 1.5	- 2.7
Other agricultural products, raw—		
Rubber, plantation.....	.....	+16.4
Hides.....	.....	+ 0.1
Sugar, raw.....	.....	- 5.0
Tobacco, leaf.....	.....	- 7.1
Silk, raw.....	.....	- 7.3
Agricultural products, processed:		
Meats—		
Pork, mess.....	.....	+ 7.5
Pork, fresh.....	.....	+ 6.4
Beef.....	.....	+ 3.6
Lamb.....	.....	+ 0.9
Other products, processed—		
Flour, wheat.....	.....	+ 3.3
Leather, side chrome.....	.....	+ 3.2
Tobacco, plug.....	.....	- 0.2
Leather, glazed kid.....	.....	- 0.7
Leather, sole union backs.....	.....	- 0.9
Silk, spun.....	.....	- 1.5

TABLE 2.—COMMODITY PRICES, 1922-1927 (Continued)

Commodity	Average annual rate of change in—	
	Farm price (per cent)	Wholesale price (per cent)
Tobacco, smoking.....		- 4.1
Sugar, granulated, index 51 cities.....		- 4.2
Sugar, granulated, New York.....		- 5.0
Nonagricultural products, raw:		
Tin.....		+13.9
Lead.....		+ 3.3
Zinc.....		+ 2.5
Wood pulp.....		+ 0.1
Anthracite coal ^a		- 0.2
Copper.....		- 0.7
Crude petroleum.....		- 1.8
Silver.....		- 2.7
Bituminous coal ^a		- 4.5
Iron ore.....		- 5.4
Pig iron.....		- 7.3
Nonagricultural products, processed:		
Zinc, sheet.....		+ 5.2
Lead pipe.....		+ 3.5
Wrapping paper.....		+ 2.3
Lubricating oil, paraffin.....		+ 2.1
Fuel oil, Pennsylvania.....		+ 1.9
Kerosene.....		+ 0.6
Copper wire.....		- 0.9
Brick ^b		- 1.1
Structural steel ^b		- 1.4
Portland cement ^c		- 1.7
Lumber ^c		- 1.9
Steel billets.....		- 2.0
Newsprint.....		- 2.8
Gasoline.....		- 4.6
Coke ^c		- 5.6

^a Hard winter, Kansas City.

^b Northern spring, Minneapolis.

^c The rates of price change for this commodity have been computed from indexes secured by combining price quotations from a number of markets or for a number of grades.

TABLE 3.—PRODUCTION, 1922-1927*

Series	Average annual rate of change (per cent)
Raw materials:	
Minerals—	
Zinc.....	+ 8.6
Copper, mine production.....	+ 8.4
Lead.....	+ 7.7
Crude petroleum.....	+ 7.4
Iron ore.....	+ 3.6
Bituminous coal.....	+ 3.5
Anthracite coal.....	+ 3.3
Silver.....	+ 0.1
Crops, production—	
Flaxseed.....	+11.3
Cotton.....	+ 9.2
Barley.....	+ 5.9
Rice.....	+ 1.5
Hay, tame.....	+ 1.0
Wheat, total.....	+ 0.4
Spring wheat.....	+ 1.3
Winter wheat.....	- 1.0
Oats.....	- 0.5
Corn.....	- 1.1
Tobacco.....	- 1.2
Potatoes.....	- 3.9
Apples.....	- 3.9
Rye.....	-13.3
Crops, total value ^b	- 3.0
Animal products, marketings^c:	
Fish.....	+ 9.4
Milk, New York.....	+ 3.9
Poultry.....	+ 2.9
Wool.....	+ 2.5
Sheep.....	+ 1.7
Cattle and calves.....	0.0
Eggs.....	- 0.5
Hogs.....	- 4.1
Forest products—	
Gum (rosin and turpentine).....	+ 5.3
Distilled wood.....	+ 0.7
Lumber.....	+ 0.4
Pulp wood.....	+ 0.1
Manufactured goods:^d	
Chemicals, oils, etc.—	
Petroleum refining—	
Gasoline.....	+17.3
Fuel oil.....	+ 8.6
Lubricating oil.....	+ 6.7
Kerosene.....	+ 1.2
Vegetable oils, total.....	+12.1
Cottonseed oil—	
Crude.....	+16.3
Refined.....	+15.0
Cocanut oil—	
Refined.....	+12.3
Crude.....	+ 7.5
Stone and clay products—	
Cement.....	+ 7.5
Face brick.....	+ 4.1
Tobacco—	
Cigarettes.....	+12.1
Manufactured tobacco and snuff.....	- 0.9
Cigars.....	- 1.7
Metals, excepting iron and steel—	
Blister-copper.....	+ 8.5
Tin, deliveries from port warehouses.....	+ 4.9
Iron and steel—	
Machine tools, new orders.....	+10.7
Steel sheets, production.....	+ 8.2
Foundry equipment, new orders.....	+ 5.0
Steel ingots, production.....	+ 4.3
Pig iron, production.....	+ 4.1
Iron ore, consumption.....	+ 3.3
Steel castings, new orders.....	- 1.7
Lumber products—Flooring, maple and oak.....	+ 7.2
Foodstuffs—	
Slaughtering and meat packing—	
Calves slaughtered.....	+ 3.7
Sheep slaughtered.....	+ 3.3

TABLE 3.—PRODUCTION, 1922-1927* (Continued)

Series	Average annual rate of change (per cent)
Cattle slaughtered.....	+ 2.5
Hogs slaughtered.....	- 2.7
Meats.....	- 0.3
Lamb.....	+ 3.7
Beef.....	+ 1.9
Pork.....	- 2.0
Animal fats.....	- 1.4
Butter.....	+ 5.9
Sugar meltings (raw cane sugar).....	+ 1.4
Wheat flour.....	- 0.3
Milk, condensed and evaporated.....	+ 3.8
Paper and printing—	
Wood pulp—	
Chemical.....	+ 5.4
Mechanical.....	+ 2.1
Paper, total.....	+ 4.2
Newsprint—	
Canada.....	+ 14.1
United States.....	+ 1.6
Other paper—	
Paper board.....	+ 6.2
Book paper.....	+ 5.6
Fine paper.....	+ 5.6
Wrapping paper.....	+ 4.2
Newsprint consumption.....	+ 8.1
Textiles—	
Cotton goods—	
Cotton consumption.....	+ 3.8
Fine cotton goods, production, New Bedford.....	+ 2.9
Total spindle hours.....	+ 2.0
Cotton cloth, exports.....	- 0.2
Active spindles.....	- 0.7
Finished cotton goods, billings.....	- 2.0
Woolens—	
Wool machinery activity.....	- 3.7
Consumption of raw wool.....	- 4.3
Carpet and rug loom activity.....	- 4.4
Wool receipts at Boston, total.....	- 5.1
Knit underwear, production.....	- 0.8
Silks—	
Silk deliveries.....	+ 10.1
Silk loom activity.....	+ 7.1
Leather and leather products—	- 0.2
Sole leather.....	
Upper leather—	
Goat and kid.....	+ 1.3
Calf and kip.....	- 1.5
Cattle.....	- 4.5
Boots and shoes.....	+ 0.2
Coke production, total.....	+ 4.5
By-product.....	+ 8.1
Beehive.....	- 6.6
Vehicles for land transportation—	
Automobiles.....	+ 4.2
Trucks.....	+ 10.9
Passenger cars.....	+ 3.8
Locomotives completed.....	- 10.8
Shipbuilding.....	- 0.1
Miscellaneous—	
Tires, pneumatic.....	+ 10.0
Inner tubes.....	+ 7.3
Crude rubber consumption, total.....	+ 6.3
Crude rubber consumption for tires.....	+ 7.4
Electric power production.....	+ 10.5

* Monthly and annual values of most of the series from which the following rates were computed are published currently in the *Survey of Current Business* or in the *Federal Reserve Bulletin*. Full descriptions of the several series, with statements concerning the sources, will be found in these publications.

^b Dollar value series.

^c Certain of the series listed in the table dealing with distribution are here employed as indexes of production.

^d The general grouping follows that employed by the Department of Commerce, but the constituent items are not the same in all cases as those entering into the Department indexes.

TABLE 4.—THE DISTRIBUTION OF GOODS; SUPPLEMENTARY SERIES MEASURING MARKETING MOVEMENTS, 1922-1927

Series	Average annual rate of change (per cent)
Animal products, marketings (Indexes of Department of Commerce) ^a	+ 1.1
Fish.....	+ 9.4
Milk, New York.....	+ 3.9
Poultry.....	+ 2.9
Wool.....	+ 2.5
Sheep.....	+ 1.7
Cattle and calves.....	0.0
Eggs.....	- 0.5
Hogs.....	- 4.1
Crop marketings:	
Cotton products.....	+ 9.2
Fruits.....	+ 2.8
Vegetables.....	+ 1.5
Grains.....	- 2.6
Other shipments and receipts: ^b	
Silk deliveries.....	+10.1
Steel sheets, shipments.....	+ 7.6
Iron ore shipments.....	+ 2.9
Finished cotton goods, shipments.....	+ 0.1
Finished cotton goods, billings.....	- 2.9
Total wool receipts at Boston.....	- 5.1
Domestic.....	+ 2.4
Foreign.....	-12.0
Livestock movements—	
Sheep and lambs.....	+ 1.7
Cattle and calves.....	0.0
Hogs.....	- 4.5
Imports, individual commodities:	
Hides and skins.....	- 6.4
Goat skins.....	+ 1.3
Sheep skins.....	- 3.1
Calf skins.....	- 5.1
Cattle hides.....	-10.7
Cotton cloth.....	-19.4
Exports, individual commodities: Cotton cloth.....	+ 0.2

^a Fish: Fish landings in Boston, Seattle, Portland, Me., and Gloucester. Milk: Receipts in Greater New York. Poultry: Receipts of dressed poultry in New York, Chicago, Philadelphia, Boston, and San Francisco. Wool: Receipts of domestic wool at Boston. Cattle and calves, hogs, sheep: Receipts in 67 markets. Eggs: Receipts in New York, Chicago, Philadelphia, Boston and San Francisco.

^b Deliveries of raw silk from principal warehouses in New York City, indicating approximate consumption by mills. Compiled by the Silk Association of America. Published currently in the *Survey of Current Business*. Iron ore shipments through Upper Great Lakes ports. The data from which the measures for steel sheets, cotton goods and wool have been computed are published, and the sources are described, in the *Survey of Current Business*. The data on livestock movements relate to receipts at 60 or 70 markets. They are compiled by the Bureau of Agricultural Economics.

TABLE 5.—COMMODITY STOCKS, 1922-1927^a

Series	Average annual rate of change (per cent)
Raw materials:	
Nonfood materials, for manufacture—	
Textiles—	
Cotton—	
Total world visible.....	+10.0
Total domestic.....	+7.0
Silk.....	+7.4
Wool.....	-7.8
Minerals—	
Crude petroleum.....	-0.1
Iron ore.....	-1.1
Zinc.....	-1.7
Tin.....	-4.1
Copper—	
Blister.....	+5.6
Refined.....	-15.0
Other commodities—	
Unmanufactured tobacco (including imported types).....	+3.6
Wood pulp—	
Mechanical.....	+10.8
Chemical.....	-7.9
Crude rubber, domestic stocks.....	-2.9
Raw foodstuffs—	
Cottonseed.....	+15.2
Corn, visible supply.....	+14.1
Barley, visible supply.....	+13.0
Raw cane sugar.....	+12.7
Rice, domestic at mills and dealers.....	+6.5
Wheat, visible supply.....	+4.1
Oats, visible supply.....	+0.6
Rye, visible supply.....	-4.8
Manufactured goods:	
Manufactured commodities, nonfoods—	
Portland cement.....	+18.3
Steel sheets.....	+8.0
Gasoline, stocks at refineries.....	+13.4
Lubricating oil, stocks at refineries.....	+8.0
Kerosene, stocks at refineries.....	+4.1
Gas and fuel oils, stocks at refineries.....	-5.5
Total paper.....	+6.6
Newsprint paper, stocks in United States and Canadian mills.....	+6.1
Newsprint paper, stocks at publishers, United States.....	+2.0
Leather, upper, finished.....	-9.6
Leather, sole and belting, finished.....	-17.4
Manufactured foodstuffs:	
Vegetable oils, refined.....	+21.0
Cottonseed oil, refined.....	+19.3
Animal fats.....	+2.1
Sugar, refined.....	+16.3
Butter, cold storage holdings.....	+7.2
Condensed and evaporated milk.....	+3.4
Wheat, flour.....	-1.2
Pork products, cold storage holdings.....	-0.2
Beef, cold storage holdings.....	-3.2
Lamb, cold storage holdings.....	-7.5

^a The series from which the present figures have been compiled appear in the *Survey of Current Business*. Details concerning the individual series will be found in that publication. The groupings employed by the Bureau of the Census in the construction of indexes of commodity stocks have been used in classifying the individual series, but it is not to be assumed that the indexes of the Census Bureau are constructed from the series listed.

TABLE 6.—EMPLOYMENT, PAY ROLL, AND PER CAPITA EARNINGS IN MANUFACTURING INDUSTRIES, 1922-1927*

Industry	Average annual rate of change in		
	Employment (per cent)	Pay rolls (per cent)	Per capita earnings (per cent)
Lumber and its products:			
Lumber, sawmills.....	-4.1	-0.7	+3.5
Furniture.....	+0.4	+2.9	+2.5
Lumber, millwork.....	-1.3	+0.6	+1.9
Stone, clay, and glass products:			
Glass.....	-0.4	+3.1	+3.5
Pottery.....	+1.5	+4.6	+3.0
Brick, tile, terra cotta.....	-0.4	+2.4	+2.8
Cement ^b	-3.3	-2.2	+1.1
Iron and steel and their products:			
Hardware.....	-2.6	+1.6	+4.3
Machine tools ^c	+0.8	+3.8	+3.0
Iron and steel.....	+0.2	+3.0	+2.7
Foundry and machine shop.....	-1.3	+0.9	+2.2
Structural iron work ^d	-0.4	+1.7	+2.1
Stoves.....	-4.8	-3.5	+1.5
Steam fittings, and steam and hot water heating apparatus ^e	-2.1	-0.8	+1.3
Cast iron pipe.....	-0.8	-0.8	0.0
Miscellaneous industries:			
Agricultural implements.....	-1.1	+6.1	+5.0
Rubber boots and shoes.....	-1.0	+2.5	+3.5
Electrical machinery, apparatus, and supplies.....	+1.1	+3.7	+2.6
Shipbuilding, steel.....	+0.7	+3.2	+2.5
Pianos and organs.....	-0.9	+1.5	+2.4
Automobile tires.....	+1.3	+3.4	+2.0
Paper and printing:			
Printing, book and job.....	+1.4	+4.1	+2.6
Paper boxes.....	+1.0	+3.4	+2.4
Paper and pulp.....	-0.4	+1.9	+2.3
Printing, newspapers.....	+3.6	+5.6	+1.9
Food and kindred products:			
Confectionery ^f	-4.1	-1.8	+2.4
Ice cream ^g	-2.0	+0.2	+2.3
Baking ^h	+1.3	+2.9	+1.6
Slaughtering and meat packing.....	-3.6	-2.5	+1.2
Flour.....	-3.8	-2.8	+1.0
Sugar refining, cane ⁱ	-2.0	-1.7	+0.3
Chemical and allied products:			
Chemicals.....	+0.3	+3.8	+3.5
Fertilizers.....	-0.2	+2.7	+2.9
Petroleum refining.....	+0.6	-0.3	-0.9
Vehicles for land transportation:			
Car building and repairing, steam railroads.....	-3.8	-1.7	+2.2
Carriages and wagons.....	-4.3	-3.1	+1.2
Car building and repairing, electric railroads.....	-2.3	-1.5	+0.8
Automobiles.....	+3.1	+3.8	+0.7
Textiles and their products:			
Hosiery and knit goods.....	-0.2	+4.4	+4.6
Silk goods.....	+1.0	+4.0	+2.9
Shirts and collars.....	-4.4	-2.7	+1.8
Dyeing and finishing textiles.....	+0.6	+2.5	+1.8
Millinery and lace goods.....	-7.1	-5.6	+1.6
Cotton goods.....	-2.7	-1.0	+1.7
Woolen and worsted goods.....	-3.1	-2.3	+0.8
Clothing, women's.....	-4.6	-4.3	+0.3
Carpets and rugs.....	-0.4	-0.6	-0.2
Clothing, men's.....	-4.7	-5.5	-1.3
Tobacco products:			
Chewing and smoking tobacco and snuff.....	-2.6	-0.4	+2.2
Cigars and cigarettes.....	-4.9	-5.0	-0.1
Metal and metal products, other than iron and steel:			
Brass, bronze, and copper products ^j	-0.9	-0.7	+0.2
Stamped and enameled ware.....	-1.0	-1.9	-0.9
Leather and its products:			
Leather.....	-2.3	-0.4	+1.9
Boots and shoes.....	-2.4	-3.5	-1.1

* The data from which these rates have been computed were compiled by the United States Bureau of Labor Statistics. The rates of change in employment and pay rolls were derived from the data as compiled; the rates of change in per capita earnings were computed from the employment and pay roll figures. Except where otherwise noted, the rates were computed from data for the period July 1922-December 1927.

^b Series begins April, 1923.

^c Series begins May, 1923.

^d Series begins Sept., 1922.

^e Series is for 1923-1927.

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