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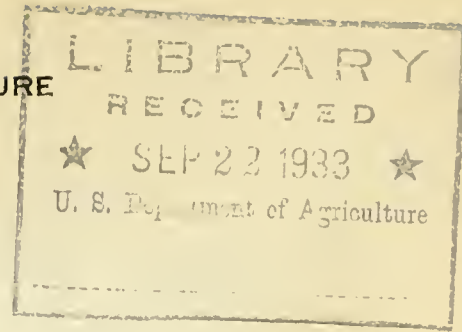
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Agricultural Economics Bibliography No. 48

PRICE ANALYSIS

Selected References on Supply and Demand Curves and Related Subjects

Compiled by Louise O. Bercaw
Under the Direction of Mary G. Lacy, Librarian
Bureau of Agricultural Economics

Washington, D. C.
September 1933

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Selected References on Supply and Demand Curves and Related Subjects, January 1928 - June 1933

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This list had its origin in a request for a bibliography on supply and demand curves to supplement the list on p. 124-125 in Warren and Pearson's bulletin "Interrelationships of Supply and Price." (Item 123) It is designed to list references to material on price analysis published since 1927, although a few references to material published prior to that date, not included in the Warren and Pearson bulletin, have been listed. The footnote citations in many of the publications listed are an additional source of references to earlier material. No special search was made for specific analyses of prices other than agricultural prices or for references on price spreads. This list is the beginning of what it is hoped may grow into a comprehensive bibliography on price analysis. Suggestions and criticisms as to omissions and inclusions and the arrangement of titles will be gratefully received.

THEORETICAL ASPECTS*

1. [American association for the advancement of science.] The Syracuse meeting of the American association for the advancement of science and associated societies; edited by Dr. Charles F. Roos. Science 76 (1960): 63-75. July 22, 1932. 470 Sci 2

The following is quoted from the report of Section K, p. 70-71:

"Mr. R. H. Whitman, of the University of Chicago, opened the Tuesday morning session, devoted to a symposium on 'Demand,' with an account of his work on the fitting of demand functions of more general types than those used by H.L. Moore to price data for iron and steel. Terms involving the rate of change of price and the time-integral of price were included in various combinations. High multiple correlations were obtained for each of the periods 1902-1915, 1916-1920 and 1921-1930. Dr. C. F. Roos showed how the effect of past prices and the memory of past purchases lead to a demand function containing an integral either of past prices or past purchases the two forms being equivalent on account of the invertibility of the linear integral equation. He declared that in the newer view of demand the concept of utility will be demoted from a major to a very minor place. ..."

"The Thursday afternoon symposium on agricultural supply and demand functions was opened by Professor F. A. Pearson, of Cornell University, who gave the results of a study of the relations between the supplies of corn, potatoes, wheat and beef in various localities of the United States and prices (in some cases and in others wholesale prices) in New York City. In

*Includes some references on statistical methodology.

the next paper Dr. Mondecari Ezekiel [q.v.] examined various functional set-ups for the demand curves of two competing products. In particular, he discussed the cases where the price of each product is expressed as an additive function of the supply of both, and where the price of each is expressed in terms of its own supply and the price of the other. In the last paper of this symposium Dr. Louis H. Bean [q.v.] of the Department of Agriculture, discussed the derivation of instantaneous demand-supply curves, characteristics of shifts in demand curves and a type of demand-supply curve which represents the response of producers to price in future planning."

2. American association for the advancement of science. Reports of the fourth Cleveland meeting... Science 73 (1884): 137-168. Feb. 6, 1931. 470 Sci2
In the report of Section A (mathematics) and related organizations, p. 150, there is a short report of a paper by C. F. Roos as follows:
"C. F. Roos, of Cornell University, gave an ordered account of the more recent mathematical formulations expressing the interrelations of demand, cost of production and profit, he showed by concrete examples what may be accomplished in fitting mathematical functions to actual commodity curves over a number of years."
3. Amoroso, Luigi. La curva statica di offerta. Giornale degli Economisti e Rivista di Statistica 45 (1): 1-26. Jan. 1930. 280.8 G43
The static curve of supply.
Abstracted in Social Science Abstracts, v. 3, 1931, item 9182.
4. Amoroso, Luigi. Ecuaciones diferenciales de la dinamica económica. Revista Nacional de Economía 28 (84): 241-253. Mar.-Apr. 1929.
Not seen.
5. Amoroso, Luigi. Equazione differenziale della domanda e teoria matematica delle crisi economiche. Giornale degli Economisti e Rivista di Statistica 45 (ie 46) (1): 39-40. Jan. 1931. 280.8 G43
"The criticism of the author's theory, in the definition of the curves of demand and supply made by C. F. Roos (J. Pol. Econ. Oct. 1930, 502) is based on an error of interpretation. The theory advanced by Roos on the cyclical movements of quantities and prices as integrals of a differential equation is less simple than that advanced by the author more than a year earlier." - Social Sci. Abs., v. 4, no. 6, June 1932, item 9537.
6. Amoroso, Luigi. Le equazioni differenziali della dinamica economica. Giornale degli Economisti e Rivista di Statistica 44 (2): 68-79. Feb. 1929. 280.8 G43
"In this article the author discusses the contributions of the American economists, G. C. Evans, C. F. Roos, H. L. Moore, and I. Fisher to the renaissance of mathematical economics. Their theories are evaluated and criticized. Special attention is given to the problem of elasticity of demand and to the work of Fisher for the mathematical prevision of price oscillation." Social Sci. Abs., v. 1, 1929, item 10125.
7. Amoroso, Luigi. Intorno all' determinazione empirica delle leggi della domanda e dell'offerta. Giornale degli Economisti e Rivista di Statistica 45 (11): 941-944. Nov. 1930. 280.8 G43
"It is necessary to proceed simultaneously from the empirical data of prices and consumption to the curves of demand and supply for a theoretical

solution of the problem. Interpolating the data of the historical curve by means of differential equations it is possible to reach, on the basis of certain hypotheses the two families of demand and supply curves." - Social Sci. Abs. v, 4, Apr. 1932, item 5576.

8. Bailey, A. L. The analysis of covariance. Jour. Amer. Statis. Assoc. 26 (n.s. 176): 424-435. Dec. 1931. 251 Am3

"Four examples have been chosen to show some of the practical applications of the analysis of covariance as well as to illustrate the wide variety of information which can be obtained in particular cases. These examples all present imaginary observation but are parallel to actual problems to which the same methods have been applied advantageously. They are taken from the fields of biometry, agronomy, market analysis, and economic supply and demand. In the last of these problems all of the original data and calculations are given in detail. It also illustrates how closer estimates of the correlation and regressions can be obtained by second or third approximations in those cases where the variation between groups is continuous."

9. Bean, L. H. Applications of a simplified method of graphic curvilinear correlation. A preliminary report. 2 pts., mimeogr., charts. Washington, D. C., U. S. Dept. of agriculture, Bureau of agricultural economics, Division of statistical and historical research, 1929. 1.9 Ec752Ap

The following is quoted from p. 1:

"The purpose of this paper is to present this simple approach to multiple curvilinear correlation. The method employed will be demonstrated with six examples, or cases, of actual problems chosen from different fields of economic relationships, in the hope that this 'case' method of presentation will not only make clear the simple steps involved, but will also suggest their application to similar problems likely to be encountered by the analyst of variations in economic data. It will be demonstrated by means of a generalized problem, but in this final illustration also we shall refrain from generalization. Technical language will be used as little as possible, but the reader will need to study closely the graphic presentations, for the method is essentially one of graphic correlation. In each example the data used and the steps in the analysis will be so indicated that the reader may properly appraise the reasonableness of the approach and the reliability of the results. The assumptions and logic involved in each of the six special cases will also be indicated but this only briefly."

Case I, p. 2-4: Relation of (1) production of early potatoes and (2) the price of old potatoes to (3) the price received by producers of early potatoes.

Case II, p. 4-5: Relation of cotton prices and business conditions to the domestic mill consumption of cotton.

Case III, p. 5-7: Cotton consumption (continued).

Case IV, p. 7-8: Effect of supply and other factors on the yearly average of farm price of apples.

Case V, p. 8-9: Effect of supply and other factors on the New York price of California oranges.

Case VI, p. 9-10: Effect of price on acreage of cotton harvested in the United States.

Part II is entitled The Method Applied to Changes in Acreages, Yields and Livestock Numbers. Three examples, or cases, are given. Case VIII, p. 1-2: The relation of price to changes in the United States acreage of

cabbage. Case IX, p. 3-4: The relation of price to changes in the number of hogs on farms in the United States on January 1.

10. Bean, L. H. Characteristics of agricultural supply and demand curves. 10 p., typewritten, charts. [pub. by the Eur. Agr. Econ. in mimeographed form.]
Copy in Library, U.S., Bureau of Agricultural Economics.

This is a summary of the topics included in Mr. Bean's paper on characteristics of agricultural supply and demand curves before Section K of the American Association for the Advancement of Science, joint program with the Econometric Society, Syracuse, June 22, 1932.

"The topics covered deal with (1) a simple illustration of an approach to the instantaneous supply and demand curves for commodities of fixed annual supply. The supply curves dealt with here are the current-supply curves representing supplies offered from a total fixed available quantity on hand; (2) relations between producer, dealer, and total demand curves and two views of price determination (3) shifts in demand curves, that involve changes in slope (or elasticity) and changes in level due to the value of money, growth, factors, etc. (4) comparison of agricultural with nonagricultural demand curves, and (5) subsequent supply curves, which show the effect of current prices on supplies of the following season or seasons."

Commodities for which curves are given are potatoes, pig iron and steel, and meat animals.

11. Bean, L. H. A simplified method of graphic curvilinear correlation. Jour. Amer. Statis. Assoc. 24 (n.s.168): 386-397. Dec. 1929. 251 Am3

In chart IV, p. 395 "is an analysis of the price of early potatoes received by growers, showing the effect of production of early potatoes and of the competitive effect of the price of old potatoes for the years 1921-1928 inclusive."

In chart V, p. 396 "is an analysis of the effect of price and business activity on the domestic mill consumption of cotton for the years 1919 to 1928, inclusive."

A further application of this method by Mr. Bean is given in Application of a Simplified Method of Correlation to Problems in Acreage and Yield Variations in Jour. Amer. Statis. Assoc. 25 (n.s.172): 428-439. Dec. 1930.

12. Bean, L. H., and Thorne, G. B. The use of "trends in residuals" in constructing demand curves. Jour. Amer. Statis. Assoc. 27 (177): 61-67. Mar. 1932.

13. Black, J. D. Agricultural reform in the United States. 511 p., charts. New York, London, McGraw-Hill book company, inc., 1929. 281 B56

The effect of surpluses on prices and incomes, ch. IV, p. 85-128. Subtopics are: Weather surpluses, overplanting surpluses, relation of supplies to prices, effect of surpluses and deficits on gross values of crops, effect of surpluses on net value of crops, effect of prices on subsequent production, surpluses of livestock and livestock products.

Season surpluses and gains from holding during the year, ch. VI, p. 152-176.

14. Black, J. D. Elasticity of supply of farm products. Jour. Farm Econ. 6 (2): 145-155. Apr. 1924. 280.8 J822

15. Bordin, Arrigo. La legge della domanda dal punto di vista della statica e della dinamica. *Giornale degli Economisti e Rivista di Statistica* 45 (5): 421-471. May 1930. 280.8 G43
The law of demand from a static and dynamic standpoint.
Abstracted in *Social Science Abstracts*, v. 3, 1931, item 18856.
16. Burgess, R. W. A statistical approach to mathematical formulation of demand-supply-price relationship. *Ann. Math. Statis.* 3 (1): 10-19. Feb. 1932.
"A generalized mathematical procedure is desirable, involving cost, demand and supply functions, to analyze more complex situations than are amenable to present methods. The non-statistical mathematical economist, before formulating equations with undetermined constants (the determination of which is usually at least as difficult as the original problem), needs to give more attention to the assumptions implicit in the form of equations used. Scientific procedure in supply-demand-price analysis cannot neglect the statistical phases of the problem. The development of actuarial science illustrates broadly the necessary steps in scientific progress; (1) creation of a serviceable mechanism of measurement, (2) careful making and recording of numerous data, (3) derivation of empirical laws from these data, and finally, (4) discovery of fundamental principles." - *Social Sci. Abs.*, v. 4, Oct. 1932, item 16585.
17. Bye, R. T. Composite demand and joint supply in relation to public utility. *Quart. Jour. Econ.* 44 (1): 40-62. Nov. 1929. 280.8 Q2
18. Bye, R. T. The inductive testing of an economic deduction; a method illustrated by analyses of marginal producers and representative firms, by Alfred Marshall, Horace Sechrist and Kemper Simpson. *Analysis No. 44 in Methods in Social Science*, edited by Stuart A. Rice. Chicago, University of Chicago press, 1931, p. 614-634. 280 Sol2
"A description of the attempt of Sechrist and Simpson to obtain a statistical verification of the theoretical cost curve of Marshall." - Wells, O. V. *Farmers' response to price*, item 5.
19. Cabiati, Attilio. Sull'influenza della elasticità della domanda nella produttività crescente. *Giornale degli Economisti e Rivista di Statistica* 45 (4): 335-337. Apr. 1930. 280.8 G43
"The elasticity of demand often acts as a limit to the possibility of expansion as an enterprise. Therefore, even if the enterprise is in the phase of increasing productivity, it is often not possible to realize the whole course of its expansion because its maximum advantage up to the point of monopoly will be in proportion as it is able to realize internal economies." - *Social Sci. Abs.*, v. 3, 1931, item 9187.
20. Cassels, J. M. The nature of statistical supply curves. Address delivered before the American Farm economics association, December 1932. *Jour. Farm Econ.* 15 (2): 378-387. Apr. 1933. 280.8 J822
"An analysis of the statistical approach to the price-supply problem. It is pointed out that the slope of the supply curve depends on the time allowed for adjustments to take place and that the contraction response is not an exact reversal of the expansion response." - Wells, O. V. *Farmers' response to price*, item 6.

21. Clower, F. W. Note on the supply curve for capital. Amer. Econ. Rev. 18 (2): 272-274. June 1928. 280.8 Am32
22. Copeland, M. A. Economic theory and the natural science point of view. Amer. Econ. Rev. 21 (1): 67-79. 1931. 280.8 Am32
"This paper, presented at the forty-third annual meeting of the American Economic Association, Cleveland, Ohio, December 30, 1930, considers how standards of social policy, the marginal utility theory and the ultimate determinants of price, the law of supply and demand, the productivity theory, Say's law that real supply is real demand, and theory of taxation might be treated from a natural science point of view." - Expt. Sta. Rec. 65: 479. 1931.
23. Douglas, P. H. Elasticity of supply as a determinant of distribution. In Economic essays contributed in honor of John Bates Clark, ed. by Jacob H. Hollander, p. 70-118. New York, The Macmillan co., 1927. 280 Ec7
Titles of the ten parts of this paper are: The positive contributions of the marginal theory of distribution; The place of supply curves of the factors in a complete theory of distribution; The conscious or unconscious use of supply schedules in economic theory; Various types of supply curves and the meaning of elasticity of supply; Elasticities of supply in relation to increases in the effectiveness of industry; Elasticity of supply in relation to decreases in the net effectiveness of industry; Elasticities of supply in relation to changes in bargaining power; The influence of the relative proportion of the total product received by the factors; Other factors; Some next steps in research.
24. Econometric society. The meeting of the Econometric society in Cincinnati, Ohio, December 1932. Econometrica 1 (2): 209-217. Apr. 1933. 280.8 Ec78
The report of this meeting is by Alfred Cowles, 3rd.
A summary and comments by M. D. Anderson, H. T. Davis, and W. F. Ferger on Henry Schultz' paper "Interrelations of Demand" p. 210-212. The main body of this paper, which is to be published in the Journal of Political Economy*, "was devoted to a detailed statistical analysis of the interrelations of the demand for the four feed crops, barley, corn, hay, and oats for the period 1896-1914."
Extracts from Victor S. von Szeliski's paper, "The Statistical Analysis of Stock Prices," p. 214-215.
25. Econometric society. [Reports of meetings, 1931 and 1932, Econometrica 1 (1): 73-86, 87-90, 91-93, 94-104. Jan. 1933. 280.8 Ec78
25a. La réunion de la Société d'économétrie Lausanne, septembre, 1931, by Hans Staehle, p. 73-86. On the morning of September 23 M. Marschak gave a paper on "La Détermination statistique des courbes d'offre et de demande, exposé général." A short report of the discussion on this paper is given on p. 80-81. On p. 81 mention is made of papers by M. Fanno on "Les corrélations des prix et les courbes statistiques de demande et d'offre" [q.v.] and by M. Roy on "La demande dans ses rapports avec la distribution des revenus." [q.v.]
25b. The meeting of the Econometric society in Washington, D. C., December 1931, by Irving Fisher, p. 87-90. Short accounts of the papers read at the meetings are given on p. 88-90. Among the papers reported

*Jour. Polit. Econ. 41 (4): 468-512. Aug. 1933.

are the following: The Relation between Mathematical Economics and Statistical Price Analysis, by Mordecai Ezekiel; Some Relations between Commodity Prices and Business Activity by Holbrook Working; and A comparison of the Elasticities of Demand for Selected Commodities, Obtained by Different Methods, by Henry Schultz [q.v.]

25c. The meeting of the Econometric society in New Orleans, Louisiana, January 1932, by Irving Fisher, p. 91-93. The following is quoted from the short report of the meeting on p. 92: "...The following paper was that of Professor Hotelling on 'Edgeworth's Taxation Paradox and the Nature of Demand Functions,' which discussed certain surprising results of two interrelated demands when one of them was subjected to a tax. The discussion of this paper was led by Dr. Mayer and Professor Rietz... At noon, a luncheon meeting was held... The following papers from Europeans were read by title:...2. 'Pitfalls in the Statistical Construction of Demand and Supply Curves,' by Ragnar Frisch [q.v.]. 3. 'Cio' Che e' Chiaro e Cio' Che e' Oscuro nelle Fluttuazioni dei Prezzi,' ('Clear and Dark Aspects in Price Fluctuations'), by Luigi Amoroso (Published in Vol. 4 of Atti dell' Istituto Nazionale delle Assicurazioni). 4. 'The Demand for Rival (or Substitute) Commodities,' by Umberto Ricci [q.v.]. 5. 'Kostenanalyse als Grundlage einer statistischen Ermittlung von Nachfragekurven,' by Erich Schneider (published in Archiv für Sozialwissenschaft)..."

25d. The meeting of the Econometric society, in Syracuse, New York, June 1932, by Joseph Mayer, p. 94-104. A Demand and Supply symposium was held on the morning of the first day of the meeting. A short abstract of the first paper The Statistical Law of Demand for Producers' Goods as Illustrated by the Demand for Iron and Steel, by Roswell H. Whitman, together with a report of the discussion on this paper by Harry S. Kantor, Ragnar Frisch, Harold Hotelling, and L. H. Bean, is given on p. 94-96. A short abstract of C. F. Roos' paper, The Effect of Hysteresis and Speculation on Demand and Supply and a report of discussion on this paper by Joseph Mayer, Mordecai Ezekiel, Harold Hotelling, H. T. Davis, and Ragnar Frisch are given on p. 96-97. A short report of L. L. Thurstone's paper, An Experimental Study of Indifference Curves, together with discussion by Dr. Ezekiel and Dr. Mayer, is given on p. 97-98. Short accounts are given on p. 102-103 of three papers presented at the Wednesday afternoon session, i. e.: Supply-Price Relationships, by F. A. Pearson and G. F. Warren; Analyzing the Prices of Competing Products, by Mordecai Ezekiel; and Characteristics of Agricultural Supply and Demand Functions, by L. H. Bean [q.v.]

26. Ezekiel, Mordecai. Preisvoraussage bei landwirtschaftlichen erzeugnissen. Frankfurter gesellschaft für konjunkturforschung. Veröffentlichungen... hft. 9, 32 p. Bonn, K. Schroeder, 1930. 280.9 F85

Not seen.

"For a commodity with a definite sales period within which the supply is fixed, the price for that period may be estimated as soon as the supply is known, from the observed relation of supply to price in earlier periods. Annual crops such as cotton fulfill this condition. The change in the value of money and trends in demand may need to be included in the analysis. Once the forecasted average price for the season has been determined, the seasonal price movement may be forecasted on the basis of average seasonal movements in previous years of similar characteristics. Thus the usual seasonal movement of potato prices differ in years of small, medium, and large crops. The probable influ-

ence of price upon consumption and upon carry-over may similarly be determined by comparing previous changes in these factors with changes in prices for the same periods. The changes in quantities consumed and in quantities added to or subtracted from carry-over may be added together to give a total demand curve, to check against the curve determined directly from changes in supply and price. The influence of price upon consumption may likewise be measured by comparing the changes in acreage planted with changes in price received one and sometimes two or more seasons earlier. More elaborate and complicated methods of determining the relations may be used, including multiple correlation and logarithmic transformations. Other factors may need to be considered. Prices vary in time, in space (geographically), and in different stages of the marketing process. Each type of variation may be subjected to statistical and economic study." - Social Sci. Abs., v. 4, Oct. 1932, item 17638.

27.

/Ezekiel, Mordecai. Some considerations on the analysis of the prices of competing or substitute commodities. *Econometrica* 1 (2): 172-180. Apr. 1933. 280.8 Ec78

Paper read before a joint meeting of the Econometrica Society and Section K of the American Association for the Advancement of Science, Syracuse, New York, June 1932.

28. Ezekiel, Mordecai. Statistical analyses and the 'laws of price.' *Quart. Jour. Econ.* 42 (2): 199-227. Feb. 1928. 280.8 Q2

Library has also a reprint of this.

29. Ezekiel, Mordecai. A statistical examination of the problem of handling annual surpluses of non-perishable farm products. *Jour. Farm. Econ.* 11 (2): 193-226. Apr. 1929. 280.8 J822

Library has also a reprint of this.

Also issued in mimeographed form by the U. S. Bureau of Agricultural Economics. (1.9 Ec762Pro)

"A discussion of ways of dealing with farm surpluses may consider either the institutional means which might be established for disposing of surpluses, or the possibilities of increasing returns to farmers by disposing of the surpluses in various ways. This paper will be confined to the second problem. The possible effects on returns to farmers of such operations as storing from year^{to year} and export dumping will be considered in the light of what is known about price behavior from statistical studies of prices." p. 193.

Unpublished price-analysis studies of the following were used in the preparation of this paper: E. M. Daggit, studies of factors affecting wheat prices; L. H. Bean, a study of the probable effects of export dumping of wheat; Owen L. Dawson, studies of the export demand for various pork products.

The computations on cotton are based on studies by the author and by L. H. Bean.

30. Engländer, Oskar. Elastizität der nachfrage. *Schmöllers Jahrbuch für Gesetzgebung, Verwaltung und Volkswirtschaft im Deutschen Reich* 53 (3): 1-28. June 1929. L. C.

"A discussion on measuring elasticity of demand under conditions of changing quantity on changing price..." *Social Sci. Abs.*, v. 2, 1930, item 473.

31. Fanno, Marco. Correlazioni tra prezzi e curve statistiche di domanda e offerta. *Rivista Italiana de Statistica, Economia e Finanza* 4 (2): 223-237. June 1932. L. C.
Presented at the September 1931 meeting of the Econometric Society.
Also published in *Econometrica* 1 (2): 162-171. Apr. 1933 with title: *Interrelations des Prix et Courbes Statistiques de Demande et d'Offre.*
32. Fanno, Marco. Die elastizität der nachfrage nach ersatzgütern. *Zeitschrift für Nationalökonomie* 1 (1): 51-74. May 1929. L. C.
"The author remarks that, while Alfred Marshall has developed the notion of elasticity of demand and given its mathematical expression, he did not apply it to the particular case of the demand for substitution goods. The author endeavors to complete the theory at this point. He examines the principles for the use of substitution goods and studies the laws governing the demand for them. He then outlines the elements which influence its elasticity and finally develops the Marshallian formula adapted to the particular case under consideration." - *Social Sci. Abs.*, v. 2, 1930, item 14449.
33. Ferger, W. F. Notes on Pigou's method of deriving demand curves. *Econ. Jour.* 42 (165): 17-26. Mar. 1932. 280.8 Q2
Page 26 contains also a brief reply by Mr. Pigou.
Abstracted in *Social Science Abstracts*, v. 4, 1932, item 15826.
34. Ferger, W. F. The static and dynamic in statistical demand curves. *Quart. Jour. Econ.* 47 (1): 36-62. Nov. 1932.
35. Fisher, Irving. A statistical method for measuring "marginal utility" and testing the justice of a progressive income tax. In *Economic essays contributed in honor of John Bates Clark*, ed. by Jacob H. Hollander, p. 157-193. New York, The Macmillan co., 1927. 280 Ec7
"The method consists, in a word, of so utilizing data of family budgets and prices as to compare the wants of two typical families of different incomes, in the same community, by using as a yardstick or criterion, a third typical family having identical tastes, but differing in the amount of income, and living under a different scale of prices for foods, rents, clothing and other items of consumption." p. 159.
36. Frisch, Ragnar. New methods of measuring marginal utility. Tübingen, J. C. B. Mohr, 1932. (Beiträge zur ökonomischen theorie, 3).
Not seen.
Reviewed by Henry Schultz in *Jour. Polit. Econ.* 41 (1): 95-116. Feb. 1933 in an article entitled *Frisch on the Measurement of Utility.*
Also reviewed by A. L. Bowley in *Econ. Jour.* 42 (166): 252-256. June 1932.
37. Frisch, Ragnar. Pitfalls in the statistical construction of demand and supply curves. *Frankfurter Gesellschaft für Konjunkturforschung. Veröffentlichungen, n.f.*, hft. 5, 39 p., chart. Leipzig, H. Buske, 1933. 280.9 F85
Text in English.
A discussion of the pitfalls connected with "the variability type of the data" used in constructing supply and demand curves.

38. Fubini, Renzo. Sull'influenza dell'imposta sulla domanda e sull'offerta. *Giornale degli Economisti e Rivisti di Statistica* 44 (1): 12-22. Jan. 1929. 280.8 G43
The influence of taxation on supply and demand.
39. Gilboy, E. W. Demand curves by personal estimate. *Quart. Jour. Econ.* 46 (2): 376-384, chart. Feb. 1932. 280.8 Q2
40. Gilboy, E. W. Demand curves in theory and practice. *Quart. Jour. Econ.* 44 (4): 601-620. Aug. 1930. 280.8 Q2
Abstracted in *Social Science Abstracts*, v. 3, 1931, item 625.
41. Gilboy, E. W. The Leontief and Schultz methods of deriving "demand" curves. *Quart. Jour. Econ.* 45 (2): 218-261. Feb. 1931. 280.8 Q2
"Starting with a brief description of the technique of the methods developed by Schultz and Leontief for deriving statistical demand and supply curves the author proceeds to an examination of the assumptions and logic upon which their conclusions rest and then applies their methods to the derivation of demand curves, and coefficients of elasticity from price quantity data for sugar, copper and coffee for several price and quantity import and export index numbers for England. Although both Schultz and Leontief derive average demand and supply curves purporting to measure the average elasticity over a given interval of time and the shiftings of instantaneous schedules for given years within the period from the average schedules for the entire period, the author questions their validity. The Schultz curve she holds, is a demand curve only in case supply can be disregarded as an independent factor, or supply alone moves, and the Leontief curve does not measure demand unless his hypotheses are found to be true to fact for the commodity in question. In a parallel comparison of curves and coefficients of elasticity she demonstrates that the results obtained from the two methods are distinctly different and concludes that neither yields the static demand curves discussed by Marshall." - *Social Sci. Abs.*, v. 3, July 1931, item 10863.
42. Green, R. M. An application of "movement theory" in the behavior of prices to corn prices. *Jour. Farm Econ.* 14 (2): 358-361. Apr. 1932. 280.8 J822
43. Harrod, R. F. Notes on supply. *Econ. Jour.* 40 (158): 232-241. June 1930. 280.8 Ec2
"Propaedeutic to the intricate questions connected with external and internal economics which have recently received important treatment by Pigou (*Econ. J.*, June 1928) and by Shove (*Econ. J.*, Mar. 1930), Harrod attempts to demonstrate mathematically the relationship between the supply schedule and increasing and decreasing costs. He does this (1) with reference to a short period, (2) with reference to a long period. No definite conclusions are drawn with regard to the short period but analysis of the effects of varying changes in demand at a given point in time is made. With reference to a long period, the whole problem is rendered complex due to the introduction of dynamic factors and particularly the introduction of the equilibrating of the factors of production with changes in demand. In general, he concludes that (1) an increase in demand would reduce the short-period prime cost of production and consequently the supply schedule of the industry; (2) an increase in demand would also reduce the average cost of production if all kinds of

overhead charges are included; (3) notwithstanding this an increase in demand would raise the price of the product, and consequently the industry is subject to the 'law of increasing costs' as commonly understood. 'Confusion has arisen through failure to observe that these propositions are mutually consistent.'" - Social Sci. Abs., v. 3, Jan. 1931, item 626.

44. Hay, W. W. Study of the nature of demand would obviate many of the mistakes of management. *Annalist* 37 (957): 931-932, charts. May 22, 1931. 284.8 N48

"Inability to forecast demand... remains one of the main difficulties in the way of early adjustment to orderly, balanced production. There are no easy yardsticks by which to measure demand in the sense that we can measure supply, production, shipments, stocks, &c. Nevertheless, a correct adjustment presumes some degree of balance between capacity to produce (supply) and the market (demand). It is therefore necessary to consider the influence of relative market saturation on demand."

Illustrated by three charts. Chart 1 is a type curve which shows the present relative position of electric refrigerator, oil burner, radio, and automobile markets. "It is based on the number in use, and is analagous to annual automobile registration figures. The probable degree of saturation (per capita use) is determined by the use of an integrated probability curve as the trend and significant changes of curvature correspond to relative changes of curvature in the S-curve..."

"Chart 2 illustrates the changes that have taken place in the character of the buying and the effect on production. It is based on smoothed three-year moving averages of annual figures for domestic passenger automobiles."

Chart 3 shows consumption trend, marginal utility, and marginal demand price of reclaimed rubber and price trend of crude rubber, 1919-1928.

45. Holmes, C. L. Shifts in production areas in the United States induced by changes in farm prices and farm technique. 31 p., mimeogr. Washington, D. C., U. S. Dept. of agriculture, Bureau of agricultural economics, Division of farm management and costs, March 1931. 1.9 Ec762Shp

"The major shifts in the distribution of agricultural production in the United States from 1920 through 1930 are described and explained in relation to changes in the agricultural price situation, in insect damage and soil exhaustion, and in methods of production." - Wells, O. V. *Farmers' Response to Price*, item 72.

46. Hopkins, J. A., jr. The forecasting of economic phenomena. *Iowa State Col. Jour. Sci.* 2 (4): 263-288. July 1928. 470 Io9

Literature cited, p. 288.

Subtopics are as follows: Nature of the economic problem; The time factor in economic life; The development of forecasting methods; The use of correlation methods; Curvilinear correlation methods; Forecasting by use of a demand curve; Forecasting by analysis of the economic situation; Composite method; An example of price forecasting (cattle); Application and interpretation of forecasts; Permanence of price relationships; Forecasts as centers of a belt of probability.

47. Hotelling, Harold. Edgeworth's taxation paradox and the nature of demand and supply functions. Jour. Polit. Econ. 40 (5): 577-616. Oct. 1932.
48. Iverson, Carl. Efterspørgselsens elasticitet. [Elasticity of demand, National-økonomisk Tidsskrift 68 (4): 313-341, diagrams. 1930. L. C.
"A survey of the theoretical and practical difficulties which arise when one attempts to work with the factor of elasticity. The discussion which is amply supported by citations, examines the concept of elasticity itself, and the possibility of arriving at a concrete demand elasticity for certain commodities on the basis of statistics." - Social Sci. Abs., v. 3, 1931, item 18863.
49. Jenkin, Fleeming. The graphic representation of the laws of supply and demand, and other essays on political economy. 154 p. London, 1931. (London School Econ. and Polit. Sci...No. 9 in Ser. Reprints of Scarce Tracts in Econ. and Polit. Science) 280.9 L84S
Vol. 2 of his Papers, literary, scientific, &c. London, 1887, of which a reproduction of the title-page is included.
The graphic representation of the laws of supply and demand, and their application to labour, p. 76-106. From Recess Studies. Edited by Sir Alexander Grant. Edinburgh, 1870.
50. Kuznets, S. S. Seasonal variations in industry and trade. 455 p. New York, National Bureau of economic research, 1933. 280 K96S
In three parts: part I. The economic problem of seasonal variations and their statistical measurement; part II. Average seasonal variations in selected groups in industry and trade; part III. The variability of seasonal movements. The following appendices are also given: I. Indexes of seasonal variations in the flow and stocks of commodities and in other aspects of economic activity in the United States; II. The sources of seasonal indexes used in the study but not included in appendix I; III. The lacunae in statistical data revealed by the study.
51. Kuznets, S. S. Secular movements in production and prices: their nature and their bearing upon cyclical fluctuations. 536 p. Boston and New York, Houghton Mifflin company, 1930. 280 K96
Reviewed by Dorothea D. Kittredge in Jour. Farm Econ. 13 (1): 177-179. Jan. 1931.
Reviewed by Robert Weidenhammer in Jour. Business Univ. Chicago 4 (1): 96-97. Jan. 1931.
"The present investigation attempts to inquire into the nature of the long-time movements in production and prices, as well as into their influence on cyclical fluctuations. It attempts to establish some uniformly observed characteristics of the so-called secular movements, and in the process to draw analytical distinctions between different groups of these movements. The latter are studied as they appear in the available statistical series of various countries. The aim is to formulate these movements in such a way as not only to reveal their common characteristics but also to facilitate measurements of the relation between cyclical oscillations and the underlying secular changes.
"A definite hypothesis concerning characteristics of industrial growth forms the basis of our statistical description of long-time movements. This hypothesis is derived from a preliminary observation of the wide field of statistical evidence and from material furnished by

the chronicles of specific industries. The exact formulation of this tentative generalization and the historico-statistical material on which it rests are presented in Chapter I.

"The conclusions of the first chapter furnish a definite approach to the methods of statistical analysis which can be applied to the body of available material. A consideration, however, of some of the general principles of statistical description of long-time movements makes clearer the exact type of analysis to pursue. This consideration forms the contents of Chapter II.

"Chapter III presents the body of statistical data drawn from five countries: United States, Great Britain, Belgium, Germany, and France. Altogether about 60 series of industrial output and 35 series of prices are analyzed. The secular movements are segregated from the cyclical oscillations and are analyzed into two distinct groups of changes, the primary and the secondary. Each pair of production and price series is accompanied by brief comments drawn from the history of the particular industry whose output and prices are described quantitatively.

"The measurable characteristics and the nature of the secondary secular movements...are discussed in Chapter IV. The discussion inquires into the causes of these secondary secular movements in production and prices, and deals with the question whether they can properly be called major cycles. The appendix to the chapter surveys the more important theories of major cycles set forth by various writers.

"In Chapter V, the influence of secular movements on the cyclical oscillations is studied statistically. The aim is to discover the existence or absence of correlation between the rapidity of secular growth and the amplitude of cyclical oscillations.

"The theoretical connection of these two measures of forces as revealed by contemporary business cycle theory is treated in Chapter VI.

"The concluding chapter deals briefly with the theoretical significance of the results of the investigation and attempts to evaluate them in the light of economic theory, both past and present." - Author's preface.

52. Leontief, Wassily. Studien "über die elastizität" des angebots. Weltwirtschaftliches Archiv 35 (1): 66-115. Jan. 1932. 286.8 W462

"The 'total' elasticity of supply of any kind of goods depends upon the average elasticity of the ultimate costs and the 'transformation elasticities' of the different successive stages of production. The latter represents the relation between changes in the marginal natural costs (measured 'in kind' by a quantity index) of production and the total output in a given stage of production. Two approaches to the statistical calculation of the 'transformation elasticities' are developed. A statistical analysis of the American iron market (1879-1915) shows how the significant changes in the supply schedules were resulting from widely heterogeneous developments in the 'partial' elasticities, i.e., cost and 'transformation' elasticities of the different stages of production." Social Sci. Abs., v. 4, May 1932, item 7586.

53. Leontief, Wassily. Ein versuch zur statistischen analyse von angebot und nachfrage. Weltwirtschaftliches Archiv. 50 (1): 1*-53*. July 1929. 286.8 W462

"This is an attempt to deduce statistically the demand and supply curves of commodities by a method which differs from that followed by

American economists. Whereas the latter generally adjust their raw data for changes in population, in the purchasing power of money, and in other factors, and then apply the correlational calculus either directly to the adjusted data, or to trend ratios or link relatives, sometimes lagging one series behind the other, Leontief derives his curves by a single calculation..." - Social Sci. Abs., v. 2, 1930, item 2088.

54. Majerotto, Serafino. Un nuovo metodo per la determinazione empirica delle curve di domanda e offerta. *Rivista Internazionale di Scienze Sociali e Discipline Ausiliarie* 3 (4): 528-539. July 1932. L. C.
Discussion of Jakob Marschak's, *Elastizität der Nachfrage*, 1931.

55. Marschak, Jakob. *Elastizität der nachfrage. Zur empirischen festellung relativer marktkonstanten durch beobachtung von haushalt, betrieb und markt.* 143 p., diagsr. Tübingen, J.C.B. Mohr (P. Siebeck) 1931. (Beiträge zur Okonomischen Theorie hrsg. von Emil Lederer und Joseph Schumpeter 2.) 280 M353

Reviewed by Henry Schultz in *Weltwirtschaftliches Archiv; Zeitschrift des Instituts für Weltwirtschaft und Seeverkehr an der Universität Kiel* 37 (1): 29-38. Jan. 1933. 286.8 W462

The first several paragraphs of this review by Schultz are devoted to a statement of the contributions of H. L. Moore (1914) and others to the problem of deriving the elasticity of demand from statistics. Then he states:

"Very recently, however, several other attacks on the problem of deriving the elasticity of demand from statistics have come to the forefront. Though they differ among themselves, they have this characteristic in common: They are attempts to derive the demand curve and the elasticity of demand from income data or from family budget data rather than from time series of prices and quantities...

"The present work by Marschak is the first attempt at a systematic presentation and criticism of these writings and presents his own interesting and important attack on the same subject.

"An introductory part of 53 pages deals with economic equilibrium, with cost data and cost curves, and with the market data approach to the study of demand. This is followed by a theoretical and by a statistical exposition of his own method of deriving demand curves consisting respectively of 37 and 29 pages. The last part of the book, consisting of 24 pages, contains an exposition and comparison of the ideas of Pigou, Vinci, Tschayanow, Fisher and Frisch." The "rationale" of Marschak's procedure is summarized.

56. Masci, Guglielmo. *Metodi statistici per lo studio dell'equilibrio general dinamico.* [Statistical methods for the study of general dynamic equilibrium.] *Economia* 9 (4): 375-400. Apr. 1932.
Not seen.

"The dynamical development of the series of prices and of the quantities of consumption and production has been the object, in the last few years, of many inductive statistical analyses with the purpose of distinguishing in them the various kinds of fluctuations and of obtaining the empirical laws of demand and supply. Such researches have been made especially in the United States by H. L. Moore. He proceeds from the

abstract equations of Walras, expressing the conditions of equilibrium of exchange and of production in a static market and on the basis of various hypotheses seeks to determine the real concrete form that such functions assume and to outline a system of dynamic equilibrium developing along the line of secular trend. But in reality Moore's method permits the determination, for example, of the variations of demand in function of price, not in function of time; he gives, therefore, the static law of demand, not the dynamic; only indirectly can it furnish some notion of dynamics as long as several successive periods are observed. But even apart from this and from the arbitrary character inherent in the interpolative method of determining the trend and in the choice of the form of the function representing the law of demand, Moore's system does not succeed in giving any explanation of the cause of dynamic factors acting in the time and the place studied. Still less can it give a valid universal explanation of dynamic fluctuations, an outline of the way according to which economic reality can develop. Yet this is the object of economics, an object which can be reached only with deductive reasoning. Thus, statistical researches like Moore's, even though very useful, cannot presume to be a substitute for abstract economic science." - Social Sci. Abs., v. 4, Dec. 1932, item 20724.

57. Masci, Guglielmo. Sulla determinazione statistica della curva di domanda. Rivista Italiana di Statistica, Economia e Finanza 4 (3): 476-514. Sept. 1932. L. C.
Discussion by F. Vinci and G. Masci, p. 509-514.
Bibliographical footnotes.
58. Mehta, J. K. The nature and intensity of demand. Indian Jour. Econ. 12 (4): 501-506. Apr. 1932.
59. Meriam, R. S. Supply curves and maximum satisfaction. Quart. Jour. Econ. 42 (2): 169-193. Feb. 1928. 280.8 Q2
60. Miller, H. E. Utility curves, total utility, and consumer's surplus. Quart. Jour. Econ. 41 (2): 292-316. Feb. 1927. 280.8 Q2
61. Moore, H. L. Partial elasticity of demand. Quart. Jour. Econ. 40 (3): 393-401. May 1926. 280.8 Q2
62. Moore, H. L. Synthetic economics. 186 p. New York, The Macmillan company, 1929. 280 M78S
Titles of chapters are Introduction; Fundamental notions; The law of demand; The law of supply; Moving equilibria; Economic oscillations; Conclusion.
Reviewed by Mordecai Ezekiel in Quart. Jour. Econ. 44 (4): 663-679. Aug. 1930.
Reviewed by P. G. Wright in Jour. Polit. Econ. 38 (3): 328-344. June 1930.
63. Moret, Jacques, and Frisch, Ragnar. Méthodes nouvelles pour mesurer l'utilité marginale. Revue d'Économie Politique 46 (1): 1-23. Jan.-Feb. 1932. L. C.
This article is in two parts. The second part is Frisch's discussion of M. Marschak's paper on the statistical determination of supply and

demand curves given at the September 1931 meeting of the Econometric Society at Lausanne, together with a note added after the conference. In this discussion the validity of the formula by which Marschak derives his demand curve from a budgetary curve is questioned.

64. Moretti, Vincenzo. Sopra alcuni problemi di dinamica economica. *Giornale degli Economista* 44 (7): 449-488, charts. July 1929. 280.8 C43

"This article is a defense of traditional doctrine against new theories advanced by American economists which are founded on statistical observations...In the second part of the article the author discusses the problem of demand and of the equilibrium of prices between demand and supply. The solution given by the American school headed by Moore is explained and criticized. The acceptance of the new methods introduced by Moore and Mitchell would mean a complete annihilation of the static theory of demand and of all the traditional theories connected with it. Edgeworth, Marshall and Pareto have doubted the possibility of building demand curves by statistics. It is shown that such curves cannot be constructed. The author denies the existence of a problem of statistical verification of the law of demand. He recognizes the existence of statistical curves of demand for a certain quantity of goods but he is sceptical as to their meaning and content and as to the possibility of applying them to the forecasting of future trends." - *Social Sci. Abs.*, v. 2, 1930, item 1449.

65. Nichol, A. J. Measures of average elasticity of demand. *Jour. Polit. Econ.* 39 (2): 249-255. Apr. 1931.

A further note on this subject by Nichol is given in *Jour. Polit. Econ.* 39 (5): 658-661. Oct. 1931.

"The measure of elasticity of demand developed by Alfred Marshall may be applied only to individual points on a demand curve. The measures of elasticity suggested in this paper represent an extension of Marshall's idea to any given arc of a demand curve. The measures of arc elasticity depend upon (1) the kind of average employed and (2) the system of weighting. Several different measures are given and some of their properties are discussed." - *Social Sci. Abs.*, v. 3, 1931, item 18289.

66. Palgrave, Sir Robert. *Palgrave's dictionary of political economy*; ed. by Henry Higgs. 3 v. London, Macmillan and company, limited, 1925-1926. 280 P17

Demand, by J. N. K., v. 1, p. 539-542; Demand curves, by F. Y. E., v. 1, p. 542-544, Supply, by W. E. J., v. 3, p. 488-490; Supply and demand, by W. E. J., v. 3, p. 490-496; Supply-curves, by F. Y. E., v. 3, p. 497-498.

67. Petrickso, Nikolaus. A theory of prices. *Jour. Polit. Econ.* 40 (6): 808-813. Dec. 1932.

68. Pigou, A. C. An analysis of supply. *Econ. Jour.* 38 (150): 238-257. June 1928. 280.8 Ec72

69. Pigou, A. C. Demand supply equations. In Pigou, A. C., and Robertson, D. H. *Economic essays and addresses*, p. 84-94. London, P. S. King & son, ltd., 1931. 280 P62Ec

70. Pigou, A. C. The elasticity of demand from family budgets. *Quart. Jour. Econ.* 47 (2): 342. Feb. 1933. 280.8 Q2

The statement given is as follows:

"In an article under this title by Mr. Waugh in the November issue of this Journal there is an unintentional misrepresentation of my discussion of this matter in Appendix II to my *Economics of Welfare*. According to Mr. Waugh, I obtain a 'budgetary elasticity' for particular commodities (as defined by him on p. 135) and then mistakenly treat this as equivalent to elasticity in the Marshallian sense. In fact, I am concerned solely with elasticity in the Marshallian sense, and I expressly state that it is not possible to derive this elasticity for particular commodities from family budgets. My analysis is directed to show that the comparative, not the absolute, elasticities of demand for different commodities can be so derived."

71. Pigou, A. C. *Industrial fluctuations*. 397 p., charts. London, Macmillan and co., limited, 1927. 280 P62I

The following is quoted from the author's preface:

"In the first edition of my *Economics of Welfare* (1920), Part VI, containing 112 pages, was entitled 'The Variability of the National Dividend'. In the second edition (1924) this part was omitted because I was anxious to undertake a more comprehensive study of industrial fluctuations. The present volume is the result of this study...The conditions prevailing in the great post-war boom and subsequent depression have been so abnormal that I have not examined them here..."

Consult the index under headings - supply, demand, prices, etc.

72. Pigou, A. C. The statistical derivation of demand curves. *Econ. Jour.* 40 (159): 384-400. Sept. 1930. 230.8 Ec2

Reprinted in Pigou, A. C., and Robertson, D. H. *Economic essays and addresses*, p. 62-83. London, P. S. King & son, ltd., 1931. (280 P62Ec)

73. Ricci, Umberto. Ancora sull'offerta del risparmio. *Giornale degli Economisti e Rivista di Statistica* 42 (9): 482-504. Sept. 1927. 280.8 G43

In two parts: Curve individuali; Curve collettive. Topic headings in part 1: L'equilibrio a interesse inesistente; Curva individuale di offerta; Curva individuale di domanda; Completamento della curva individuale di offerta; Completamento della curva individuale di domanda; Tracciamento di una curva individuale di domanda e offerta; Riassunto. Topic headings in part 2: Curva collettiva unica di domanda e offerta; Curve collettive unica di domanda e offerta; Curve collettive separate di domanda e di offerta; Equilibrio tra domanda totale e offerta totale; Necessità sociale dell'interesse.

74. Ricci, Umberto. Courbes de la demande et courbes de la dépense. *L'Égypte Contemporaine* 22 (129): 556-588. May 1931. 270 Eg95.

"Mathematical discussion of demand and supply, contrasting the methods and views of Cournot and Marshall." - *Social Sci. Abs.*, v. 4, Jan. 1932, item 646.

75. Ricci, Umberto. Elasticità dei bisogni, della domanda e dell'offerta.

[Elasticity of requirements, of demand and supply.] *Giornale degli Economisti e Rivista di Statistica* 65, yr. 35 (8,10): 413-431, 509-531.

Aug., Oct. 1924. L. C.

Translated titles of chapters are: Concept of elasticity in diminishing curves (Definitions of elasticity of demand, elasticity of requirements, and price flexibility); Static and dynamic demand curves; Diminishing elasticity curves; Increasing elasticity curves; Constant elasticity curves; Points of elasticity equal to 1; Points of elasticity above or below 1; Elasticity in increasing curves; Average elasticity.

76. Ricci, Umberto. Klassifikation der nachfragekurven auf grund des elastizitätsbegriffes. Archiv für Sozialwissenschaft und Sozialpolitik 66 (1): 36-61. Aug. 1931.
Classification of demand curves according to their elasticity.
Not seen. Abstract in Social Sci. Abs., v. 4, 1932, item 7588.
77. Ricci, Umberto. La loi de la demande individuelle et la rente de consommateur. Revue d'Économie Politique 40 (1): 5-24. Jan.-Feb. 1933. L. C.
Errata of this article in Revue d'Économie Politique 40 (3): 944.
May-June, 1926.
78. Ricci, Umberto. On the demand for rival (or substitute) commodities. Econometrica 1 (2): 181-189, diags. Apr. 1933. 280.8 Ec78
79. Ricci, Umberto. The psychological foundation of the law of demand. Jour. Polit. Econ. 40 (2): 145-185. Apr. 1932.
Translated from the Italian by Henry Julian Wadleigh.
"An algebraic and diagrammatic analysis of the relations between utility curves and demand curves..." - Social Sci. Abs., v. 4, 1932, item 13185.
80. Ricci, Umberto. Può una curva di domanda esser crescente? Giornale degli Economisti e Rivista di Statistica 47 (4): 197-240. Apr. 1932. 280.8 G43
"The curve of demand has an increasing segment and a decreasing segment; the increasing segment is one of unstable equilibrium. The true curve of demand, economically valid, commences from the point where the curve begins to decrease. The true curve of demand is generated from the curve of utility. Errors have arisen from (1) confusing increasing demand with increasing cost; (2) confusing the case of constant price for the successive units of a good with the case of variable price proportional to the utility of each unit; (3) confusion of the simple curve of demand with the dynamic curve of utility, or the static curve with the historical curve of demand." - Social Sci. Abs., v. 4, Dec. 1932, item 20732.
81. Ricci, Umberto. Die statistischen gesetze des gleichgewichtes nach Henry Schultz. Zeitschrift für Nationalökonomie 2 (3): 305-333, charts. Jan. 15, 1931. L. C.
In five parts: Das gesetz der nachfrage laut Professor Schultz; Erörterung und kritik des gesetzes der nachfrage; Das angebot an zucker in den vereinigten staaten; Weltangebot und weltnachfrage nach zucker; Rückwirkungen eines zolles.
82. Ricci, Umberto. Die "synthetischeökonomie" von Henry Ludwell Moore. Zeitschrift für Nationalökonomie 1 (5): 649-688. Apr. 30, 1930. L. C.
Not seen.
Abstracted in Social Sci. Abs., v. 3, Apr. 1931, item 5539.

83. Robbins, Lionel. The economic works of Philip Wicksteed. *Economica*, no. 30, Nov. 1930, p. 245-258.

The object of this article as stated by the writer is "to give some account of Wicksteed's main works in the field of economics and "to attempt a brief estimate of the significance of his various contributions."

The following is quoted from p. 255:

"A second contribution which must always be associated with his name is his famous demonstration of the reversibility of the market supply curve. The general proposition that the reservation prices of sellers are in the ultimate analysis demands, was one which he continually reiterated with varying shades of emphasis. 'What about the supply curve that usually figures as a determinant of price, co-ordinate with the demand curve?' he asked in his address as President of Section E of the British Association in 1913 - an address which epitomizes many of his most characteristic doctrines. 'I say it boldly and baldly: there is no such thing. When we are speaking of a marketable commodity, what is usually called the supply curve is in reality the demand curve of those who possess the commodity, for it shows the exact place which every successive unit of the commodity holds in their relative scale of estimation. The so-called supply curve therefore, is simply a part of the total demand curve... The separating out of this portion of the demand curve and reversing it in the diagram is a process which has its meaning and its legitimate function... but is wholly irrelevant to the determination of the price.' It is safe to say that no one who has followed through his beautiful diagrammatic analysis of this proposition, and realized its wider implication that all psychological variables can be exhibited as phenomena of demand acting on fixed stocks or products or factors of time, will deny that the whole of the analysis of ^{economic} equilibrium has received thereby a transforming elucidation."

84. Robbins, Lionel. An essay on the nature & significance of economic science. 141 p. London, Macmillan & co., limited, 1932. 280 R53

The writer in his preface states that "the purpose of this essay is twofold. In the first place, it seeks to arrive at precise notions concerning the subject-matter of Economic Science and the nature of the generalisations of which Economic Science consists. Secondly it attempts to explain the limitations and the significance of those generalisations, both as a guide to the interpretation of reality and as a basis for political practice."

Chapter V is on Economic Generalisations and Reality. Pages 98-101 of this chapter are on Statistical Laws of Supply and Demand.

85. Robbins, Lionel. On the elasticity of demand for income in terms of effort. *Economica*, No. 29, June 1930, p. 123-129. 280.8 Ec73

86. Roos, C. F. A dynamical theory of economics. *Jour. Polit. Econ.* 35 (5): 632-656. Oct. 1927. 280.8 J82

In four parts: Introduction; Differential equations relating rates of production and prices; Functional equations relating rates of production and prices; A dynamical theory of economic equilibrium.

87. Roos, C. F. A mathematical theory of price and production fluctuations and economic crises. *Jour. Polit. Econ.* 33 (5): 501-522. Oct. 1930.

The writer states the problem as follows:

"Various papers and treatises have appeared exhibiting curves and statistics indicating that prices periodically oscillate about a given price trend. Other investigations have indicated a series of plus and minus deviations from a given datum line which pass through definite phases but do not recur with strict periodicity. Still other papers have indicated plus and minus deviations which do not reveal definite characteristic phases and do not recur. In spite of these researches, no successful attempt to relate the theory of business cycles with economic theory has been made. It is this problem which I attack here."

88. Rossi, Lionello. Del concetto di elasticità in economia. The concept of elasticity in economics, *Giornale degli Economisti* 47 (1): 18-26. Jan. 1932. 280.8 G43

"(Discussion of the definitions of Marshall, Moore, Ragnar Frisch, Barone, and others.) The ratio of the elasticities of two variables with respect to a third is equal to the elasticity of the first with respect to the second. The product of the elasticity of a variable with respect to a second by the elasticity of the second with respect to a third is equal to the elasticity of the first with respect to the third. The elasticity of demand (with respect to prices) is equal to the reciprocal of the elasticity of marginal utility (With respect to the quantity of the good)." - *Social Sci. Absts.*, v. 4, no. 9, Sept. 1932, item 14895.

89. Rossi, Lionello. L'elasticità della domanda e la traslazione dell'imposta in regime di monopolio. *Giornale degli Economisti e Rivista di Statistica* 47 (8): 600-607. Aug. 1932. 280.8 G43

90. Roy, René. La demande dans ses rapports avec la répartition des revenus. *Metron*. 8 (3): 101-153. 1930. 251.8 M56

A paper with the same title presented at the September 1931 meeting of the Econometric Society at Lausanne, was published in *Econometrica* 1 (3): 265-273. July 1933.

91. Roy, René. Les lois de la demande. *Revue d'Économie Politique* 45 (4): 1190-1218, charts. July-Aug. 1931. L. C.

92. Salz, Arthur. Der begriff der "elastizität" in der theoretischen national-ökonomie. *Archiv für Sozialwissenschaft und Sozialpolitik* 57 (2): 336-391. Apr. 1927. L. C.

93. Schmidt, Robert. Die pragnanz der elastizitatskoeffizienten. *Weltwirtschaftliches Archiv* 32 (1): 264-273. July 1930. 286.8 W462

The statistical significance of coefficients of elasticity of demand and supply.

Abstracted in *Social Sci. Abs.*, v. 3, 1931, item 3414.

94. Schneider, Erich. Kostenanalyse als grundlage einer statistischen ermittlung von nachfragekurven. *Archiv für Sozialwissenschaft und Sozialpolitik* 66 (3): 585-605. 1931.

Not seen.

"Assuming that the demand curve for a commodity is one of uniform elasticity, or uniform flexibility of price as defined by Moore, and assuming that the commodity is produced by a monopoly which at any given

time correctly adjusts its production to sales at a price which gives the maximum net profit, then the equation for the demand curve can be calculated by applying reasoning of the type used by Cournot..." - Social Sci. Absts., v. 4, July 1932, item 11374.

95. Schneider, Erich. Kostentheoretisches zum monopolproblem. [Cost theory and the monopoly problem, Zeitschrift für Nationalökonomie 3 (2): 185-211. Dec. 1931. L. C.

"The well-known Marshallian use of constant outlay curves in determining the monopoly price is not appropriate when we wish to analyze the relations between price and cost of production of a monopolistic enterprise from the marginal point of view. A new method more suitable for this purpose is based on the fundamental concept of 'marginal receipts' and the fact that the monopoly point is determined by equality of marginal receipts and marginal cost of production. The latter condition leads to a series of interesting conclusions in this chapter. In section 2 the variations of marginal receipts brought about by variations of demand curves are discussed. Section 3 contains a detailed analysis of the concept of marginal cost of production when the prices of the factor of production are constant or when the scale of production varies and the enterprise reacts on variations in the scale of production by partial or total adaptation. In the last chapter the variations of monopoly price brought about by variation of the demand curve are studied." - Social Sci. Abs., v. 4, Apr. 1932, item 5598.

96. Schneider, Erich. "Über den einfluss von "änderungen der nachfrage auf die monopolpreisbildung. Archiv für Sozialwissenschaft und Sozialpolitik 64 (2): 281-315. Oct. 1930.

Not seen.

"Cournot's theory of monopoly assumes static demand and cost curves for a definite commodity. Since the structures of the demand and cost curves are subject to continual fluctuation and change, the monopoly price of a commodity affected by these variations is likewise subject to continual change. The author examines the relationship of the Cournot theory of monopoly to what he characterizes as the Marshallian concept of elasticity of demand, and also the theoretical possibilities and and probabilities with respect to the shifting and changes in form of demand curves in time. He then treats of these variations in the demand-curve as related to the problem of monopoly. The assumptions made in the course of his argument with respect to the possible changes of a demand curve in time are found to be not inconsistent with the results of certain empirical-statistical investigations - such as those of Schultz." - Social Sci. Abs., v. 3, 1931, item 15565.

97. Schultz, Henry. A comparison of elasticities of demand obtained by different methods. Econometrica 1 (3): 274-308. July 1933. 280.8 Ec78

The writer has been working off and on for several years on a study of the demands for various goods in so far as they can be determined from market data, and in this connection he has had occasion "to work with time series of prices and quantities of varying degrees of reliability and to work with different methods of procedure. This paper is essentially a summary and a comparison of some of the results that have been obtained by the various methods in so far as they relate to the elasticity of demand. They invite comparison with the results that

have been, or that can be derived by the budget data approach." Commodities whose elasticities of demand are compared and for which the writer has determined "not only the shape of the demand curve, but also its rates of shift from 1875 to 1929" are corn, hay, wheat, sugar, potatoes, oats, barley, rye, and buckwheat.

98. Schultz, Henry. Henry L. Moore's contribution to the statistical law of demand. Analysis no. 46 in *Methods in Social Science*, edited by Stuart A. Rice. Chicago, University of Chicago press, 1931, p. 645-661.
280 Sol2
99. Schultz, Henry. Marginal productivity and the general pricing process. *Jour. Polit. Econ.* 37 (5): 505-551. Oct. 1929. 280.8 J82
"It is the object of this paper (1) to deduce the theorems of the marginal-productivity theory in such a way as to lay bare their underlying assumptions; (2) to show the relation of marginal productivity to the general pricing process; (3) to suggest a statement of the relation between cost and price which appears to be more satisfactory than the current theory; and (4) to consider some aspects of the problem of the statistical measurement of the productivities of labor and capital which have not as yet been noticed." p. 505-506.
100. Schultz, Henry. Der sinn der statistischen nachfragekurven. *Frankfurter gesellschaft für konjunkturforschung. Veröffentlichungen*, hft. 10, 99 p., charts. Bonn, K. Schroeder, 1930. 280.9 F85
Bibliography, p. 98-99.
Translated from the English by Hans Staehle.
Photostatic copy (in U.S.D.A., B.A. E. Library) of original manuscript from which German translation was made reviewed by L. H. Bean in *Jour. Amer. Statis. Assoc.* 26 (n.s.176): 481-484. Dec. 1931.
Abstract by Henry Schultz in *Social Sci. Abs.*, v. 4, Oct. 1932, item 17634.
101. Schultz, Henry. The standard error of the coefficient of elasticity of demand. *Jour. Amer. Statis. Assoc.* 28 (181): 64-69. Mar. 1933. 281Am3
102. Shepherd, G. S. The burden of increased costs of distribution. *Jour. Farm Econ.* 14 (4): 650-661. Oct. 1932. 280.8 J822
"An examination of the shifts which agricultural supply schedules undergo when the costs of distribution are increased, when business is depressed, or when the general price level is lowered." - Wells, O. V. *Farmers' Response to Price*, item 13.
103. Shepherd, G. S. Supply and production, demand and consumption. *Jour. Farm Econ.* 13 (4): 639-642. Oct. 1931. 280.8 J822
104. Slichter, S. H. *Modern economic society*. 909 p. New York, H. Holt and company [1931] 280 S13
References at end of chapters.
See particularly chapter XIII, *The Stability of Prices under Competition*, p. 282-301. This chapter includes the following parts: Some factors influencing the stability of prices; The elasticity of supply and of demand; The effect of the elasticity of demand and of supply upon price movements; The determinants of the elasticity of demand; The

determinants of the elasticity of supply; The effect of fixed costs upon the elasticity of supply; The effect of price movements upon the level of supply and demand.

105. Staehle, Hans. Die analyse der nachfragekurven in ihrer bedeutung für die konjunkturforschung. Frankfurter Gesellschaft für Konjunkturforschung, hrsg. von dr. Eugen Altschul. Veröffentlichungen, hft. 2, 46 p. Bonn, K. Schroeder, 1929. 280.9 F85
"To make statistical demand curves available for the study of business cycles, all secular elements must be eliminated or brought to a form that they can be held constant. For this purpose groups of similar commodities, rather than individual goods, can be studied, in indices of consumption and prices, e.g., food stuffs in four classes, clothing, housing, lighting, heat, etc. Materials should be analyzed first from the point of view of statics, and then developed to show dynamic changes." - Social Sci. Abs., v. 4, 1932, item 21192.
106. Staehle, Hans. Sopra alcuni problemi di dinamica economica. Giornale di Economisti e Rivista di Statistica 45 (3): 243-249. Mar. 1930. 280.8 G43
"Referring to the criticisms of Moretti on the attempts of Moore and Schultz to determine the statistical curve of demand and supply as well as to resolve the problem of economic forecasting, the author proposes to arrive at a curve following the procedure of Leontief, (or better, another procedure introduced by the author) which shall reflect not only quantitative but also qualitative variations in prices. Leontief's procedure seeks to derive, by means of an adaptation of the method of least squares, from any given series of prices and quantities an average curve of demand and an average curve of supply. Supposing constant the elasticity of the two curves he measures the coordinates of each combination of price and quantities during the period studied, arranging them chronologically in order to give the successive intervals of the demand and of the supply. Staehle's method seeks to reflect the reason why one curve differs from the other and for this reason abandons the simultaneous calculation of the curves and of average elasticity, but measures them separately. By this method the criticism of Moretti to the procedure of Moore and Schultz is avoided, not to mention that the problems of dynamics of particular markets are clarified." - Social Sci. Abs., v. 3, 1931, item 9204.
107. Staehle, Hans. Die statistische analyse von anbot und nachfrage und die klausel "ceteris paribus." [The statistical analysis of supply and demand and the "ceteris paribus" assumption], Weltwirtschaftliches Archiv 32 (1): 135-149. July 1930. 286.8 W462
"Leontief's procedure for simultaneously deriving elasticities of demand and supply from a scatter diagram of unadjusted data of prices and quantities (Weltwirtschaftl. Arch. 32 (1): 1*-53*. 1929) is subject to the following limitations: (1) it does not distinguish between short-time, reversible demand and supply curves, and long-time, irreversible demand and supply curves; (2) it does not explain the shifting of such demand and supply as may be obtained by its use; (3) it does not measure the importance of the various factors which bring about the shifts in both curves and which must be kept constant if the statistical results are to approximate the demands of pure theory." - Social Sci. Abs., v. 3, Feb. 1931, item 3415.

108. Sting, Kurt. Die polypolitische preisbildung. Ein kapitel der preistheorie. [Polypolitical determination of prices. A chapter in the theory of prices.] Jahrbucher für Nationalökonomie und Statistik 134 (5): 761-789. May 1931.

"The mathematical researches of Cournot, Pareto, Edgeworth, et al into the determination of prices under conditions of restricted sellers' competition may be supplanted and amplified by further nonmathematical analysis. Under such competitive conditions supply, and hence price, may be determined in part by considerations of market policy on the part of sellers. The effect on price of the various possibilities of such policy, taking into account also, relevant considerations of cost, may be set forth with reasonable clarity. The results of the analysis may also be presumed to have some practical significance." - Social Sci. Abs., v. 4, July 1932, item 11737.

109. Stover, H. J. Effect of changes in daily prices on the movement of farm produce to terminal markets. Internatl. Conf. Agr. Econ. 2d, Cornell Univ., Ithaca, N. Y., 1930, p. 777-783, chart. 281.9 In82

110. Thomsen, F. L. Agricultural prices. 2v., mimeogr. Columbia, Mo., Stephens publishing company, 1930-1931. 284.3 T38

References at end of chapters.

In this book the author attempts to bring together in logically connected form the best of the available material on quantitative price analysis. His purpose is: "First, to arrange a discussion of the fundamentals of value and price; based as far as possible on accepted theory and practice, in a form adapted strictly to the needs of agricultural students; and second, to show the practical application of these principles in the study of commodity prices and general problems in the field of agricultural prices."

See chapter V, The Determination of Prices by Supply and Demand, and other chapters.

111. Tinbergen, J. Bestimmungen und deutung von angebotskurven. Ein beispiel. [Determination and interpretation of supply curves. An illustration.] Zeitschrift für Nationalökonomie 1 (5): 669-679. Apr. 30, 1930. L. C. Not seen.

"The author starts from the current formulation of the law of supply, introducing, however, as a determining factor the element of time. His illustration is based on personal research carried out at the Netherland Statistical Bureau in regard to the production of potato-flour. The supply curve is constructed, for its interpretation the assumption of static competition, static monopoly, limited competition under static conditions, dynamic competition, and dynamic monopoly are used successively. It is agreed that under the prevailing conditions Cournot's formula of limited competition provides the best explanation of the empirical data." - Social Sci. Abs., v. 3, Apr. 1931, item 5540.

112. Tinbergen, J. Ein problem der dynamik. Zeitschrift für Nationalökonomie 3 (2): 169-184. Dec. 1931.

"The author tries to dynamize the static Walrasian market scheme by introducing into it the concepts of economic horizon, expectancy and retardation (lag). Dividing time into elementary periods we get the

following dynamic market scheme. At the beginning of the first elementary period in consideration each economic subject makes up his economic plan for the length of his horizon, i.e., he fixes his demand or his offer for each of the elementary periods of lying within his horizon as functions of the present price and his price (and other) expectations for future moments. The equilibrium condition: demand equal to supply, then determines the real price for this elementary period as well as demand and supply and all other quantities that by any contracts are then already fixed. At the beginning of the second elementary period a new plan is made up with, in general, slightly different elements, for a slightly transposed horizon. Also this plan is only so far realized as the equilibrium condition makes it necessary. The chain of all these realized parts of the successive plans forms the history of the market. The practicability of this scheme is demonstrated by the solution of some simple approximations of the problem to find out the relation between production and consumption of non-perishable agricultural products. Consumption oscillations seem to be smaller than production oscillations and the proportion between them, in the simple cases considered depends on the length of the economic horizon." *Social Sci. Abs.*, v. 4, Apr. 1932, item 5599.

113. U. S. Dept. of agriculture. Bureau of agricultural economics. The agricultural outlook. U.S. Dept. Agr. Misc. Circ. 23, 38, 65, and 101; Misc. Pub. 19, 44, 73, 108, and 156. Washington, D. C., 1924-1933.

"The supply forecasts in many of the commodity statements regularly included in the Outlook are usually derived in part from studies of the effects of price upon acreage or production. The Outlook is designed to help in the adjustment of agricultural production." - Wells, O. V. *Farmers' Response to Price; a selected bibliography*, item 67.

114. Vecchio, Gustavo del. La dinamica economica di H. L. Moore. *Giornale degli Economisti e Rivista di Statistica* 45 (6): 545-553. June 1930.

115. Vinci, Felice. La derivazione statistica delle curve di domanda. *Rivista Italiana di Statistica* 3 (1): 98-100. Jan.-Mar. 1931. L. C.

"A brief note regarding an elementary method proposed by Pigou for deriving the curve of demand from empirical data. The hypothesis is arbitrary, as are the other methods developed for deriving the curve of demand. It is preferable to eliminate in an objective way disturbing elements subjected to measurement." - *Social Sci. Abs.*, v. 4, Feb. 1932, item 2400.

116. Vinci, Felice. L'elasticità dei consumi. *Rivista Italiana di Statistica* 3 (1): 30-91. Jan.-Mar. 1931. L. C.

"(Re-publication of a study published in 1918.) Defining the concept of elasticity of consumption and enumerating the factors influencing the time fluctuations of the curve of consumption, the methods followed by Jevons, Benini, Gini, Pigou, Lenoir, and Lehfeldt for determining the relation between consumption and prices and for measuring their elasticity are explained. Then a new index of elasticity is constructed, more closely meeting the definitions already given; this index can be applied in the case of complementary or competing goods. The elasticity of consumption of certain goods is calculated for prewar period. For certain goods and services the data relate to 1916 and 1918 in Italy

and France, eliminating the influence of the variations of prices and that of the variations in incomes. Differences in elasticity for different goods or for the same services or goods in different places are shown. Where the individual wealth is greater the differences in elasticity of the different consumption goods are less." - Social Sci. Abs., v. 4, Feb. 1932, item 2753.

117. Vinci, Felice. Sui fondamenti della dinamica economica. [The foundations of economic dynamics.] Rivista Italiana di Statistica 2 (3): 232-268. July-Sept. 1930. L. C.
Bibliografia, p. 232-233.
"For the study of economic dynamics, it is proposed to apply the graphic method in the form of surfaces with three coordinates to determine the consequences of given variations in the economic system on the curves of demand and supply. The actions of the 'economic man' described in static economics are hypothetical and unreal. The influence on the curve of demand of variations in time of the number of purchasers, in the amount and the composition of incomes at their disposition, their tastes, prices of the other goods and in particular of complementary and competing goods, the probable future prices and finally the influence of the price prevailing at the initial moment is discussed. Similar researches are made for the curve of supply, considering the variations of other elements and including the hypotheses of monopoly, syndicates, and competition. In conclusion, there is a general discussion of the dynamic deformations of the economic order." Social Sci. Abs., v. 4, Jan. 1932, item 648.
118. Vinci, Felice. Sui metodi di studio della dinamica economica. Rivista Italiana di Statistica, Economia e Finanza 4 (2): 238-247. June 1932. L. C.
119. Viner, Jacob. Cost curves, and supply curves. Zeitschrift für National-ökonomie 3 (1): 23-46, charts. Sept. 25, 1931. L. C.
"It is the primary purpose of this article to develop a graphical exposition of the manner in which supply curves are dependent upon the different possible types of technology and pecuniary cost assumptions, under the usual assumptions of atomistic competition and of rational economic behavior on the part of the producers..." - Social Sci. Abs., v. 4, Apr. 1932, item 5600.
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The elasticity of demand for commodities, chapter VII, p. 90-101. (Differences in elasticity and their importance, determination of the elasticity of demand for particular commodities.)
121. Waite, W. C., and Sturges, Alexander. On certain mathematical properties of demand curves of constant elasticity. Jour. Farm Econ. 12 (1): 181-182. Jan. 1930. 280.8 J822
122. Waite, W. C. On the term "change in demand." Jour. Farm Econ. 12 (4): 620-621. Oct. 1930. 280.8 J822
123. Waite, W. C. Some developments in the techniques of studying consumer demand. Jour. Amer. Statis. Assoc. 25 (n.s.169-A): 140-145. Mar. 1930, suppl. 251 Am3

124. Warren, G. F., and Pearson, F. A. Interrelationships of supply and price. Cornell Agr. Expt. Sta. Bul. 466, 144 p., charts. Ithaca, 1928.
Reviewed by Holbrook Working in Jour. Amer. Statis. Assoc. 24 (n.s.168): 437-441. Dec. 1929.
"The effect of prices on subsequent acreage or supply of potatoes is considered on p. 23-25, of hay on p. 28-29, of cabbage on p. 35, of corn on p. 51, of wheat on p. 68, of hogs on p. 79-81, and of beef cattle on p. 92. The bulletin is devoted primarily to the analysis of the supply-price relationship." - Wells, O. V. Farmers' response to price; a selected bibliography, item 58.
See also the appendix, p. 115-125 for sources of data, methods of calculation, other work on this subject and supply-price curves.
125. Waugh, A. E. "Elasticity of demand" from budget studies. Quart. Jour. Econ. 47 (1): 134-137. Nov. 1932.
126. Wicksteed, P. H. The common sense of political economy and selected papers and reviews on economic theory... edited with an introduction by Lionel Robbins. 2 v. London, George Routledge & sons, ltd., 1933. 280 W632
Buyer and seller. Demand and supply, ch. iv., vol. 2, p. 493-526. The following summary is given at the beginning of this chapter:
"This chapter deals with the application of the diagrammatic method of curves to the phenomena of the market. Individual curves of price-and-quantity-taken, if properly constructed for the purpose, can be added into a communal curve, on which the price corresponding to any given supply can be read. A disguised method of reaching the same result by means of intersecting curves is frequently employed, but though legitimate in itself it is misleading when used, as it generally is, in conjunction with a distinction between buyers and sellers, which is irrelevant to the issue. The same principle that determines the flow of any given commodity to the various consumers also determines the flow of the factors of production to the different industries. Capacity for productive effort is distributed between economic and non-economic employments, or is reserved and not put forth at all, on the general principles of the distribution of resources or choice between alternatives."
127. Wiley, C. A. Agriculture and the business cycle since 1920; a study in the post-war disparity of prices. 237 p. Madison, 1930. (Univ. Wis. Studies in the Social Sci. and Hist. 15) 281 W64
Bibliography, p. 231-237.
"An historical study in which a generalized explanation of the typical adjustment of agriculture to a depressed demand and price situation is supported by a brief analysis of English situation from 1815 through 1830 and an extended analysis of the American situation from 1920 through 1924-26." - Wells, O. V. Farmers' response to price, item 61.
128. Williams, F. M. The measurement of the demand for food. Jour. Amer. Statis. Assoc. 24 (n.s.167): 288-295. Sept. 1929. 251 Am3
The following is quoted from the first paragraph of this article:
"Recent studies of the economic aspects of food consumption by farm, village and city families emphasize the necessity for revising the units

commonly used in measuring the demand for food. The very nature of the problem makes the formation of such units extremely difficult, but the rapid development of the science of nutrition in the last quarter century makes it possible to improve the measures now in use. A history of the development of these measures will clarify the problem."

129. Working, E. J. Evaluation of methods used in commodity price forecasting. Jour. Farm Econ. 12 (1): 119-138. Jan. 1930. 280.8 J822
Discussion by Elizabeth Waterman and Arthur W. Marget, p. 133-138.
130. Working, E. J. Indications of changes in the demand for agricultural products. Jour. Farm Econ. 14 (2): 239-256. Apr. 1932. 280.8 J822
Discussion by W. Leontief.
"Statistical analyses properly carried out can in the case of many commodities be made to yield an approximation of some sort of short-time normal demand curve (demand used in the schedule sense). It should not be assumed that long-time normal demand curves may be approximated with similar success. By graphic methods relationships can be developed which are close enough and sufficiently in accord with theoretical reasonableness to justify using them as indications of the relative importance of changes in demand and changes in price in affecting the yearly rate of consumption." - Social Sci. Abs., v. 4, Oct. 1932, item 16980.
131. Working, E. J. Production and demand: contrasts between agriculture and other industries. Chapter XI, p. 160-191, graphs.
Reprinted from Stabilization of Employment: a symposium held under the auspices of the American Association for the Advancement of Science [ed. by C. F. Roos, Bloomington, Ind., Principia press, inc., 1933. (283 R67)]
The writer discusses "the comparative stability of employment in agriculture and other industries as it relates to other business cycle factors, especially as it relates to demand." The chapter is in eleven parts: introduction, stability of agricultural employment and production, the cost of employment stability to agriculture, influence of supply and demand on prices, effects of combating falling prices by curtailing production, a depression is a spasm of underproduction, need falling prices cause under-production, control of production versus free competition, international causes of changing price levels, reaction of the price level to production curtailment, conclusion.
132. Working, E. J. Statistical demand curves. Encyclopedia of the Social Sciences, v. 5, p. 72-75. 1931. 280 En1
A list of references accompanies the article.
133. Working, E. J. What do "statistical demand" curves show? Quart. Jour. Econ. 41 (2): 212-235. Feb. 1927 280.8 Q2; also Pan. coll.

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134. Bean, L. H. The farmers' response to price. Jour. Farm Econ. 11 (3): 368-385. July 1929. 280.8 J822
Library has also a reprint of this.
"Summarizes the results obtained from statistical analyses of the relations between prices received by producers and subsequent changes in the acreages of potatoes in New York, Michigan, Idaho and the United States, of flax in North Dakota, and of sweet potatoes, cabbage, strawberries, watermelons, rye, and cotton, and in the number of hogs in the United States." - Wells, O. V. Farmers' response to price, item 1.
135. Bean, L. H. Measuring the effect of supplies on prices of farm products. Jour. Farm Econ. 15 (2): 349-374. Apr. 1933. 280.8 J822
Discussion by H. A. Wallace, p. 374-377.
136. Black, A. G. Adjustments in agricultural production under the assumption of a lower general price level and reduced foreign demand for agricultural products during the next ten years. Jour. Farm Econ. 14 (1): 83-93. Jan. 1932. 280.8 J822
Discussion by I. G. Davis, p. 92-93.
"A brief statement of the general effect upon production of a long-continued price decline, and a point by point discussion of the implications of the slogan 'reduce agriculture to a domestic basis.'" - Social Sci. Abs., v. 4, July 1932, item 11435.
137. Cox, R. W., and Quintus, P. E. Minnesota farmers' response to price relationships in the production of selected crops. Jour. Farm Econ. 14 (4): 697-700. Oct. 1932. 280.8 J822
Practically the same article is given in Minnesota Farm Business Notes (pub. by Agricultural Extension Division, University of Minnesota) no. 111, Feb. 20, 1932, 7 p.
"The relation between certain acreage return ratios and changes in the State acreages of corn, barley, spring wheat, flax, and potatoes from 1922 through 1931 are discussed." Wells, O. V. Farmers' response to price; a selected bibliography, item 26.
138. Engberg, R. C. Industrial prosperity and the farmer. 286 p., charts. New York, The Macmillan company, 1927. 284.3 En32
"In this volume Mr. Engberg...has assembled the data necessary to test, both analytically and statistically, the effects of industrial changes upon agriculture. He examines the effects of industrial prosperity and depression upon the demand for and price of farm products, and upon the farmer's operating costs. The analysis establishes certain definite conclusions with reference to a phase of agricultural organization and farm management which has heretofore been merely a subject of speculation." - Director's preface.
Business cycles and the price of cotton (the cotton industry, statistical analysis of the price of cotton, business cycles and the demand for cotton), ch. VII, p. 137-176.
The corn-hog industry and business cycles (the connection between corn production and hog production, factors affecting the supply and

price of corn, characteristics of pork production, the demand for pork products, business cycles and the price of hogs), p. 177-223.

Business cycles and the price of wheat (a preliminary view of the wheat industry, the volume of production and the price of wheat, business cycles and the price of wheat), p. 224-258.

Results of statistical studies of the relationship between the supply and the price of farm products, Appendix B, p. 279-284.

139. Hoffman, G. W. Factors affecting prices on organized commodity markets. Ann. Amer. Acad. Polit. & Social Sci. 155(1): 91-99. May 1931.
140. Hoffman, G. W. Future trading upon organized commodity markets in the United States. 482 p. Philadelphia, University of Pennsylvania press; [etc., etc.], 1932. 280.3 H67
Bibliography, p. 471-474.
Part II of this book is concerned with Price Aspects and Problems of Future Trading. Chapter XIII is on the price structure. Subtopics are as follows: the determination of price, demand (determinants of demand, demand a schedule, elasticity of demand, the demand for grain and cotton), supply (supply as a price determinant, importance of supply as a cause of price changes in agricultural commodities, the nature of supply in agricultural commodities), quantitative comparisons of supply and price (cotton, oats, corn, and wheat), seasonal movements in price, the market in commodities used for future trading.
141. Schultz, Henry. The shifting demand for selected agricultural commodities, 1875-1929. Jour. Farm Econ. 14 (2): 201-227. Apr. 1932. 280.8 J822
Summarized in Conference on Economic Policy for American Agriculture at the University of Chicago, September 7, 8, and 9, 1931, p. 70-71. (281.9 C76P)
"Approximate statistical significance is given to the concepts elasticity of demand and shift of the demand curve. The per capita demand curves for the nine farm crops studied have either ceased to shift upward or have begun to shift downward. The only upward shift in demand to be expected in the near future is that due to the normal increase in population. But, the rate of increase of our population has been decreasing, and population is rapidly approaching its upper limit. (Two tables including equations of demand for the nine farm crops for three major periods; 8 charts)." - Social Sci. Abs., v. 4, Oct. 1932, item 16978.
The commodities studied are corn, wheat, potatoes, barley, rye, buckwheat, hay, oats, and sugar.
142. Thomsen, F. L. Variations in local prices for farm products and supplies in Missouri. Missouri Agr. Expt. Sta. Research Bul. 151, 59 p., charts, maps. Columbia, 1930.
The purpose of this study was "(1) to discover the extent of variations in local prices for farm products and farm supplies in Missouri. (2) To measure the influence of some of the more tangible factors responsible for these variations. (3) To test the reliability of the 'farm price' data collected by the Missouri Crop Reporting Service, and used frequently in research in agricultural prices in Missouri."

143. Timoshenko, V. P. Correlations between prices and yields of previous years. Jour. Polit. Econ. 36 (4): 510-515. Aug. 1928. 280.8 J82

"Correlations of first differences of yields and prices in the current year, and each with yields and prices of the two preceding years, for the seven crops - spring wheat, corn, oats, hay, cotton, potatoes, and apples - show the yield of these crops to influence prices not only in the current year but in the second and third succeeding crop years as well. High negative correlations are found between current year yields and prices for potatoes, oats, corn, and hay. A small positive correlation exists in the case of all crops between yields the preceding year and current year prices. These are accounted for by periodicities in yield. When this effect is removed by partial correlations, oats, wheat, and cotton show significant negative correlations. Apples and potatoes, since there is no carry-over, have low correlations. Small positive correlations exist between current year prices and yields the second preceding year. These are, however, due to quasi-periodicity in yield and price and the influences of price on acreage." - Social Sci. Abs.; v. 1, Mar. 1929, item 365.

144. Waugh, F. V. The relation of quality to the price of farm products. Internatl. Conf. Agr. Econ. 2d, Cornell Univ., Ithaca, N. Y., 1930, p. 760-776. 281.9 In82

Alfalfa Hay

145. Braun, E. W. Alfalfa. Calif. Agr. Expt. Sta. Bul. 521, 37 p., charts. Berkeley, 1931.

Alfalfa hay prices (trend of price and price spreads between different areas in California, seasonal movement of alfalfa prices in California, factors affecting the price of alfalfa hay, price outlook), p. 21-27.

Quantitative analysis of the principal factors affecting the price of alfalfa hay, p. 28-29.

Cotton

146. Ashby, F. B. Cotton futures as forecasters of cotton spot prices. Jour. Amer. Statis. Assoc. 24 (n.s.168): 412-419, charts. Dec. 1929. 251 Am3

147. Baury, Roger. La prévision du prix du coton américain. 38 p. Paris, Epinal, 1930.

Not in Library.

Reviewed by Victor von Szeliski in Jour. Amer. Statis. Assoc. 26 (n.s.174): 235-236. June 1931. The following sentences are quoted from the review: "This pamphlet is a correlation study of the price of cotton and the factors affecting it, using data for the years 1919-1930 ... This pamphlet probably fills a gap in French statistical literature by providing an example of applied mathematics in economics, but it certainly adds nothing to the published work of Bradford B. Smith, H. L. Moore, and others. Baury's correlations are largely spurious..."

Reviewed by A. Barriol in Journal de la Société de Statistique de Paris 72 (11): 296. Nov. 1931.

148. Bean, L. H. Helping the farmer to make his plans. Interrelationships between supply, price, and consumption. Commercial. American cotton. Annual review, Aug. 30, 1928, p. 17-18, charts. folio 72.9 M313
Presents some of the results of the Bureau of Agricultural Economics' cotton price analysis studies.
149. Bean, L. H. Some interrelationships between the supply, price and consumption of cotton...Address delivered before the American statistical association, New York City, Friday, April 20, 1928. 8 p., 7 diags., mimeogr. Washington, D. C., U. S. Dept. of agriculture, Bureau of agricultural economics, Division of statistical and historical research, 1928. 1.9 Ec752Sc
150. Bourkser, M. D. L'influence des prix du coton sur la cote des valeurs égyptiennes durant la période 1910-1929. L'Égypte Contemporaine, année 21, no. 124, Dec. 1930, p. 714-721. 270 Eg95
"This article discusses the indisputable influence of the price of cotton on Egyptian stock exchange quotations and expresses the hope that such influence will in future merely constitute an important factor and not the prevailing factor as in the past." - Agr. Econ. Lit. 5 (8): 504-505. Oct. 1931.
151. Bresciani-Turrone, Costantino. L'influence de la speculation sur les fluctuations des prix du coton. L'Égypte Contemporaine 21 (127): 308-342, charts. Mar. 1931. 270 Eg95
The Library has an English translation of this article by H. E. Brockway. (221.372 Br.)
In six parts. Translated titles of these parts: Principal factors in cotton prices; The role of speculation according to economists' theories; Inductive verification of the economic theory of speculation; Causes of the divergence between theoretical conclusions and the results of statistical analysis; The function of insurance against the risks of price fluctuations as practised on exchanges dealing in futures; Conclusion.
152. Bresciani-Turrone, Costantino. Relations entre la récolte et le prix du coton égyptien. L'Égypte Contemporaine 21 (124): 633-689. Dec. 1930. 270 Eg95
In eight parts: La baisse du prix du coton et la crise économique mondiale; Les facteurs du prix du coton égyptien; L'élasticité de la demande; L'offre du coton égyptien; La valeur totale de la récolte du coton égyptien; Quelques questions de politique cotonnière; Prévision des prix du coton; Conclusions.
Discussion of this paper, including five annexed notes, p. 690-713.
153. Bresciani-Turrone, Costantino. Über die elastizität des verbruchs ägyptischer baumwolle. Weltwirtschaftliches Archiv, bd. 33, heft 1, p. 46-86. Jan. 1931. 286.8 W462
The elasticity of demand for Egyptian cotton. Abstract in Social Sci. Abs., v. 3, 1931, item 9260.
154. Cox, A. B. The relation of the price and quality of cotton. Jour. Farm Econ. 11 (4): 542-549. Oct. 1929. 280.8 J822

155. Crawford, G. L., and Gabbard, L. P. Relation of farm prices to quality of cotton. Tex. Agr. Expt. Sta. Bul. 383, 29 p., charts. College Station, 1928.

"The object of this study is to show what quality of cotton selected localities in different parts of the State are producing relative to grade, staple, and character; the extent to which the farmer is paid on the basis of quality for his cotton, and to what extent central market values are reflected in these prices.

"The data summarized in this Bulletin are for the season of 1926, and are offered as a preliminary report. It includes data for the first year of a study outlined to extend over a period of three to five years." p. 6.

156. Donner, Otto. Bestimmungsgründe der baumwollpreise. Berlin Institut für Konjunkturforschung. Vierteljahrshefte zur Konjunkturforsch. Sonderheft 15, 1930, 64 p., charts. 280.9 B45Vs

"A study is made of the factors which determine the price of American, Egyptian, and Indian cotton. Fluctuations in the price of cotton depend upon quite definite, statistically demonstrable economic facts, and can only be very slightly modified by speculation, and only for a brief period of time. That the chief factor in the determination of cotton prices is supply is proved by a study of the yearly fluctuations since the end of the World War. A knowledge of the basic causes which determine the price of cotton gives an insight into the probable trend of prices in the cotton market." - Social Sci. Abs., v. 3, 1931, item 971.

157. Guin, Marvin. Relation of price to quality of South Carolina cotton, 1929-1930 season. S. C. Agr. Expt. Sta. Bul. 279, 32 p., charts. Clemson College, 1931.

"The object of this study is to determine the extent to which quality is paid for in local markets, the relation of prices paid for the same quality of cotton in the different markets, the relation between prices paid in local markets to those paid in central and futures markets, and the factors responsible for these relationships and variations. The particular aim of this report is to bring the study more up to date and to show what the facts of the 1929-1930 crop reveal, in this way making a timely and more accurate measurement of the present condition in the cotton markets of the State." p. 7-8.

158. Howard, R. H. Relation of quality to price of cotton. Fla. Col. Agr., Agr. Ext. Serv., Fla. Agr. Ext. Econ. 2 (4): 2-6. Apr. 1932.

159. Howell, L. D., and Burgess, J. S., jr. Farm prices of cotton in relation to its grade and staple length in local markets in the United States, seasons 1928-29, 1929-30, and 1930-31. A preliminary report. 71 p., mimeogr. Washington, D. C., U. S. Dept. of agriculture, Bureau of agricultural economics, Division of cotton marketing. Nov. 1932.
1.9 Ec733Fap

Issued in cooperation with State agricultural experiment stations.

160. Howell, L. D., and Fullilove, W. T. Farmprices of cotton related to its grade and staple length in Georgia, seasons 1929-30 and 1930-31. Ga. Agr. Expt. Sta. Bul. 174, 37 p., charts. Experiment. 1933.

161. Howell, L. D., Burgess, J. S., and Neubauer, T. A. Farm prices of cotton related to its grade and staple length - Mississippi crop-season 1928-29. A preliminary report. 46 p., mimeogr. Washington, D. C. U. S. Dept. of agriculture, Bureau of agricultural economics, Division of cotton marketing, April 1932. 1.9 Ec733 Fpm
162. Howell, L. D. Farm prices of cotton related to quality, Arkansas crop, season 1928-29. A preliminary report. 23 p., mimeogr. Washington, D. C., U. S. Dept. of agriculture, Bureau of agricultural economics, Division of cotton marketing, April 1931. 1.9 Ec733Fp
163. Howell, L. D., and Fullilove, W. T. Farm prices of cotton related to quality; Georgia crop, 1928-29. Ga. Agr. Expt. Sta. Bul. 165, 33 p., charts. Athens, 1930.
164. Howell, L. D. Farm prices of cotton related to quality; Oklahoma crop-season 1928-29. A preliminary report. 23 p., mimeogr. Washington, D. C., U. S. Dept. of agriculture, Bureau of agricultural economics, Division of cotton marketing, April 1931. 1.9 Ec733Fo
165. J., K. W. The cotton crop and its price. Jour. Amer. Statis. Assoc. 23 (n.s.162): 181-184. June 1928.
Among the speakers was L. H. Bean who spoke on certain interrelationships between the supply, price and consumption of cotton. A short summary of his paper is given.
166. Maddox, J. G. Relation of grade and staple length of cotton to prices received by farmers in local markets of Arkansas. Ark. Agr. Expt. Sta. Bul. 274, 76 p., charts. Fayetteville. 1932.
167. Manny, T. B. Farmer opinions and other factors influencing cotton production and acreage adjustments in the South. U. S. Dept. Agr. Circ. 258, 42 p. Washington, D. C., 1933.
"A socio-economic study of farmer opinions and other factors, including prices, credit, and outlook information, influencing acreage adjustments in selected counties in the Mississippi Delta, the Piedmont, and the South Atlantic Coastal plain areas of the South." - Wells, O. V. Farmers' response to price, item 40.
168. Myers, Lawrence. Fertilizer consumption in cotton area varies with return from crop. U. S. Dept. Agr. Yearbook, 1928: 292-293. Washington, D. C., 1929.
"The effects of fertilizer prices, cotton prices and the preceding cotton acreage and yield on fertilizer consumption in the cotton area are shown." - Wells, O. V., Farmers' response to price, item 44.
169. Oparin, D. J. ...The method of schematic deviations applied to the investigation into the cotton market dynamics. (The problem of equilibrium in economics and classical mechanics) (Accompanied by English summary.) p. [137]-154, [167]-168. Moscow, 1927. 280.9 M35
"Reprinted from 'Problems of economic conditions,' vol. III, no. 1, ed. by the Conjecture institute, Moscow, 1927."
Text in Russian.

170. Pope, J. D., and Clark, C. M. The relation of quality of cotton to prices paid to farmers in Alabama. Ala. Agr. Expt. Sta. Bul. 235, 48 p., charts. Auburn, 1931.
171. Ricci, Umberto. Die nachfrage nach ägyptischer baumwolle und ihre elastizität. Weltwirtschaftliches Archiv 35 (1): 250-261. Jan. 1932. 286.8 W462
"A technical discussion of the demand for Egyptian cotton and its elasticity based on an article by Bresciani-Turroni published in Weltwirtschaftliches Archiv, Bd. 33, hft. 1, Jan. 1931, p. 46-86. A translation by H. E. Brockway of Dr. Ricci's article is available in the Bureau Library." - Agr. Econ. Lit. 6 (5): 318. May 1932.
172. Smith, B. B. Factors affecting the price of cotton. U. S. Dept. Agr., Tech. Bul. 50, 75 p., charts. Washington, D. C., 1928. Literature cited, p. 72-74.
"This bulletin reports the results of a study of the factors influencing the yearly and monthly price variations of cotton over the period 1905-1925, made with a view (1) to determine the factors which influence the price of cotton, (2) to reduce these factors to numerical measurement in so far as possible, and (3) to find and define the statistical relationship, if any, existing among these factors and the price."
"It consists of two sections, a 'preliminary analysis' dealing with price-supply relationships from year to year, and a 'detailed analysis' made to explain month-to-month variations in price on the basis of systematic relationship to the several sets of factors. Linear multiple correlation applied to the logarithms of the variables was used in both analyses. Curvilinear multiple correlation methods were applied to the original variables in the detailed analysis... Expt. Sta. Rec. 59: 183-185. 1928.
173. Smith, B. B. Forecasting the acreage of cotton. Jour. Amer. Statis. Assoc. 20 (n.s.149): 31-47. Mar. 1925. 251 Am3
174. Thibodeaux, B. H., and Wells, O. V. Use of outlook information in farm-business planning in the cotton belt. A preliminary report. 47 p., mimeogr. Washington, D. C., U. S. Dept. of agriculture, Bureau of agricultural economics, Division of farm management and costs, November 1932. 1.9 Ec762U
"A generalized explanation of the relation between prices and the future acreage of southern crops, with especial reference to cotton, is given on pp. 9-10." - Wells, O. V. Farmers' response to price, item 76.
175. U. S. Dept. of agriculture, Bureau of agricultural economics. The world cotton situation with outlook for 1931-32, and the long-time outlook for southern agriculture. U. S. Dept. Agr., Misc. Pub. 104, 76 p., charts. Washington, D. C., 1930.
"See pp. 28-37 for a non-technical discussion of changes in cotton acreage and production." - Wells, O. V. Farmers' response to price; a selected bibliography, item 23. See p. 4-21 for a discussion of demand.
176. Youngblood, Bonney. Analysis of the relation of quality to price of cotton. Jour. Farm Econ. 11 (4): 525-541. Oct. 1929. 280.8 J822
Discussion by G. L. Crawford, p. 539-541.

177. Youngblood, Bonney. The quality of cotton and market demand...Address at the meeting of Southern agricultural workers, Houston, Texas, Feb. 7, 1929. 10 p., mimeogr. Washington, D. C., U. S. Dept. of agriculture; Bureau of agricultural economics, Division of cotton marketing, 1929. 1.9 Ec733Q
178. Zahra, M. A., and El-Darwish, M. A statistical study of some of the factors affecting the price of Egyptian cotton. [Egypt] Min. Finance, Cotton Bur. Tech. Bul. 1, 17 p., charts. Cairo, Government press, 1930. 281.3729 Eg9

The writers state in their foreword that they have confined their efforts "to a statistical study of the more important factors influencing the price of Egyptian cotton, without attempting to indulge in any deductive analysis of the play of these factors." Factors studied are: relation between the movement of the price of American cotton and that of Egyptian cotton; relation between the size of the Egyptian cotton crop and its price; and relation between the size of the Egyptian cotton crop and its total value.

Fruits

Apples.

179. Bean, L. H. Factors bearing on the price of apples. U. S. Dept. Agr., Bur. Agr. Econ., Agr. Situation 13 (11): 10-13, chart. Nov. 1929. 1 Ec7Ag
180. Braun, E. W. Analysis of the principal factors affecting the price of fancy Gravenstein apples in Sonoma County, California, 1923-1930. 8 p., mimeogr., charts. Berkeley, University of California, College of agriculture, Agricultural extension service, July 1931. 275.2 C12A
"A modification and continuation of a study by Emil Rauchenstein. Factors affecting the price of Gravenstein apples at Sebastopol." (q.v.) Contribution from the Giannini Foundation of Agricultural Economics.
181. Kemmer, Erwin, and Schultz, Fritz. Beispiel einer preisspannenfeststellung für äpfel in Berlin. Blätter für Landwirtschaftliche Marktforschung 3 (3): 100-106. Aug. 1932. 280.38 B61
"In November 1930 and 1931, some investigations were made by 25 students from German agricultural training schools, of the retail and wholesale prices of various kinds of apples in various types of business and various districts of Berlin. The resultant data together with ruling quotations, served as a basis for computation of the market spread. The usual assumption that neighborhood and type of business affect the retail price is confirmed."- Agr. Econ. Lit. 6 (10): 682. Dec. 1932.
182. Kroeck, J. McIntosh apple study. A summary showing some of the factors influencing prices on the Boston wholesale market. 11 p. Boston, Massachusetts Dept. of agriculture, Division of markets, 1928. 280.3 M38A
183. Longley, W. V. The relation of price to apple production. Jour. Farm Econ. 12 (4): 618-620. Oct. 1930. 280.8 J822
The data used in this article are for the Annapolis Valley, Nova Scotia.

184. Longley, W. V. Some economic aspects of the apple industry in Nova Scotia. Nova Scotia. Dept. Agr. Bul. 113, 150 p., charts. Halifax. 1932.
7 N85
Thesis (Ph.D.) - University of Minnesota.
Bibliography, p. 141-142.
Effect of price on production, ch. IV., p. 15-20.
An analysis of prices of different grades, p. 30-34.
185. Nystrom, M. R. Measuring the New York apple market. 14 [7] p., charts, typewritten. [New York, June 30, 1927] 280.3 N482Fo
Section III of Food Marketing Studies of the New York Food Marketing Research Council.
"The purpose of this study is first, to provide a general picture of the New York Apple Market including sources of supply, principal carriers, location of markets and commercial practices in regard to the handling and sale of apples; and second, to discuss in a brief manner price fluctuations and variety price differentials for a few of the more important varieties." p. 1.
See p. 8-14 for the price study. Much of the data used was collected for J. Bloxom's study "Some Factors Determining the Price of Northwest Apples on the New York Market."
186. Rauchenstein, Emil. Economic aspects of the apple industry. Calif. Agr. Expt. Sta. Bul. 445, 76 p., charts. Berkeley, 1927.
Apple prices and their relation to production, p. 39-41; prices of principal varieties of apples shipped from the Watsonville district (includes two paragraphs on price to growers) p. 61-62; production and prices of Gravenstein apples in the Sebastopol district, p. 66-70.
187. Rauchenstein, Emil. Factors affecting the price of Gravenstein apples at Sebastopol. Calif. Agr. Expt. Sta. Hilgardia 3 (12): 325-338. / June 1928. Berkeley. ^{charts}
"The price of Gravenstein apples at Sebastopol is affected by the size of the Gravenstein crop in that district and by the size of the total apple crop in the United States. The relative effect of the former has been increasing with the size of the crop since 1912, and the effect of the latter decreasing. The coefficient of multiple correlation is .891 for the period from 1919 to 1927. Each change of one million bushels in the July 1 estimate of apple production in the United States changed the price per box 0.832 cents, while each change of one thousand bushels in the Gravenstein apple production in the Sebastopol district changed the price 0.0839." - Social Sci. Abs., v. 1, 1929, item 8937.
188. Stokdyk, E. A., Erdman, E. E., West, C. H., and Allen, F. W. Marketing California apples. Calif. Agr. Expt. Sta. Bul. 501, 151 p., charts. Berkeley, 1930.
Apple supplies and wholesale prices, p. 129-142.
Retail prices, p. 142-150.

Canned Fruits

189. Dickens, Dorothy. The relation of grade to price in canned fruits. Chicago, Univ. School Con. and Admin. News Bul. 1 (5): 6-8, chart. Aug. 8, 1932.

190. Wellman, H. R. Factors that affected the annual average prices of canned apricots, 1923-24 to 1930-31. (A preliminary report). 17 p., mimeogr. charts. Berkeley, University of California, College of agriculture, Agricultural extension service, June, 1931. 275.2 C12Fp
Contribution from the Giannini Foundation of Agricultural economics.
This study is similar to the other canned fruit studies conducted by the Giannini Foundation and listed in this bibliography. The following factors have been measured in this study: shipments, trend of demand, and prices of competing canned fruits.

191. Wellman, H. R. Factors that affected the annual average prices of canned pears, 1921-22 to 1930-31. (A preliminary report.) 17 p., mimeogr., charts. Berkeley, University of California, College of agriculture, Agricultural extension service, June 1931. 275.2 C12Fpp
Contribution from the Giannini Foundation of Agricultural economics.
"The purposes of this study are to determine the factors that have been responsible for the variations in the annual average f.o.b. prices of canned pears from 1921-22 to 1930-31 and to measure the influence of the more important factors that can be expressed in quantitative terms. ...the...analysis explains only what has occurred. It does not forecast what will occur in the future,...

"The analysis has been divided into two parts: (1) factors that affected the prices received for canned pears sold in the United States, and (2) factors that affected the prices received for canned pears exported to the United Kingdom. Obviously the prices received for canned pears sold in both the United States and the United Kingdom are influenced by many factors. Not all of these factors, however, can be measured with the data now available. In this analysis only the following factors have been measured: (1) shipments, (2) trend of demand, and (3) prices of competing canned fruits." p. 1.

Cherries

192. Wellman, H. R., and Braun, E. W. Cherries. Calif. Agr. Expt. Sta. Bul. 488, 38 p., charts. Berkeley, 1930.
Series on California Crops and Prices.
Factors affecting prices, p. 24-26. Includes a chart, Relation between average f.o.b. prices and annual interstate shipments of California cherries, 1921-1929.

Citrus Fruit

193. Wellman, H. R., and Braun, E. W. Grapefruit. Calif. Agr. Expt. Sta. Bul. 463, 55 p., charts. Berkeley, 1923.
Series on California crops and prices.
Prices (trend of prices; factors affecting prices, seasonal variation in prices), p. 20-24. The following is quoted from p. 21-23:
"The volume of competing fruits on the markets also has an important effect upon the price of grapefruit. Oranges are probably the most important single competitor of grapefruit. The effect of the size of the winter orange crop upon the prices of Florida grapefruit is shown in figure 7. The solid line represents the average annual prices of Florida grapefruit; the broken line, the total shipments of winter oranges. Each curve is plotted in percentages of its trend. It is

readily apparent that a high degree of association has existed between these two series..."

194. Wellman, H. R., and Braun, E. W. Lemons. Calif. Agr. Expt. Sta. Bul. 460, 37 p., charts. Berkeley, 1928.

Series on California Crops and Prices.

Prices (wide fluctuations in prices, effect of supply upon price, effect of temperature upon price, effect of amount of sickness upon price, estimated farm price of lemons), p. 19-27.

Figure 11, p. 20: United States supply of lemons and the average prices of California lemons after correcting for changes in summer temperatures, 1910-1927. The following note is given:

"The price of lemons varies inversely with the supply. The fluctuations in prices, however, are much greater than the fluctuations in supply, which indicates that the demand for lemons is relatively inelastic. (The curve of supply represents percentages above and below a trend fitted to the figures in table 14, column 4.) The curve of price represents the fluctuations in prices remaining after the effects of changes in the summer temperature departures from normal in fourteen important lemon-consuming markets of the United States have been removed. The price data from which this curve was derived are given in table 15, column 1."

195. Wellman, H. R., and Braun, E. W. Oranges. Calif. Agr. Expt. Sta., Bul. 457, 58 p., charts. Berkeley, 1928.

Prices and purchasing power (relative prices of oranges compared with general price level; purchasing power of all oranges, Valencias and Navels; prices by size; seasonal variation in prices). p. 30-41.

Cranberries

196. Bean, L. E. Factors affecting the yearly average price of cranberries. U. S. Dept. Agr., Bur. Agr. Econ., Agr. Situation 12 (8): 17-18, charts. Aug. 1928. 1 Ec7Ag

Accompanied by a chart in three sections, the supply-price curve, deviation from supply-price curve, and actual and estimated yearly average price.

"An analysis of the f.o.b. shipping point prices of cranberries as reported by the American Cranberry Exchange, which handles nearly two-thirds of the crop, indicates that the yearly average price is very largely determined by the size of the United States crop. The size of the United States crop, together with two other factors, namely, the year-to-year variations in the general commodity price level and an annual growth in demand, almost completely determine the yearly f.o.b. price of cranberries."

Grapes and Raisins

197. Mallory, L. D., Smith, S. R., and Shear, S. W. Factors affecting annual prices of California fresh grapes, 1921-1929. Calif. Agr. Expt. Sta. Hilgardia 6 (4): 101-130, charts. Berkeley, Sept. 1931.

"In an analysis of California grapes for the period from 1921-1929 inter-state plus intra-state railroad shipment data were used to measure supply; average New York City auction sales prices divided by the whole-

sale price index were used to measure price. For table-grapes, the important price determinant is the supply-each increase of 5,000 cars was associated with an approximate price decrease of \$25 per ton. For black-juice grapes the corresponding decrease was from \$40 to \$30 per ton and for white-juice grapes the decrease was from \$35 to \$25 per ton. The indicated elasticity of demand for the three classes was between -0.8 and -0.7 for table-grapes, between -0.8 to -0.9 for black juice grapes and between -2.0 and -1.4 for white-juice grapes. In the case of the juice grapes, other important influences were (1) the timing of the Eastern shipments with reference to demand - in part influenced by temperature, (2) the quantity ratio between the black-juice and white-juice supplies and (3) the quality factor." - Social Sci. Abs., v. 4, Apr. 1932, item 5643.

198. Shear, S. W., and Gould, H. F. Economic status of the grape industry. Calif. Agr. Expt. Sta. ^{Bul.} 429, 124 p. charts.. Berkeley, 1927.

Weekly variation in prices, p. 81-85; annual prices and purchasing power, p. 85-95; price outlook and problems of adjustment, p. 95-98.

Inverse relationship between raisin supply and price, p. 106-107.

199. Shear, S. W., and Howe, R. M. Factors affecting California raisin sales and prices, 1922-1929. Calif. Agr. Expt. Sta. Hilgardia 6 (4): 73-100, charts. Berkeley, Sept. 1931.

A preliminary report entitled "What Determines California Raisin Sales" was issued in mimeographed form in November, 1930. (93 C128)

"At what price can the tonnage of California raisins available during any particular marketing season be sold? In the period from 1921 through 1929, the most important price determinant was the raisin supply with each increase of 10,000 tons causing an approximate decrease of 1 per cent per pound in the price received. This indicates that the elasticity of the domestic demand for raisins is between -0.3 and -0.4. In addition to the supply factor, the level of demand is an important co-determinant of the domestic price and the Australian supply and price situation is an important factor in the English export market." - Social Sci. Abs., v. 4, Apr. 1932, item 5649.

200. Stover, H. J. Relation of the production of grapes in western New York and in California to prices. Farm Econ. (N. Y.) no. 59, June 1929, p. 1111-1113, charts.

"Data for this study was obtained from Bulletin 429, University of California Agricultural Experiment Station, 'Economic Status of the Grape Industry.'"

201. Stover, H. J. Some factors affecting the purchasing power of grapes. Farm Econ. (N. Y.) no. 45, June 1927, p. 692-695, charts.

"As data on the production of grapes was not available, it was not possible to study directly the relation of production to price. Various weather factors were used as a measure of production."

202. Thomsen, F. L., and Thorne, G. B. Economic position of the grape industry in Missouri. Missouri Agr. Expt. Sta. Bul. 273, 34 p., charts. Columbia, 1929.

Factors affecting Missouri grape prices, p. 4-13. Supply-price curves given.

Peaches

203. Kantor, H. S. Factors affecting the price of peaches in New York market. U. S. Dept. Agr., Tech. Bul. 115, 64 p., charts. Washington, D. C., 1929.
Gives the results of a study made in cooperation with the New Jersey experiment stations. Abstracted in Expt. Sta. Rec. 61: 486-487. 1929.
204. Wellman, H. R. Factors that affected the annual average prices of canned clingstone peaches, 1921-22 to 1930-31. 19 p., mimeogr., charts. Berkeley, University of California, College of agriculture, Agricultural extension service, June 1931. 275.2 C12Fpc
Contribution from the Giannini Foundation of Agricultural economics.
"The purposes of this study are to determine the factors that have been responsible for the variations in the annual average f.o.b. prices of canned clingstone peaches from 1921-22 to 1930-31 and to measure the influence of the more important factors that can be expressed in quantitative terms. It should be clearly recognized that the... analysis explains only what has occurred. It does not forecast what will occur in the future. In order to use this analysis in forecasting the probable price at which a given supply of canned peaches can be sold or in forecasting the probable supply that can be sold at a given price, it is first necessary to determine the future positions of the factors that affect canned peach prices. The analysis has been divided into two parts: (1) factors that affected the prices received for canned peaches sold in the United States and (2) factors that affected the prices received for canned peaches exported to the United Kingdom."
p. 1.
205. Wellman, H. R. Supply, demand, and prices of California peaches. Calif. Agr. Expt. Sta. Bul. 547, 64 p., charts. Berkeley, 1932.
Supersedes California Agricultural Extension Service Circular 1.

Pears

206. Shear, S. W. Economic aspects of the pear industry. Calif. Agr. Expt. Sta. Bul. 452, 107 p., charts. Berkeley, 1928.
Relation of weekly supply to price, p. 75-81, prices and purchasing power of canning pears, p. 89-91.
207. Shear, S. W. Pacific coast pear supply and price situation. 9 p., mimeogr., charts. Berkeley, California agricultural experiment station. 1929.
"An address presented to the Western Pear Meet, held under the auspices of the Oregon State Horticultural Society and Fruit Growers' League, at Medford, Oregon, November 13, 1929... The data presented supplement Bulletin 452 of the California Agricultural Experiment Station."

Plums and Prunes

208. Rauchenstein, Emil. Economic aspects of the fresh plum industry. Calif. Agr. Expt. Sta. Bul. 459, 26 p., charts. Berkeley, 1928.
"This bulletin assembles and analyzes the available data on the plum industry regarding production, crop movement, relation to other fruits,

utilization, and the relationship between supply and demand... "
Expt. Sta. Rec. 60: 386. 1929.

209. Shear, S. W. Prune supply and price situation. Calif. Agr. Expt. Sta. Bul. 462, 69 p., charts. Berkeley, 1928.

Prices of California prunes, p. 47-59.

Among the topics considered are inverse relation of consumption and price, world supply the chief factor affecting prices, value of figure 14 (shows relation of world prune consumption and adjusted New York wholesale price of California 60/70's), supply-price relation less consistent than before the war, methods of quoting prices to growers, and influence of size on price.

Strawberries

210. Hall, O. J. Relation of central market prices of strawberries to production planning. Ark. Agr. Expt. Sta. Bul. 275, 54 p., charts. Fayetteville, 1932.

"Brief consideration is given to the strawberry price cycle and the effect of price on acreage on p. 37-40." - Wells, O. V. Farmers' response to price; a selected bibliography, item 34.

Charts showing supply and wholesale price relationships for strawberries sold in New York City by weeks, 1926-1929, p. 36. Charts showing relation of carlot shipments to farm price per quart of strawberries for Arkansas and for second-year states, 1918-1920, p. 38-39.

211. Thomsen, F. L., and Thorne, G. B. Economics of strawberry production and marketing in Missouri. Missouri Agr. Expt. Sta. Bul. 262, 138 p., charts. Columbia, 1928.

How strawberry prices are determined, p. 17-20; Strawberry production, costs and prices, p. 21-56. For measuring the relationship between supply and price, factors determining supply, recent changes affecting supply, significance of the production-price situation, and facts to be considered in arriving at a production or acreage policy, see p. 23-47.

Reduction of marketing costs, p. 114-128.

Grain

212. Hoffman, G. W. Future trading and cash grain markets. U. S. Dept. Agr. Circ. 201, 56 p., charts. Washington, D. C., 1932.

"This study outlines the relation of future trading to cash-grain markets. The essential features of the markets for cash grain and the markets for futures are summarized and contrasted, cash and futures prices are compared and in the light of this comparison the principal functions of future trading are described." p. 1.

213. Lehner, Friedrich. Die nachkriegsentwicklung der weltgetreide vornehmlich der weltweizenpreise. 125 p. Emden (Ostfriesland) Gedruckt bei B. Davids, 1932. 284.359 152

Literaturverzeichnis, p. 115-125.

"A study of the postwar development of grain prices including a discussion of the factors which determine them and an account of wheat and rye price fluctuations since 1924." - Agr. Econ. Lit. 6 (7): 523. Sept. 1932.

214. Monkemeyer, Frau Hilde (Neumann). Probleme der freien oder gebundenen getreidewirtschaft, insbesondere in Deutschland. 100 p. Charlottenburg, 1932. 284.359 M74
Inaug.-diss. - Berlin.
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"An account of the factors which influence grain prices and of the attempts made in Germany and elsewhere to stabilize the price of grain."- Agr. Econ. Lit. 7 (3): 138. Mar. 1933.

Barley

215. Braun, E. W. Barley. Calif. Agr. Expt. Sta. Bul. 512, 32 p., charts. Berkeley, 1931.
Series on California crops and prices.
Barley prices (factors affecting barley prices at San Francisco, price of export barley, seasonal movement of prices), p. 13-20.

Broomcorn

216. Washburn, R. S., and Martin, J. H. An economic study of broomcorn production. U. S. Dept. Agr. Tech. Bul. 347, 42 p., charts. Washington, D. C., 1933.
Relation of supply of broomcorn to price received, p. 14-17.

Corn

217. Cox, R. W. Factors influencing corn prices. Minn. Agr. Expt. Sta. Tech. Bul. 81, 51 p., charts. University Farm, St. Paul, 1931.
"Factors that influence the average seasonal level of corn prices (influence of the supply of corn, influence of other factors) p. 14-23; Value of the corn supply at Chicago prices of no. 3 yellow corn, with varying total supplies, p. 24-25; Analysis of the influence of factors affecting the average October-June price of no. 3 yellow corn in Chicago," p. 32-36.
218. Hoffman, G. W. Trading in corn futures. U. S. Dept. Agr. Tech. Bul. 199, 82 p. Washington, D. C. 1930.
"It is proposed in this study to analyze and summarize the information relating to corn futures during this 5-year [1923-1928] period, making such comparison with future trading in other grains, and especially wheat, as seem worth while. Particular emphasis will be placed upon the manner and extent to which the trade in corn futures related itself to the price of corn. Because of the outstanding importance of the Chicago Board of Trade as a futures market, unless otherwise stated, the data will relate to this exchange." - p. 2.
219. Misner, E. G. Studies of the relation of weather to the production and price of farm products. I. Corn. 192 p., mimeogr., charts. Ithaca, N. Y., Cornell University, March 1928. 281 M68
220. Schultz, T. W. Variations in corn prices within Iowa. A preliminary report. 25 p., mimeogr. Ames, Iowa Agricultural experiment station, 1933. Pam. Coll.

The data used are the prices paid to Iowa producers during the period from October 1920 to September 1931, collected by the Crop Reporting Board of the U. S. Dept. of Agriculture.

221. Shepherd, G. S. The secular movement of corn prices. Iowa Agr. Expt. Sta. Research Bul. 140, p. 177-223, charts. Ames, 1931.

The material in this bulletin is presented in condensed form in Iowa Bulletin 284, The Trend of Corn Prices.

"This study, which covers the period 1866-1930, is based primarily on data on production and prices of corn and livestock published by the U. S. Department of Agriculture. Charts and tables are included showing the production of corn, oats, and barley, the secular movements of corn prices and of the purchasing power of corn, percentages of corn crop used for different purposes, the number of livestock of different kinds on farms, changes in the demand for corn, purchasing power of hogs, Federal inspected and total slaughter of hogs, and the ratio of production of corn in nine Corn Belt States and in Iowa, Illinois, and Indiana to that in all other States. The effects of changes in livestock population, livestock purchasing, and feeding methods on the demand for and the purchasing power of corn, 1866-1919, and since the World War, and the future use of corn prices and of profits from corn growing are discussed.

"Appendices describe the statistical methods used in determining trends, the relationship between size of crop and purchasing power, and the number of livestock not on farms, and discuss the increase in corn export demand, the changes in small items, and the reasons for the lack of agreement between the number of hogs on farms and total number of hogs slaughtered..." Expt. Sta. Rec. 66: 187-188. 1932.

222. Stout, W. B. Corn price facts. Purdue Agr. Ext. Leaflet 165, 6 p., charts. Lafayette, Indiana, 1932.

Charts show corn production in the United States from 1890-1931 and yearly United States farm price as of December 1; seasonal variation in the Indiana farm price of corn and the price of no. 3 yellow corn at Chicago (average 1926-1931); cost of distributing food and the farm price of corn in the United States, 1913-1931.

Flax and Flaxseed

223. Elliott, F. F., and Wells, O. V. Farmers' response to price in the production of flax. A preliminary report. 33 p., mimeogr. Washington, D. C., U. S. Dept. of agriculture, Bureau of agricultural economics, Division of farm management and costs, Dec. 1930. 1.9 Ec762Fb

Changes in flax acreage in the United States and in Minnesota, North Dakota, South Dakota, and Montana are related to the flax-wheat acreage return ratio." - Wells, O. V. Farmers' response to price, item 28.

224. Wright, P. G. The tariff on animal and vegetable oils. 347 p. New York, The Macmillan company, 1928. 285 W93T

Effects of a duty on price and output with special reference to butter and flaxseed, appendix B, p. 286-319. In three parts: I. Formulae for estimating the effect of a duty; II. Explanations and qualifications; III. The handling of data.

Rice

225. Campbell, C. E. Factors affecting the price of rice. U. S. Dept. Agr., Tech. Bul. 297, 56 p., charts. Washington, D. C., 1932.
Acreage changes as affected by farm prices, p. 2-4; Factors affecting the price of southern type rice, p. 7-11; Factors influencing the price of California-Japan type rice, p. 11-17; Statistical analysis of factors affecting the price of rice, p. 17-38.

Wheat

226. Baumert, W. A. A method of forecasting the prices of wheat by-products. 40 p. Washington, The Catholic University of America, 1926. 284.3 B32 Thesis (PH.D.) - Catholic University of America, 1926.
Bibliography, p. 40.
Topics considered in the four chapters of this study are: Commercial and biological aspects of wheat by-products; The economic theory of joint products; the Tariff commission's report, forecasting of prices; Statistics of joint products of wheat; The method used in forecasting the prices of wheat by-products (correlation), forecasting the price of bran by the multiple correlation, future prices as indicators of price trends, results obtained from the multiple correlation of wheat, corn, and oats with bran, suggestions of ways in which to check estimates.
227. Bennett, M. K., assisted by Janet Murray and P. S. King. A weighted series of cash wheat prices at Winnipeg. Wheat studies of the Food Research Institute 5 (5): 175-192, charts. Stanford University, Calif., March 1929. 59.8 F73
"This study presents a series of weekly weighted average cash wheat prices at Winnipeg which seems, with certain limitations, to be satisfactorily representative of the range of Winnipeg prices. It is based upon weekly averages of cash closing prices on the Winnipeg Exchange, weighted by inspections of wheat by grades at Winnipeg.
"The series is subject to several qualifications arising from the price statistics and the weights used. Of these qualifications the most important is that the volume of weekly sales at Winnipeg cannot be expected to conform precisely in its composition by grades with the composition of weekly inspections by grades. The series seems least reliable as an indicator of the true course of Winnipeg cash prices in the months of August and September, when inspections are small and when they may change radically in their composition by grades. It is less satisfactorily representative of terminal prices throughout all Canada than of terminal prices at Winnipeg, because prices and inspections of wheat sold at Vancouver are not included. The defects of weighting by Winnipeg inspections are, however, less significant in weekly weighted averages than they would be in monthly or annual weighted average prices." - title-page.
228. Braun, E. W. Wheat. Calif. Agr. Expt. Sta. Bul. 502, 34 p., charts. Berkeley, 1930.
Series on California Crops and Prices.
Wheat prices (factors affecting the world price of wheat; price of wheat at San Francisco; relation of the prices at San Francisco to

Portland and Liverpool prices, and to prices at eastern terminal markets; seasonal wheat prices at San Francisco), p. 12-18.

229. Green, R. M. Factors affecting the timing of wheat price movements. Internatl. Conf. Agr. Econ. 2d, Cornell Univ., Ithaca, N. Y., Proc. 1930, p. 724-732, charts. 281.9 In82
230. Green, R. M., and Stokdyk, E. A. Juding price risks in marketing wheat. Kans. Agr. Col. Ext. Circ. 54, 31 p., charts. Manhattan, 1927.
231. Kirch, F. W. Effect of location on the price of wheat. 95 p., typewritten, charts and tables. [Stillwater, Okla.] 1930. 284.359 K63
Thesis submitted to the Department of Agricultural Economics, Oklahoma Agricultural and Mechanical College in partial fulfillment of the requirements for the degree of Master of Science, 1930.
"The purpose of this study is to make an analysis of factors which determine the price of wheat at local or interior markets... a study will be made of the deviations of Oklahoma and Kansas City prices from Liverpool prices. In addition, an analysis of the factors causing such deviation, will be attempted. The conclusions arrived at in the above analysis, together with other related statistical findings will be applied to Oklahoma wheat marketing problems in order that wheat growers of the state may be aided in marketing their product." p. 1.
Supply-price comparisons, p. 41-66. Kansas City and Oklahoma price spreads, p. 66-73.
232. Kuhrt, W. J. A study of farmer elevator operation in the spring wheat area. Part II. - Variation in the protein content of spring wheat, especially the 1924 crop, and the effect of such variation on prices received and marketing methods used by farmers' elevators. A preliminary report. 16 p., mimeogr. Washington, D. C., U. S. Dept. of agriculture, Bureau of agricultural economics, Division of cooperative marketing, October 1926. 1.9 Ec723St
233. Kuhrt, W. J. A study of farmer elevator operations in the spring wheat area. Series of 1925-1926. Part II. - Analysis of the variation in the quality factors of the 1925 crop of spring wheat, and the relation of such variation to prices received and premiums paid in 1925-26. A preliminary report. 11 p., mimeogr. Washington, D. C., U. S. Dept. of agriculture, Bureau of agricultural economics, Division of cooperative marketing, Oct. 1927. 1.9 Ec723St
234. Lyon, L. S., and Rassieur, T. E. The price responsiveness of wheat growers. Jour. Polit. Econ. 32 (6): 707-721, charts. Dec. 1924. 280.8 J82
"Percentage changes in the acreage sown to spring (and to winter wheat) are related to preceding percentage changes in the price of cash wheat and to concurrent percentage changes in the prices of cash and future wheat." - Wells, O. V. Farmers' response to price, item 39.
235. Mereness, E. H. Effect of changes in the price on the acreage and production of wheat in New York. Farm Econ. (N. Y.) no. 75, May 1932, p. 1737-1739, charts. 280.8 C812

236. The relations between the price of wheat and the general price index in the United States. *Internat. Rev. Agr.* 19⁽¹⁰⁾(10): 849-858, charts. Oct. 1928. 241 In82

"Changes in the price of wheat are so intimately related to various price changes that it is necessary to study the behavior of wheat prices in relation to changes in the general price level. This is done by studying correlations between wheat prices and the general price index by periods. Conclusions reached are that there is a high degree of correlation between the trend of the farm price of wheat and the general price index. The study shows some indications, but relations between production and prices of wheat need much ^{very} more investigation. A clear knowledge of these relations would be of immense value to the farmer." - *Social Sci. Abs.*, v. 1, 1929, item 4305.

237. Salmon, S. C., and Throckmorton, R. I. Wheat production in Kansas. *Kans. Agr. Expt. Sta. Bul.* 248, 84 p., illus. Manhattan, 1929.

Seasonal price changes (factors influencing monthly price changes; July, August, and September prices; winter and spring prices; disturbing factors; strong and weak spots in the market; holding high-quality wheat), p. 65-70.

238. Stout, W. B. Wheat price facts. *Purdue Agr. Ext. Leaflet* 162, 6 p., charts. Lafayette, Indiana, 1932.

The first three charts show the inverse relationship that exists between the world supply of wheat and deflated British prices; index numbers of wholesale prices in the United States, farm wheat prices in the United States and Indiana farm prices, 1910-1931; average prices of parcels at Liverpool and no.2 hard winter at Kansas City, July 1922 to date.

239. Taylor, A. E., Working, Holbrook, and Bennett, M. K. The contractibility of wheat acreage in the United States. *Wheat Studies of the Food Research Institute* 6 (4): 151-187. Feb. 1930. 59.8 F73

240. Taylor, A. E., Davis, J. S., and Working, Holbrook. Price spreads and restraint of United States wheat exports. *Wheat Studies of the Food Research Institute* 9 (1): 1-22. Stanford University, Calif., Oct. 1932. 59.8 F73

241. Taylor, A. E. Speculation, short selling and the price of wheat. *Wheat Studies of the Food Research Institute* 7 (4): 231-266. Stanford University Calif., Feb. 1931. 59.8 F73

"This limited examination is confined to the relations of the American price of wheat to the world price of wheat during recent years, with reference to the influence of speculation."

242. Taylor, A. E., Davis, J. S., and Working, Holbrook. Variations in wheat prices. *Wheat Studies of the Food Research Institute* 5 (7): 241-300. Stanford University, Calif., June 1929. 59.8 F73

The writers were assisted in this study by Elizabeth Brand Taylor. The following is quoted from the title page:

"The effort for stabilization of the general price level implies the occurrence of significant degrees of variation in the general price level. Agitation for stabilization of the price of a particular commodity, like wheat, similarly implies significant variations in price. The meaning and causes of wheat price variations have long been

entangled in controversies over the prevailing system of marketing wheat. But to a surprising extent the variations themselves have not been classified, described, and explained. Analysis of wheat price variations is essential as a background to the consideration of stabilization of the price of wheat. The purpose of this study, a tentative excursion into the subject, is to offer a non-technical picture of wheat price variations, principally in the United States, during the past three decades.

"We have first attempted to define the various significant types of variation. Thereafter, using several series of cash wheat prices, we have sought to illustrate the amplitude of movement in each type of variation to indicate the immediate and distant influences to which variations may principally be traced; and to contrast variations occurring in pre-war years with those in post-war years. Short-time fluctuations, month-to-month changes, recurring seasonal movements, and shifts in wheat price level from crop year to crop year are interrelated, and difficult to separate one from the other. The price of wheat at any time is not a point, but a wide range. Consequently, on the basis of available price series, a good deal of uncertainty necessarily surrounds any attempt to describe and measure wheat price fluctuations, and to point out the principal causes of variation. The present study is not offered as conclusive; but it serves to throw in-to relief certain characteristics of wheat price movements which seem to require attention whenever wheat price stabilization is discussed."

243. U. S. Department of agriculture. Bureau of agricultural economics. The disparity between wheat prices in Canada and in the United States and the grain storage situation. 22 p., mimeogr., charts. Washington, D. C., November 1929. 1.9 Ec7Di

"This report presents the results of an investigation prepared in response to a resolution adopted by the Federal Farm Board September 10 requesting the Bureau of Agricultural Economics 'to inquire into the disparity between the price of wheat in the United States and the price prevailing in Canada, with a view to determining the causes for the difference and particularly to investigate the amount and availability of country and terminal elevator storage in relation to the situation.'"title page.

The investigation was made by E. J. Working, F. J. Hosking, W. J. Kuhrt, and T. A. Sommers.

244. U. S. Department of agriculture, Bureau of agricultural economics. The world wheat outlook, 1930 and facts that farmers should consider. U. S. Dept. Agr., Misc. Pub. 95, 40 p., charts. Washington, D. C., 1930.

"See p. 17-29 for a non-technical discussion of changes in wheat acreage and production." - Wells, O. V. Farmers' response to price; a selected bibliography, item 22.

See also p. 31-33 for factors affecting the price of wheat, relation of prices in the United States to world markets, and the effect of changes in production upon price.

245. Varga, Stefan. Die preisbestimmungsfaktoren des ungarischen weizens. Factors determining the price of Hungarian wheat, Zeitschrift für Nationalökonomie 2 (5): 780-792. May 15, 1931. L. C.

246. Working, Holbrook, Hobe, A. M., and King, P. S. Cycles in wheat prices. Wheat Studies of the Food Research Institute 8 (1): 1-66, charts. Stanford University, Calif., Nov. 1931. 59.8 F73

"The present study undertakes a comprehensive investigation of the major movements, apart from long-time trends, of United States wheat prices through 43 years, the characteristics of their behavior, and the factors which determine the movements (as distinct from the levels) of wheat prices. Monthly data are found inadequate to reveal certain important characteristics of even major movements, and the investigation is based in large part on analysis of weekly averages of daily prices throughout the 43 years studied.

"Five important types of movements are found, all but one of which have certain cyclical characteristics. They may conveniently be classified as follows: A. The seasonal cycle (in cash prices). B. Non-seasonal price movements. 1. Crop-scare and related cycles. 2. A long cycle. 3. Movements related to cyclical changes in wholesale prices in general. 4. Movements directly attributable to size of the world wheat crop harvested during the season (not notably cyclical in character)." p. 1.

Wheat production in relation to prices, p. 31-33; Influence of production on price, p. 33-34.

247. Working, E. J. Factors affecting the timing of wheat price movements. Internatl. Conf. Agr. Econ., 2d, Cornell Univ., Ithaca, N. Y., 1930, p. 706-714. 281.9 In82

248. Working, Holbrook. Materials for a theory of wheat prices. Internatl. Conf. Agr. Econ., 2d, Cornell Univ., Ithaca, N. Y., 1930, p. 713-723, charts. 281.9 In82

The writer presents "evidence that major wheat price movements, extending through periods from two to about twelve months in length, are largely dominated by two peculiar cyclical tendencies." These cycles are "the long cycle" and "crop season price cycles." The study is based on weekly average prices of the Chicago May wheat future.

Library has also a set of 7 mimeographed ^{sheets} with this same title. (Pam. Coll.)

249. Working, Holbrook, and Hobe, A. M. The post-harvest depression of wheat prices. Wheat Studies of the Food Research Institute 6 (1): 1-40. Stanford University, Calif., 1929. 59.8 F73

"An analysis is made of the monthly cash wheat prices, July 1899-1914, and July 1921-1928, of no. 2 hard winter wheat at Kansas City, no. 2 red winter wheat at St. Louis, and no. 1 northern spring wheat at Minneapolis, of the May wheat futures prices at Chicago during the same periods, and of the spreads between the cash and futures prices. The apparent dealers' profits from storage and the potential gains from farm storage are discussed..." - Expt. Sta. Rec. 62: 888-889. 1930.

250. Working, Holbrook. Price relations between July and September wheat futures at Chicago since 1885. Wheat Studies of the Food Research Institute 9 (6): 187-238. Stanford University, Calif., Mar. 1933.

This study is in five parts: Relations among prices and spreads; Basic spread-determining factors; Other factors affecting the spread in June; Seasonal tendencies in prices and spreads; Forecasting the spread.

Livestock and Livestock Products

251. Aylesworth, P. F., and Hill, E. B. Feed and livestock product price-ratios. A study of the relation of the price of feed to the price of dairy and poultry products in Michigan, 1921-1932. Mich. Agr. Expt. Sta. Quart. Bul. 15 (2): 85-90, chart. Nov. 1932.
252. Duddy, E. A. The potential supply area of the Chicago livestock market. Jour. Farm Econ. 13 (3): 410-425. 1931. 280.8 J822
"The potential supply area of the Chicago market for livestock is determined from a study of shrinkage and transportation rate data, and is compared with the actual supply area." - Wells, O. V. Farmers' response to price, item 30.
253. Duddy, E. A., and Rezvan, D. A. The supply area of the Chicago livestock market. Chicago Univ., School Com. and Admin., Studies in Business Admin., v. 2, no. 1, 100 p., charts. 1931.
"This is an intensive study of the supply area for which Chicago was the central livestock market during 1923-29. The supply area is discussed from three points of view, namely a descriptive treatment of the geography involving shape, size and changing dimensions, market organization, and market competition as partially expressed in price differentials between competing markets for the same kind of livestock at the same time.
"Having assembled and analyzed certain data, the authors reach the following conclusions: 'The shape and size of the Chicago livestock supply area is determined by (1) the demand set up through the market for livestock and meat by deficit areas at and east of Chicago; (2) by the nature of farming and ranching practice with respect to livestock production in supply states and the relative density of livestock population; (3) by such physical factors as food supply for livestock, climate and topography; (4) by such economic factors as land values, transportation facilities and rates, and the price competition of other markets both public and private; and (5) by market facilities such as stockyards, packing houses, and cold storage capacity.'
"Although neither original nor profound, this little study merits the attention of marketing students in general, particularly those interested in livestock, to whom it will be both interesting and useful." - Social Forces 10 (3): 438. Mar. 1932.
254. Edinger, A. T. Recent trends in retail meat prices and their relation to livestock prices. 13 p., mimeogr., charts. Washington, D. C., U. S. Dept. of Agriculture, Bureau agricultural economics, Division of livestock, meats and wool, 1932. 1.9 Ec713Rec
"Address, Ohio wool growers association and Ohio livestock cooperative association, Columbus, Ohio, February 25, 1932."
255. Hope, E. C. Livestock cycles in Canada. Sci. Agr. 11 (2): 80-94. Oct. 1930.
"...The present article is in no way intended to disclose anything new regarding livestock cycles but merely to present the available data on livestock prices in Canada in a series of statistical charts, as an aid to making intelligent forecasts as to the trend of future

livestock prices, and as a basis for further work in analysing price cycles of the various livestock products in Canada."

A list of 12 references accompanies the article.

256. Murray, K. A. H. Factors affecting the prices of livestock in Great Britain. A preliminary study. 180 p., charts. Oxford, Clarendon press, 1931. 284.3 M96

At head of title: University of Oxford, Agricultural Economics Research Institute.

Reviewed by G. B. Thorne in Jour. Farm Econ. 13 (4): 648-650. Oct. 1931.

In the author's words this is "an attempt to discover and measure the effect of some of the more important factors affecting the prices of livestock in Great Britain."

See p. 65-76 for factors affecting the prices of cattle and beef (relation of supply to price, effect of supply on price, relation of demand to price, the effect of demand on price, and the importance of the demand factor in the determination of British fat cattle prices).

See p. 109-114 for effect of supply of sheep on the price of mutton and lamb; effect of prices of sheep or mutton on the supply of sheep and premiums.

See p. 143-151 for relation of supplies to price for pigs, pork and bacon, and imported bacon and hams, effect of supply on price for pig products, and effect of price of pig products on the subsequent supply of pigs.

The moving or sliding coefficient of correlation, appendix IV, p. 176-179.

Equations of supply price-curves, table 1, appendix V, p. 180.

257. Waite, W. C. The effect of a business depression on the demand for livestock products and the outlook for these products. Jour. Farm Econ. 14 (2): 228-238, charts. Apr. 1932. 280.8 J322

"In this article from the Minnesota Experiment Station, a table is given showing the indexes, by years 1910-1930, of the retail demand in the United States for certain food products. Charts are given showing, by months, 1921-1931, the percentages which the demand for beef, pork, mutton and lamb, butter, cheese, and condensed and evaporated milk were of the demand in the corresponding month of the preceding year and the three 3-year moving average of the ratio of the composite price of 3 lbs. of corn, oats, and barley to the composite price of butter, pork, and beef produced from 3 lbs. of grain.

"The method used in arriving at the indexes of change in demand is described as follows: 'The usual price analysis is primarily interested in determining the elasticity of demand for the product, and changes in demand ordinarily appear as trends eliminated in the course of the analysis. For example, a correlation is computed in which price, supply, and time are treated as separate variables. The trends of price and supply jointly are then taken to indicate the changes in demand. For our purposes a somewhat more flexible method is needed, so we reverse the process, endeavoring to eliminate the price-supply relationship and leave the remainder as an index of the change in demand.' In doing this two assumptions are made, (1) 'that the commodity has a certain known elasticity of demand, and that this elasticity is constant at all prices,' and (2) 'that the elasticity remains unchanged

through the various shifts or changes in demand...The indexes...have been computed by percentage changes from the base; the percentage increase or decrease in price added to the reciprocal of the elasticity times the percentage increase or decrease in quantity'..." - Expt. Sta. Rec. 68: 690. May 1933.

Cattle and Beef

258. Ashby, A. W., and Lewis, Thomas. Beef production: seasonal variations in the supplies and prices of fat cattle. p. 18-37, charts. Pam. Coll. "Reprinted from 'The Welsh Journal of Agriculture,' vol. V, 1929."
259. Conway, H. M. Factors affecting fed cattle prices. U. S. Dept. Agr., Bur. Agr. Econ. Agr. Situation 11 (12): 16. Dec. 1927.
260. Gabler, Theodor. Die gestaltung der rindviehpreise und die darauf beruhende möglichkeit einer prognose. 32 p., 50 charts, 82 tables. Borna-Leipzig, Universitätsverlag, von Robert Noske, 1929. 284.3 G11
"A study of slaughter cattle prices and the economic factors which influence them, with special reference to the periods from 1890 to 1913 and 1924 to 1928, has convinced the author that it is impossible to make a general forecast of cattle prices for a period of time which is limited by the forecast of the conjuncture index on the one hand, and the market supply on the other." - Agr. Econ. Lit. 4 (7): 325. Sept. 1930.
Die Faktoren der Preiskurven (Das Angebot (Auftrieb am Berliner Markt) und seine Ursachen) b. Die Nachfrage und ihre Ursachen; c. Einfluss des Viehhandels auf die Preise), p. 8-22.
261. Hanau, Arthur. Bestimmungsgründe der preise für schlachtrinder. Berlin, Institut für konjunkturforschung. Vierteljahrshefte zur Konjunkturforschung Sonderheft 13. 1929. 59 p. 280.9 B45Vs
"A summary of conditions in the German slaughter cattle market since 1924 is given. Price fluctuations as influenced by importation, by supply and demand, by the hog market, and by general economic conditions are studied. The author anticipates the maintenance of prices in the domestic market in the immediate future, but is pessimistic with regard to the attainment of a price level which will bring a permanently satisfactory return to the producer. In the long run the development of the dairy industry will be the deciding factor in determining supply and prices in the German cattle market." - Social Sci. Abs., v. 22, 1930, item 2670.
262. Hanau, Arthur. Entwicklungstendenzen am markt für schlachtrinder. Blätter für Landwirtschaftliche bd. 1, hft. 11, Apr. 1931, p. 536-548. 280.38 B61
"This subject is treated under five headings: (1) Developmental tendencies of German cattle production in the post-stabilization period; (2) structural changes since the pre-war period; (3) foreign trade; (4) consumption; (5) price prospects; (a) structural changes in the price level, (b) price development in 1931 and 1932.
"It is a detailed study, interspersed with an abundance of figures and statistics and a number of comparative tables, curves, etc.

"The author concludes that: The development of the price-determining factors leads to the conclusion that an improvement in the situation of the beef market continues to be dependent on a raising of the income of the great masses and an improvement in the hog market, inasmuch as further relief is not to be expected so far as supply is concerned. As, however, the two factors mentioned are hardly likely to assume an appreciably more favorable aspect during the current year, a substantial betterment of the cattle market situation can hardly be hoped for. The prospects for 1932 look more favorable, at which time a change in the hog market situation should set in. If, in addition to this, the hopes for an improvement in the general economic situation are not frustrated, a brightening up of the cattle situation in 1932 is certain." - Agr. Econ. Lit. 5 (8): 500-501. Oct. 1931.

263. Heflebower, R. B. Steer prices in relation to Idaho beef producers' problems. Idaho Agr. Expt. Sta. Bul. 172, 32 p., charts. Moscow, 1930.

In four parts: Long-time variations in beef steer prices; Relation of Chicago and Portland beef steer prices; Forecasting average steer beef prices one year in advance; Month to month movement of Portland prices.

264. Henney, H. J. Factors influencing the time of buying feeder steers and of selling them as choice summer-fed steers. Kans. Agr. Expt. Sta. Bul. 258, 35 p., charts. Manhattan, 1932.

"Changes in the supply and market movement of feeder cattle are related to the size of the corn crop, to the margin obtained by the average feeder, and to short period movement of the price factors." - Wells, O. V. Farmers' response to price, item 36.

265. Henney, H. J. Judging price risks in marketing cattle. Kans. Agr. Expt. Sta. Circ. 158, 43 p., charts. Manhattan, 1931.

The purpose of this publication "is to furnish more complete information concerning the trend of prices at the time of selling cattle."

266. Hopkins, J. A., jr. Forecasting cattle prices. Jour. Farm Econ. 9 (4): 433-446. Oct. 1927. 280.8 J822

"A formula for forecasting cattle prices six months in advance is derived, using as factors the index of the 10 sensitive commodity prices as reported by the Harvard Economic Service, the price of corn, and the feeder cattle margin, each lagged 6 months, and the condition of the Corn Belt pasture and forage, lagged 7 months. The average difference between the results obtained with a formula and the actual prices for 1922-1926 was 3.8 per cent of the ordinates of secular trend. The standard deviation was 4.5 per cent and the coefficient of correlation between the actual prices and the forecasts was +0.70. A formula is also derived for estimating current cattle prices, the above factors, together with net cattle receipts at 64 markets, prices of hogs, and index of condition of the western ranges being used, the several factors being lagged for different periods from 0 to 7 months. The average difference between the actual and estimated prices was 3.7 per cent, the standard deviation of these differences at 4.7 per cent, and the correlation coefficient +0.61." - Expt. Sta. Rec. 58: 588. 1928.

267. Hopkins, J. A., jr. A statistical study of the prices and production of beef cattle. Iowa Agr. Expt. Sta. Research Bul. 101, p. 339-396, charts. Ames, 1926.
"This study attempts, as far as possible, to find explanations for the various major and minor movements in prices of cattle since Iowa became an important beef producing state. An examination has been made to see if there are elements which may be expected to influence prices in the same manner in the future." p. 339.
268. Murray, K. A. H. The effect of demand on the price of beef in Great Britain. Farm Econ. (N. Y.) no. 60; Aug. 1929, p. 1143-1144. 280.8 C812
269. Rochford, L. H. Influence of California demand on Colorado beef-cattle prices. Colo. Agr. Col. Ext. Bul. 316-A, 27 p., chart. Fort Collins, 1932.
270. Stout, W. B. Beef cattle price facts. Purdue Agr. Ext. Leaflet 164, 6 p., charts. Lafayette, Indiana, 1932.
Charts show relationship between price and supply of cattle at Chicago, 1890-1931; factory payrolls and cash farm income from livestock (payrolls 1923-1925 equal 100); purchasing power of milk cows and cattle other than milk cows in the United States from 1867-1932; profit and loss periods in cattle feeding; factors affecting the price of "good" beef steers.
271. Voorhies, E. C., and Koughan, A. B. Economic aspects of the beef cattle industry. Calif. Agr. Expt. Sta. Bul. 461, 128 p., charts. Berkeley, 1928.
Series on California Crops and Prices.
Prices and purchasing power of beef cattle, p. 67-84. Meat prices, p. 84-87.

Dairy Products

272. Cohen, R. L. The effect of different price policies on the seasonal production of milk. Farm Econ^{1st} (1): 14-16. Jan. 1933.
"The effect of different price policies on the seasonal production of milk in selected areas in the United States is considered and a forecast of the effect of the present English plan is given." - Wells, O. V. Farmers' response to price, item 68.
273. Ezekiel, Mordecai, Rauchenstein, Emil, and Wells, O. V. Farmers' response to price in the production of market milk. A preliminary report. ^{16 p mimeogr} Washington, D. C., U. S. Dept. of agriculture, Bureau of agricultural economics, Division of farm management and costs, May 1932. 1.9 Ec762Ffm
"Changes in market milk production in the Boston, the Baltimore, and the St. Paul-Minneapolis milk-sheds are related to the appropriate milk-feed price ratio." - Wells, O. V. Farmers' response to price, item 29.
274. Ezekiel, Mordecai. The response of milk producers in different type of farming areas to changes in the price of feed, milk and other factors. 13 p., typewritten. [Washington, D. C., 1927] Pam. Coll.
Talk before meeting of the New England Research Council, Boston, Mass. Oct. 27, 1927.

275. Gans, A. R. Elasticity of supply of milk from Vermont plants. Factors affecting average deliveries per patron. 1. The milk-feed price ratio. Vt. Agr. Expt. Sta. Bul. 269, 40 p. Burlington, 1927.

"After a short consideration of the general problem, a seasonally corrected index of milk deliveries at Richmond, Vermont, is correlated with a milk-feed price ratio." - Wells, O. V. Farmers' response to price, item 32.

276. Gilboy, E. W. Studies in demand: milk and butter. Quart. Jour. Econ. 46 (4): 671-697. Aug. 1932. 280.8 Q2

"When certain facts are known in advance about the relation between demand and supply schedules, the derivation of a theoretical demand curve from market data of prices and quantities becomes possible. The usual case is that in which the price-quantity points lie on a path of equilibrium, and not on either demand or supply schedule. A line fitted to these points is not a demand curve, except for a commodity group, such as agricultural goods, in which it may be assumed that supply is the active or dependent factor and demand is constant. If, for instance, the demand curve has been relatively stable, and the supply curve has moved, the price-quantity data are points on the stable demand curve. This hypothesis was tested empirically by the use of market data on whole milk which seemed to meet its requirements. If the supply is a fixed quantity within a period of time, then supply becomes a dependent variable, the movements of which result from the action of demand, and the price-quantity data are points on a negatively inclined line, which may be assumed to be a constant demand schedule. This was tested by the use of market data on butter." - Social Sci. Abs., v. 4, Dec. 1932, item 20711.

277. Ross, H. A. Effect of price changes on sales of milk in the New York metropolitan area 1919 to 1924. Farm Econ. (N. Y.) no. 43, Mar. 1927, p. 649-650.

278. Ross, H. A. Some factors affecting the demand for milk and cream in the metropolitan area of New York. U. S. Dept. Agr. Tech. Bul. 73, 63 p., charts. Washington, D. C., 1928.

This bulletin, with the exception of minor changes, is the same as N. Y. Cornell Agr. Expt. Sta. Bul. 459, The Demand Side of the New York Milk Market, by H. A. Ross.

This study has four principal aims as outlined on p. 2 of the bulletin;

"1. To determine the factors which affect demand and to measure their influence. 2. To determine the quantities of different products demanded throughout the year, so that production may be intelligently adjusted. 3. To formulate a method of forecasting sales of milk and cream in order to decrease the surplus necessary to guard against shortages due to unexpected fluctuations in demand. 4. To quantitatively analyze demand as a factor in milk prices."

279. Jahreszeitliche schwankungen der nachfrage bei butter, margarine und schmalz und ihre ursachen. [Seasonal variation in the demand for butter, margarine and lard and their cause.] Blätter für Landwirtschaftliche Marktforschung 1 (1): 20-24, charts. June 1930. 280.38 B61

Accompanied by three charts: Butter demand and butter price; Margarine demand and butter price; Lard demand and temperature.

280. McBride, R. S. Some factors affecting supply and price of butter. Food Indus. 4 (12): 406-409, charts. Dec. 1932.
281. Ohio. State university. College of agriculture and domestic science. Extension service. Department of rural economics. Facts about the prices of dairy products. 4 p., charts. [Columbus, 1926?] 275.29 Oh32Fs
282. Schoenfeld, W. A. Some economic aspects of the marketing of milk and cream in New England. U. S. Dept. Agr. Circ. 16, 74 p., charts. Washington, D. C., 1927.
The producer and milk prices (retail delivered milk and store sales, relation of retail prices to consumption, influence of producer prices upon milk supply, relation of basic economic factors to milk-price policies), p. 29-50. The last three sections of this part of this circular were prepared by M. J. B. Ezekiel.
283. Stitts, T. G. Economic factors affecting the price of butter. 257 p., charts, typewritten. December 1926. 284.344 St5
Thesis (Ph.D.) - University of Minnesota.
Bibliography, p. 216-218.
See particularly chapters 7-10.
284. Storm, Ernst. Die wirkungen der butterzollerhöhung vom januar 1932 auf die butterpreise. [The effects of the increase of the duty on butter January 1932 on the price of butter] Blätter für Landwirtschaftliche Marktforschung 2 (12): 523-527. May 1932. 280.3 B61
285. Tinley, J. M., and Blank, M. H. An analysis of the East Bay milk market. Calif. Agr. Expt. Sta. Bul. 534, 110 p., charts, maps. Berkeley. 1932.
Buying prices for market milk, p. 41-48; Relation between production and prices, p. 48-71.
286. U. S. Department of agriculture. Bureau of agricultural economics. The outlook for the dairy industry and Some essentials of a national dairy program. U. S. Dept. Agr. Misc. Pub. 124, 60 p., charts. Washington, D. C., 1931.
List of references on demand for dairy products, p. 59-60.
See especially section on Readjustments in the Dairy Industry in the United States, p. 35-52.
287. Voorhies, E. C. Economic aspects of the dairy industry. Calif. Agr. Expt. Sta. Bul. 437, 192 p., charts. Berkeley. 1927.
Prices and purchasing power of products of the dairy industry, p. 72-112. Price relationship of butter and oleomargarine, p. 172-173.
288. Voorhies, E. C. Dairy products. Calif. Agr. Expt. Sta. Bul. 514, 188 p., charts. Berkeley, 1931.
Contribution from the Giannini Foundation of Agricultural Economics. Series on California Crops and Prices.
Prices and purchasing power of products of the dairy industry, p. 78-121.

289. Wright, P. G. The tariff on animal and vegetable oils. 347 p. New York, The Macmillan company, 1923. 285 W93T
Effects of a duty on price and output with special reference to butter and flaxseed, appendix B, p. 286-319. In three parts: I. Formulae for estimating the effect of a duty; II. Explanations and qualifications; III. The handling of data.

Hogs and Pork

290. Bean, L. H. Major and minor hog-price cycles. U. S. Dept. Agr., Bur. Agr. Econ., Agr. Situation 12 (7): 16-19, chart. July 1928. 1 Ec7Ag
291. Bjorka, K. Some statistical characterizations of the hog market. Iowa Agr. Expt. Sta. Research Bul. 102, 48 p., charts. Ames, 1927.
"The study reported in this bulletin includes (1) the secular trend from 1869 to 1925, cycles for 1878 to 1914, seasonal characteristics from 1878 to 1914, and the short time and irregular fluctuations of hog prices at Chicago; (2) the effects on hog prices of daily, weekly, and seasonal receipts, pork products prices, pork exports, and storage holdings; (3) hog price differentials between grades at the same markets; (4) hog price differentials between markets; and (5) the corn-hog price ratio... Most of the data are presented graphically. The common Pearsonian coefficient of simple correlation was used in determining the relationships of the various factors to hog prices..." - Expt. Sta. Rec. 57: 586-587. 1927.
292. Cover, J. H. Consumption of meat and meat products, with particular reference to price. 81 p., charts. Chicago, University of Chicago, 1930 (Univ. Chicago, Bur. Business and Econ. Research. Studies in the Packing Industry) 50.9 C432C
"A study of changes in production, consumption, and in wholesale and retail prices of certain meats and meat substitutes in the United States and in several leading cities. The actual prices were adjusted for changes in the general price level. Seasonal indexes, secular trend, and cyclical movements of consumption and price changes were computed... Three new composite indexes were developed for the period 1921-28: prices of pork products (excluding lard), prices of beef products, and quantity of pork consumed. Pork prices appear to be more directly affected by pork consumption than by pork production, storage or beef prices. Retail pork prices are more closely related to hog prices than to hog receipts, or to pork production. The study indicates that pork may be classed as a commodity, with high 'elasticity of demand.' The author includes a list of suggestions for more intensive supplementary studies. Charts and tables in the body of the article and tables in the appendices give the basic data for the study." - Social Sci. Abs., v. 3, Feb. 1931, item 2936.
293. Duddy, E. A., and Rezvan, D. A. Potential supply areas of Pacific Coast markets for hogs. Jour. Farm Econ. 14 (3): 586-598. Oct. 1932.
"The potential supply area of Pacific Coast markets for hogs is determined from a study of transportation rates and shrinkage data." Wells, O. V. Farmers' response to price, item 31.

294. Elliott, F. F. Adjusting hog production to market demand. Ill. Agr. Expt. Sta. Bul. 293, p. 501-567, charts. Urbana. 1927.

"This bulletin, prepared in cooperation with the U.S.D.A. Bureau of Agricultural Economics, includes a discussion of why hog prices fluctuate, based largely on the statistical analysis of hog prices in U.S.D.A. Bulletin 1440...; the results of statistical studies of the causes of the fluctuations in the supply of hogs and of the response of hog producers in different sections of Illinois to the corn-hog ratio; and a discussion of the practices of the majority of farmers, what certain successful farmers are doing to adjust their hog production to market demand, and of the possibilities of smoothing out the hog-price cycle... A statistical appendix describes the method of analysis used." - Expt. Sta. Rec. 57: 685-686. 1927.

295. Ezekiel, Mordecai. Two methods of forecasting hog prices. Jour. Amer. Statis. Assoc. 22 (n.s.157): 22-30. Mar. 1927. 251 Am3

"Charts are given and discussed showing estimates (computations made after the event) from July 1924 to June 1925 and forecasts (computed before the event) from July 1925 to May 1927, using the pre-war formula and 'synthetic demand-curve' method..." - Expt. Sta. Rec. 57: 85. 1927.

296. Gaston, T. L. Hog prices and the hog enterprise on Idaho farms. Idaho Agr. Expt. Sta. Bul. 191, 20 p., charts. Moscow. 1932.

"The aim of this bulletin... is to present to the Idaho farmers certain information on the following subjects: 1. Normal changes in hog prices. 2. Periodic movements in the wheat-hog ratio. 3. Spread between prices paid for hogs at western markets and at middle western markets. 4. The relationship between the size of the differential and number of hogs on western farms."

297. Green, R. M., and Stokdyk, E. A. Judging price risks in marketing hogs. Kans. Agr. Expt. Sta. Circ. 137, 29 p., charts. Manhattan. 1928.

"The purpose of this circular is to point out some of the risks involved in the marketing of hogs." - p. 3. The following are the topics considered: the problem of judging the hog market; average seasonal fluctuations in hog prices, risks of changes in hog prices, how hog production affects the trend of hog values, how corn production and prices affect the movement of hogs to market, how hog production and size of the corn crop taken together affect the seasonal fluctuations in hog prices, how changes in demand affect prices, monthly summary of market factors, radio market service.

298. Green, R. M., and Howe, Harold. Year-to-year and seasonal fluctuations in hog prices. Kans. Agr. Expt. Sta. Circ. 132, 14 p. Manhattan. 1926.

The subject is treated under the following subtopics: problems in marketing hogs; hog production - periods of high and low prices; seasonal fluctuations; the influence of corn prices on hog receipts; month-by-month fluctuations; other influences on the hog market; practicability of following usual seasonal price trends.

299. Gross, Paul. Beziehungen zwischen gänse- und schweinpreisen. Blätter für Landwirtschaftliche Marktforschung 2 (6): 257-259. Nov. 1931. 280.38 B61

"A brief discussion of the relations between geese and hog prices.

Hog prices are not influenced by the prices of geese, although probably the price determination for geese rests upon the prevailing situation of the hog market when geese offerings are heaviest. When hog prices are high, prices for geese are likewise up, and vice versa.

"Graphs are introduced showing price development of the market for hogs and geese from 1925 to 1931." - Agr. Econ. Lit. 6 (5): 323. May 1932.

300. Hanau, Arthur. Die prognose der schweinepreise. Berlin Institut für Konjunkturforschung. Vierteljahrshäfte zur Konjunkturforschung. Sonderheft 18, 46 p., charts. Berlin. 1930. 280.9 B45Vs

"This is the third, completely revised edition of Sonderheft 2 on the forecasting of hog prices. Conditions on the German hog market at the beginning of 1930 are discussed as well as prospective hog prices." - Agr. Econ. Lit. 4 (6): 298. June 1930.

301. Hanau, Arthur. Wie lange wird die preisbaisse am schweinemarkt noch dauern? Blätter für Landwirtschaftliche Marktforschung jahrg. 2, hft. 2, July 1931, p. 77-82. 280.38 B61

"A short analysis of the factors affecting German hog situation. Section II is devoted to the effect of the swine-feed price ratio on future swine marketings or production. A supply forecast for 1931-32 and 1932-33 is given." - Wells, O. V. Farmers' response to price, item 71.

302. Henderson, R. Partial protection of the fresh pork market. A study of the effects of the meat imports (prohibition) order, 1926. Part I. Imposition of the embargo. Part II. Effects on supplies. Part III. Effects on prices. 37 p., charts, appendices, mimeogr. Aberystwyth, Department of Agricultural economics, University College of Wales, 1932. 284.346 H38

303. Henning, G. F., and Stout, W. B. Factors influencing the dressing percentage of hogs. Ohio Agr. Expt. Sta. Bul. 505, 32 p., charts. Wooster. 1932.

"See p. 24-32 for an analysis of the relations between the corn-hog ratio and the yield, the lard produced per hundredweight, the percentage of barrows, and the liveweight of hogs slaughtered under Federal inspection." - Wells, O. V. Farmers' response to price, item 37.

304. Johnson, E. C. A comparison of prices of hogs arriving by truck and by rail at South St. Paul. Jour. Farm Econ. 14 (1): 156-157. Jan. 1932. 280.8 J822

305. Jones, J. M. Factors affecting the prices of pigs in Wales. Welsh Jour. Agr. 4: 5-21. 1928, 10 W16

306. Ohio State university. College of agriculture and domestic science. Extension service. Department of rural economics. Facts about hog prices. 4 p., charts. [Columbus, 1928] (Fact Series No. 9) 275.29 Oh32Fs

307. Purdue University. Department of agricultural extension. Division of farm management. Hog price facts for Indiana farmers. Purdue Agr. Ext. Leaflet 154, 6 p., charts. Lafayette, Indiana. 1931.

Charts are entitled: Ratios of corn and hog prices at Chicago (top) and hog receipts at all public stockyards (bottom) 1921-1930; Average monthly price of hogs per 100 pounds at Chicago and average monthly hog receipts from Indiana at principal stockyards, 1921-1929; Average yearly price of hogs per 100 pounds at Chicago and yearly hog receipts from Indiana at principal stock-yards, 1921-1930.

308. Russell, S. W. Forecasting hog production and marketing. Jour. Amer. Statis. Assoc. 24 (n.s.165-A): 225-233. Mar. 1929, suppl. 251 Am3

"A method of forecasting the annual slaughter of hogs under Federal inspection and the distribution of the slaughter between the winter and summer seasons is presented. A slaughter and distribution forecast is given for 1928-29." - Wells, O. V. Farmers' response to price, item 48.

309. Stout, W. B. An analysis of direct to packer marketing of hogs in Ohio. 124^{xxiii} p., typewritten. [Columbus. 1930] 280.346 St7

Thesis - (PH.D.) Ohio State University.

Bibliography, p. xxiv-xxix.

The six principal problems to be analyzed in this study were as follows:

"1. To make a comparative study of direct to packer prices received for Ohio hogs with those prices obtainable at a representative terminal market for like quality and grade. 2. To determine the influence of an agreed dressing percentage upon the price obtained for hogs when shipped direct. 3. To determine the dressing percentages of hogs shipped direct from Ohio as compared to the average yield for the United States, for the same period. 4. To determine the relative returns from different packers receiving hogs from Ohio territory. 5. To determine the differential between the packer bid and a representative terminal market price. 6. To determine the differential between the net price producers received when shipping direct to the packing plant, and the net price they would probably have received, had they shipped their animals to the central market."

310. Stover, H. J. Effect of daily changes in the average price of hogs at Chicago upon receipts. Farm Econ. (N. Y.) no. 53, June 1928, p. 926-929.

311. Stover, H. J. Relation of daily prices to the marketing of hogs at Chicago. Cornell Agr. Expt. Sta. Bul. 534, 97 p., charts. Ithaca. 1932.

This study "is an attempt to analyze the relationships existing between daily prices, receipts and other factors at the Chicago market. Price and supply variations, supply-price relationships, and supply responses to price fluctuations under varying conditions, are of chief concern." p. 3.

658p., charts.

312. Taylor, A. E. Corn and hog surplus of the corn belt. Stanford University, Calif., Food research institute, 1932. (Food Research Inst. Leland Stanford Junior Univ. Misc. Pub. 6) 389.9 F73

"A general discussion of hog production and disposition is given on p. 73-127 and the effects of certain farm relief plans on hog production are considered in Part II." - Wells, O. V. Farmers' Response to Price, item 75.

Domestic and international factors in prices of corn and hogs, ch.V, p. 163-238.

313. Thorne, G. B., and Richards, Preston. Factors affecting exports of United States hog products. 51 p., mimeogr. Washington, D. C., U. S. Dept. of agriculture, Bureau of agricultural economics, Division of statistical and historical research, Nov. 1932. 1.9 Ec752Fh
Selected references, p. 50-51.
314. Voorhies, E. C., and Blank, M. H. Swine. Calif. Agr. Expt. Sta. Bul. 523, 135 p., charts. Berkeley, 1932.
Contribution from the Giannini Foundation of Agricultural Economics. Series on California Crops and Prices.
Prices and purchasing power of swine and pork products, p. 61-110.
315. Warth, E., von der. Die vorausbestimmungen des deutschen schweinebestandes und der schweinebetriebe. Bilanz der deutschen schweineproduktion. Germany. Reichsministerium für Ernährung über Landwirtschaft, Berichte über Landwirtschaft, n.f., Sonderheft 39, 43 p. Berlin, P. Parey, 1931. 18 G31A
The causes of the fluctuations in the production and the prices of hogs in Germany are investigated.
316. Wells, O. V. Farmers' response to price in hog production and marketing. U. S. Dept. Agr. Tech. Bul. 559, 56 p., charts. Washington, D. C. 1933. Literature cited, p. 56.
"Changes in daily, seasonal, and annual hog marketings at individual markets, from individual States, and for the United States, in pork production per hog, and in hog numbers on January 1 are related to hog prices, corn supplies, and corn-hog ratios. The period covered is from 1919-20 through 1931-32." - Wells, O. V. Farmers' response to price, item 60.
317. Wilkinson, C. J. Barley-hog ratio for Saskatchewan. Sci. Agr. 13 (6): 349-355. Feb. 1933.
"This paper is the result of a statistical study of the relationship between the farm prices of barley and the farm price of live hogs in Saskatchewan for the period 1910 to 1932. In Canada barley generally takes the place of corn as a feed for swine, and, apart from screenings and low grade wheat and oats is probably feed in larger volume than other grains in Saskatchewan. For these reasons it was considered that the ratio between barley prices and hog prices would serve as the best single indicator of probable expansion and contraction of swine production in this province."
318. Young, E. C. Relation of the wholesale price of pork to the price of hogs. Jour. Farm Econ. 13 (4): 644-647, chart. Oct. 1931. 280.8 J822
"In order to measure the relationship between the wholesale price of the principal pork products and the wholesale price of hogs at Chicago, an analysis was made of weekly prices at Chicago from March 1, 1923 to December 31, 1930."

Sheep and Lamb

319. Harlan, C. L. Relation between the weekly receipts and prices of western dressed lamb at New York City. U. S. Dept. Agr., Bur. Agr. Econ., Agr. Situation 12 (5): 17-19. May 1928. 1 Ec7Ag

A chart shows "the inverse relationship that exists between the weekly price and supply of western dressed lamb carcasses in the New York market during the last two years."

320. Johnson, E. C., and Phillips, C. D. Quality as a factor in the price of Kentucky lambs. Ky. Agr. Expt. Sta. Bul. 302, p. 91-122, charts. Lexington, 1930.

The purpose of this study, as stated on p. 96, is "to point out the relationship between the quality of lambs, as measured by grade, weight, and sex, and the price received by Kentucky farmers."

321. Ohio. State university. College of agriculture and domestic science. Extension service. Department of rural economics. Facts about sheep and lamb prices. 4 p., charts. [Columbus, 1929?] (Facts Series No. 10) 275.29 Oh32Fs

322. Stout, W. B. Sheep and lamb price facts. Purdue Agr. Ext. Leaflet 166, 6 p., charts. Lafayette, Indiana, 1932.

Charts show sheep numbers of the United States; price of lambs at Chicago and per capita consumption of lamb and mutton in the United States, 1900-1931; origin of market receipts of sheep and lambs by months, 1929; seasonal supply and price of lambs at New York City (five-year average by weeks, 1924-1928).

323. Voorhies, E. C., and Schneider, W. E. Economic aspects of the sheep industry. Calif. Agr. Expt. Sta. Bul. 473, charts. Berkeley, 1929.

Series on California Crops and Prices.

Prices and purchasing power of sheep and lambs, p. 56-78. Prices and purchasing power of wool, p. 146-155.

Skins and Leather

324. Wagenführ, Rolf. Bestimmungsgründe der häute- und lederpreise. Untersuchungen zur europäischen häute und lederwirtschaft. Berlin, Institut für Konjunkturforschung. Vierteljahrshefte zur Konjunkturforschung... Sonderheft 23, 50 p. Berlin, R. Hobbing, 1931. 280.9 B45VS

A study of the factors which determine the prices of skins and leather.

Wool

325. Ohio. State university. College of agriculture and domestic science. Extension service. Department of rural economics. Facts about wool prices. 4 p., charts. [Columbus] 1929. (Facts Series No. 11) 275.29 Oh32Fs

326. Stoker, H. M. World production and prices of merino and crossbred wool. 223,240 p., typewritten. Feb. 1931. 45 St6

Thesis (PHD.) - Cornell University.

Chapter III, p. 173-196, World total sheep numbers and wool production and the analysis of production responses to prices.

Chapter IV, p. 197-223, Factors affecting wool prices.

327. Stoker, H. M. World production and price of merino and crossbred wool. Internatl. Conf. Agr. Econ., 2d, Cornell Univ., Ithaca, N. Y., 1930, p. 746-761, charts. 281.9 In82

The purpose of this paper as stated by the writer is "to indicate the trend in the number of sheep in the world as related to the total and to the qualitative production of wool, and the trend in and the existing relation between the actual and relative production and prices of merino and crossbred wool since 1888 and finally on the basis of the foregoing analysis to conclude with a few remarks on the probable trend and outlook of the sheep and wool industry."

Melons

328. Rauchenstein, Emil. Economic aspects of the watermelon industry. Calif. Agr. Expt. Sta. Bul. 449, 26 p., charts. Berkeley. 1928.
Factors affecting the prices of Imperial Valley watermelons in Los Angeles, p. 23-26. Shows the relation between carlots on track and Los Angeles prices.

329. Rauchenstein, Emil. Factors affecting the price of watermelons at Los Angeles. Calif. Agr. Expt. Sta. Hilgardia 3 (12): 305-323, charts. Berkeley, June 1928.

Literature cited, p. 323.

"A statistical analysis of the factors affecting average weekly prices of watermelons at Los Angeles indicate that the most important factors, in the order named are: carlots of watermelons on track, carlot arrivals of important fruits, time of the season, carlot arrivals of watermelons, and maximum temperature lagged three days. A coefficient of multiple correlation of .8896 is obtained with the data except time expressed in logarithms. In general an increase of ten carlots on track reduced prices about 4.5%, an increase of ten carlots of important fruits reduced prices about 14.6%, and an increase of four degrees in temperature raised prices about 9.0%." - Social Sci. Abs., v. 1, 1929, item 8938.

Nuts

330. Wellman, H. R., and Braun, E. W. Almonds. Calif. Agr. Expt. Sta. Bul. 453, 34 p., charts. Berkeley. 1928.

Series on California Crops and Prices.

Prices and purchasing power, p. 17-20.

331. Erdman, H. E., and Fuhrman, W. U. Walnut supply and price situation. Calif. Agr. Expt. Sta. Bul. 475, 60 p., charts. Berkeley, 1929.

Prices of California walnuts (relation of opening price to growers' price, opening price and purchasing power), p. 45-48.

Poultry and Eggs

332. Benner, C. L., and Gabriel, H. S. The marketing of Delaware eggs. Del. Agr. Expt. Sta. Bul. 150, 47 p., maps. Newark. 1927.

Factors influencing the retail price of eggs in Wilmington, p. 22-26. This section includes four tables which show effect of cleanliness, weight, and quality of eggs on price, and effect of location and type of store on price.

333. Buechel, F. A., and Kedzierski, S. L. Analysis of the price-making forces in the New York egg market... A preliminary report. 69 p., mimeogr., charts. Washington, D. C., United States Department of agriculture, Bureau of agricultural economics, Division of dairy and poultry products, April 1932. 1.9 Ec724Ane

List of references consulted, p. 69.

334. Buechel, F. A. Wholesale marketing of live poultry in New York City. U. S. Dept. Agr. Tech. Bul. 107, 68 p. Washington, D. C. 1929.

"This bulletin aims to present the economic situation of the live-poultry industry of New York City, including the sources of supply and of demand for this commodity, the growth and present size of the industry, and the different groups of people who are engaged in moving live poultry from the open country to the retail channels in New York City...

"An analysis of the total costs per carload of marketing live poultry, by States, is included in this study as well as the costs per pound for each of the services rendered, together with net returns to shippers in the various States and from four cities which serve as reshipment points. The method of arriving at and quoting prices and the bearing the price quotation has upon the returns to shippers and the price paid by slaughterhouse men are considered. Attention is given to the determination of the factors which influence the prices of live poultry together with the measurement of these factors. The economies to be attained by a union terminal at which all live poultry might be concentrated preparatory to sale were studied in the course of this survey." p. 2-3.

335. Fenton, J. M. A statistical study of egg marketing. N. J. Dept. Agr., Circ. 148, 55 p. Trenton, 1928.

"The object of this study is to analyze some of the quantitative factors which affect the price of New Jersey eggs on the New York market, to show the price margins between several different grades on that market and to present tables wherewith the average poultryman can analyze market conditions... The work is not one of price forecasting, but rather one of market analysis." p. 3-4.

336. Gans, A. R. The relation of quality to the price of eggs in New York City. Farm Econ. (N. Y.) no. 79, Feb. 1933, p. 1846-1849.

337. Gross, Paul. Die versorgung des berliner marktes mit eiern. Blätter für Landwirtschaftliche Marktforschung 2 (11): 490-498. Apr. 1932; (12): 537-546. May 1932. 280.38 B61

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"In the second study factors Nos. 5, 6, and 7 were omitted, and storage holdings of frozen eggs were used only for the months of May to December, inclusive. In the third study the same factors were used as in the second, but the regression and correlation coefficients, standard errors, and standard deviations were worked out for each month. The same factors were used in the fourth study, except that the Bureau of Labor index of wholesale prices was substituted for the Federal Reserve Bank's index of general price level. The average standard errors for the 12 months in the respective studies were 3.41, 2.7, 2.17, and 1.71 cts. The coefficients of correlation for the different months in the fourth study varied from 0.467 for May to 0.981 for August." - Expt. Sta. Rec. 65: 34. 1931.
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"The analysis of prices which forms the basis of the present study is distinctly different in its viewpoint and purpose from that of most statistical studies made to date, and is concerned with a field of price analysis which is comparatively new... in its present form the study has two main objects; first, the immediate object which is the measurement of quality factors influencing the prices of certain vegetables [tomatoes, asparagus, and hot-house cucumbers,] in Boston; and, second, the broader object which is the development of a statistical method of analyzing market demand for quality and the study of the relationship of such price analyses to economic theory... Readers who are concerned with the theoretical and technical aspects of the study will be interested mainly in Parts II and III and in Parts X, XI, XII and XIII."

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- No. 47. Farm mortgages in the United States; selected references... January 1928-April 1933. May 1933.
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