

This is the report of one of six committees surveying the price problems of American industries and trade. The other five committees deal with steel and iron, oil, automobiles, textiles, and distributional costs and retail pricing.

**SERVANTS OF INDIA SOCIETY'S LIBRARY.
POONA 4.**

FOR INTERNAL CIRCULATION

To be returned on or before the last date stamped below

6 JAN 1970

27 FEB 1970

20 MAR 1970

PRICE STUDIES

Number One

Dhananjayrao Gadgil Library



GIPE-PUNE-012820

Officers

GEORGE SOULE, Chairman
DAVID FRIDAY, President
W. L. CRUM, Vice-President
SHEPARD MORGAN, Treasurer
JOSEPH H. WILLITS, Executive Director
W. J. CARSON, Assistant Executive Director
MARTHA ANDERSON, Editor

Directors at Large

CHESTER I. BARNARD, *President,*
New Jersey Bell Telephone Company
HENRY S. DENNISON, *Dennison Manufacturing Company*
GEORGE M. HARRISON, *President,*
Brotherhood of Railway and Steamship Clerks
OSWALD W. KNAUTH, *President, Associated Dry Goods Corporation*
HARRY W. LAIDLER, *Executive Director,*
The League for Industrial Democracy
L. C. MARSHALL, *Johns Hopkins University*
GEORGE O. MAY, *Price, Waterhouse and Company*
SHEPARD MORGAN, *Vice-President, Chase National Bank*
GEORGE E. ROBERTS, *Economic Adviser, National City Bank*
BEARDSLEY RUMMLER, *Treasurer, R. H. Macy and Company*
GEORGE SOULE, *Director, The Labor Bureau, Inc.*
N. I. STONE, *Consulting Economist*

Directors by University Appointment

WILLIAM L. CRUM, <i>Harvard</i>	HARRY ALVIN MILLIS, <i>Chicago</i>
WALTON H. HAMILTON, <i>Yale</i>	WESLEY C. MITCHELL, <i>Columbia</i>
HARRY JEROME, <i>Wisconsin</i>	JOSEPH H. WILLITS, <i>Pennsylvania</i>

Directors Appointed by Other Organizations

FREDERICK M. FEIKER, *American Engineering Council*
DAVID FRIDAY, *American Economic Association*
LEE GALLOWAY, *American Management Association*
MALCOLM MUIR, *National Publishers Association*
WINFIELD W. RIEFLER, *American Statistical Association*
MATTHEW WOLL, *American Federation of Labor*

Research Staff

WESLEY C. MITCHELL, <i>Director</i>	
G. W. BLATTNER	FREDERICK R. MACAULAY
ARTHUR F. BURNS	FREDERICK C. MILLS
SOLOMON FABRICANT	DAVID L. WICKENS
MILTON FRIEDMAN	LEO WOLMAN
SIMON KUZNETS	EUGEN ALTSCHUL, <i>Associate</i>

**RELATION OF THE DIRECTORS
TO THE WORK OF THE NATIONAL BUREAU
OF ECONOMIC RESEARCH**

1. The object of the National Bureau of Economic Research is to ascertain and to present to the public important economic facts and their interpretation in a scientific and impartial manner. The Board of Directors is charged with the responsibility of ensuring that the work of the Bureau is carried on in strict conformity with this object.

2. To this end the Board of Directors shall appoint one or more Directors of Research.

3. The Director or Directors of Research shall submit to the members of the Board, or to its Executive Committee, for their formal adoption, all specific proposals concerning researches to be instituted.

4. No study shall be published until the Director or Directors of Research shall have submitted to the Board a summary report drawing attention to the character of the data and their utilization in the study, the nature and treatment of the problems involved, the main conclusions and such other information as in their opinion will serve to determine the suitability of the study for publication in accordance with the principles of the Bureau.

5. A copy of any manuscript proposed for publication shall also be submitted to each member of the Board. If publication is approved each member is entitled to have published also a memorandum of any dissent or reservation he may express, together with a brief statement of his reasons. The publication of a volume does not, however, imply that each member of the Board of Directors has read the manuscript and passed upon its validity in every detail.

6. The results of an inquiry shall not be published except with the approval of at least a majority of the entire Board and a two-thirds majority of all those members of the Board who shall have voted on the proposal within the time fixed for the receipt of votes on the publication proposed. The limit shall be forty-five days from the date of the submission of the synopsis and manuscript of the proposed publication unless the Board extends the limit; upon the request of any member the limit may be extended for not more than thirty days.

7. A copy of this resolution shall, unless otherwise determined by the Board, be printed in each copy of every Bureau publication.

(Resolution of October 25, 1926, revised February 6, 1933)

Report of the
Committee on Prices in the
BITUMINOUS COAL
INDUSTRY

Prepared for
THE CONFERENCE ON
PRICE RESEARCH

National Bureau of Economic Research

New York · 1938.

Copyright, 1938, by National Bureau of Economic Research, Inc.

1819 Broadway, New York, N. Y. All Rights Reserved

X9(D3551):76.7:

G8

12820

Printed and Bound in the United States of America

by H. Wolff, New York. Designer: Ernst Reichl

Preface

THE report of the Committee on Prices in the Bituminous Coal Industry is published by the National Bureau of Economic Research for the Conference on Price Research. This Conference is composed of representatives from universities and governmental and private research agencies interested in the advancement of knowledge in the wide field that is roughly defined by the term 'price economics'. As the result of a meeting in November 1935, called at the initiative of a committee representing the National Bureau of Economic Research and departments of economics in a number of American universities, a permanent, autonomous organization was created to stimulate and coordinate research dealing with costs, prices, and related topics. The present membership of the Conference includes the Universities of Chicago, Columbia, Cornell, Harvard, Minnesota, and Pennsylvania; the American Institute of Accountants; the National Association of Cost Accountants; the Bureau of Agricultural Economics, the Bureau of Labor Statistics, and the Central Statistical Board; the Brookings Institution; the Food Research Institute of Stanford University; and the National Bureau of Economic Research.

As its initial undertaking the Conference elected to survey five industries—bituminous coal, cotton textiles, petro-

leum, steel, and automobiles—for the purpose of defining the industrial and economic problems that center about prices, appraising existing data available to research workers and outlining programs of needed research. The present study is the first product of these investigations.

In no industry, perhaps, are issues involving prices of more interest to the public and to economists and of greater concern to public administrators than are those of bituminous coal. Here are problems of competition among rival producers and with substitute products; here are regional zones, imperfectly defined and cutting across one another in diverse ways, yet placing their impress on the pattern of production and distribution; here are varying grades and qualities, with corresponding price differentials; here are found a wide variety of users, ranging from households to railroads and great manufacturing industries; here are intricate connections between producers and carriers, and ownership relations that complicate pricing and distributional problems; and here, more recently, have been introduced elements of federal price control that are of especial interest, not alone because of their bearing on the organization and operations of this industry, but also because they exemplify issues of far wider import.

The objectives of Professor Fisher and his associates are clearly set forth in the opening pages of this monograph. With imagination, objective detachment, and rigorous fidelity to scientific standards of accuracy they have undertaken an experimental, exploratory survey of the tangled problems that center about bituminous coal prices. Their major purpose has been to clear the ground for needed research, rather than to make substantive contributions of their own, but the report that embodies their findings contains much that has value in its own right, as an addition to our knowledge of the bituminous coal industry.

This report points the way to research that will be of obvious and immediate value to the industry and to government, and of no less utility to those who are concerned with the more general aspects of economic organization today. It

is the hope of the Conference that the studies outlined in the report will be undertaken by interested agencies and individuals—by governmental bodies, organs of the industry, private research agencies, and favorably situated students. The Committee has indicated needed action. The field is open for the active work.

In defining some of the major problems that beset the industry and outlining research that will illuminate these problems, the Committee on Prices in the Bituminous Coal Industry has amply fulfilled its original purpose. But the work of the Committee has done more than this. It has provided a convincing demonstration of the possibility of disinterested cooperation in attacking contemporary industrial problems. Under the skillful and tactful leadership of Professor Fisher, a group of men of widely different connections, having a common interest in the economic problems of this troubled industry, were able to sit down together and explore, objectively and dispassionately, ways and means of obtaining a better understanding of the organization, operation, and market relations of the industry. Here, as in other fields in which the Conference on Price Research has sought to effect similar cooperation, good-will, and an active desire to clarify and solve perplexing issues have been encountered invariably. There are grounds here for hope that, on a wider front, such cooperation in the study of industrial ills may generate the knowledge essential to their solution. The future activities of the Conference will be directed toward the furtherance of this cooperation.

FREDERICK C. MILLS, CHAIRMAN

Executive Committee, Conference on Price Research

ANNE BEZANSON (*University of Pennsylvania*)

M. A. COPELAND (*Central Statistical Board*)

E. S. MASON (*Harvard University*)

HENRY SCHULTZ (*University of Chicago*)

O. C. STINE (*Bureau of Agricultural Economics*)

W. L. THORP (*Dun and Bradstreet*)

JOEL DEAN, EXECUTIVE SECRETARY

C. F. LEE, SECRETARY

Committee on Prices in the
BITUMINOUS COAL INDUSTRY

WALDO E. FISHER, Chairman, *University of Pennsylvania*
R. D. GRAY, Vice Chairman, *Connecticut State College*
H. N. EAVENSON, *Eavenson, Alford and Auchmuty*
P. A. HOLLAR, *Statistician*
W. JETT LAUCK, *W. J. Lauck and Associates*
F. G. TRYON, *National Bituminous Coal Commission*
R. J. WATKINS, *University of Pittsburgh*
ALLAN WILLETT, *National Coal Association*
W. H. YOUNG, *National Bituminous Coal Commission*

ADVISORY MEMBERS

ANNE BEZANSON, *University of Pennsylvania*
A. R. BURNS, *Columbia University*
J. M. CUTTS, *Bureau of Labor Statistics*
E. B. GORDON, *Office of the Consumers' Counsel*
National Bituminous Coal Commission
S. A. HALE, *Coal Age*
J. W. MCBRIDE, *Bureau of Labor Statistics*
F. C. MILLS, *National Bureau of Economic Research*
STELLA STEWART, *Bureau of Labor Statistics*
S. W. WILCOX, *Bureau of Labor Statistics*

Introduction

THE Committee on Prices in the Bituminous Coal Industry completed its report early in September 1937, four and a half months after the passage of the Bituminous Coal Act of 1937. Because the Commission created to administer the Act found it necessary to apply its energy to such pressing problems as developing an organization, promulgating a coal code, establishing statistical bureaus, approving the composition of district boards, developing standards of classification of coal, formulating marketing rules and regulations, and prescribing procedures for setting minimum prices, little had been accomplished up to that time in the development of a broad program of research and in the conduct of studies other than the compilation of 1936 costs and related data which were absolutely necessary for price-fixing purposes.

On July 1, 1937, the Commission took over the U. S. Bureau of Mines' statistical service for bituminous coal. In more recent months the Commission's statistical and research objectives and organization have been developed under the leadership of F. G. Tryon, formerly of the United States Bureau of Mines. The services to be rendered fall under two major divisions: (1) administrative statistics and (2) research and analysis.

The "administrative statistics branch" will concern itself with the collection and compilation of data pertaining to costs, sales realization, sales, prices, shipments, and contracts. Sales realization and detailed cost data have been compiled by divisions and areas for the years 1936 and 1937. In January 1938 the monthly collection of similar data was begun. Copies of all invoices and contracts are now being forwarded to the Commission. The analysis of invoices, now in process, will make available not only prices, transportation charges, discounts, premiums, and allowances for different classes and sizes of coal but also will show the quantity of coal shipped from producing fields and districts to various cities, states, and market areas, as well as the type of consumers supplied and the method of transportation.

Meantime to finish what is regarded as an indispensable base for its operations, the Commission is collecting detailed statistics of the movement of coal from each producing district to each destination in the United States, classified by size and grade.

The work to be carried out by the "research and analysis branch" will include market service reports, economic research, and technical research. The market service reports consist of "rapid-fire measurement of trends of all the factors of the market—production, consumption, stocks on hand, distribution, exports, imports, and price movements. To give a background for current changes, the long-time trends will also be developed to show demand, capacity, mechanical equipment, operating practice, employment and running time."

Those responsible for economic research, according to present plans, will "conduct fundamental studies of the economic principles underlying market control, price determination, and trade practices, as a basis for Commission policy", make "special investigations on particular problems, test and critically review the price structures" to be established by the Commission and examine "their effects upon consumers, the competitive standing of districts, and the demand for coal." The technical research division in

addition to supplying "technical advice on problems directly related to the administration of the system of minimum prices and fair trade practices", will "supervise certain special studies of 'new uses', 'conservation', and 'safety', specified in Section 14-A of the Act" and will make engineering studies relating to competing fuels and factors controlling costs such as seam conditions, mechanical equipment, and mining practices.

If the statistical studies now being carried on can be continued and if the contemplated program of research can be brought to completion and the data and findings obtained thereby published or otherwise made available to private research agencies and individuals, the execution of many of the projects suggested in this program of research for bituminous coal will be greatly facilitated and the comprehensiveness and value of their findings will be materially increased. Moreover, the statistics on consumption, flow of coal to markets, and inter-fuel competition will be substantially improved and much information previously supplied at irregular intervals will undoubtedly be regularly collected and compiled. Finally, should the research activities of the Commission be continued over a period of years, economists will be afforded an opportunity to test out in this industry many of the assumptions and theories which now prevail about the present functioning of the industrial system.

WALDO E. FISHER

INDUSTRIAL RESEARCH DEPARTMENT
UNIVERSITY OF PENNSYLVANIA

Objectives

Business and social policies can be formulated intelligently only if they are based upon realistic descriptions and interpretations of the continually changing organization and functioning of the industrial system. The development of this background of information depends upon: (1) accurate and comprehensive factual records relating to the functioning of industry; (2) an intimate knowledge of the forces and circumstances that lead business men to make decisions on policy and procedure in specific situations. The prerequisites of policy formation involve intensive study of selected industries and the coordination and integration of the data obtained and of the conclusions reached.

On the assumption that price research is not an end in itself but is rather a point of attack, the Committee on Prices in the Bituminous Coal Industry, in furtherance of the general purposes of the Conference on Price Research, has set itself the following specific objectives:

- 1) To state clearly the scope and operating characteristics of the bituminous coal industry that influence its price levels and price problems (see Part I)
- 2) To ascertain what price and related data are being currently collected for this industry (see Appendix I)
- 3) To appraise these data and to suggest means by which the factual record of the bituminous coal industry may be made more useful to the industry, the government, economists, and the public (see Appendix II)
- 4) To indicate those phases of the problems of prices that need further study and research and that are of greatest significance to the industry, economists, and the public (see Part II)
- 5) To outline a program of research (see Part II)

Contents

Preface, Frederick C. Mills	vii
Introduction, Waldo E. Fisher	xi

PART ONE

Characteristics of the Industry that have a bearing on Price Problems

A The Bituminous Coal Industry	3
B Kinds of Bituminous Coal	6
C Consumers of Bituminous Coal	7
D Distribution of Bituminous Coal	8
E The Price Structure	10
F Factors that determine Price Levels and Pricing Policies	12
Characteristics of the Industry that affect the Average Level of Coal Prices	12
Factors influencing Capacity and Production Costs	12
Other Factors influencing Selling Prices and De- mand	16
Characteristics influencing Certain Mine Prices	20
Factors influencing Production Costs	21
Factors influencing Selling Prices and Demand	25

PART TWO

Program of Research

Need and Opportunity for Research in Bituminous Coal	29
The Committee's Objectives in developing its Research Projects	30
Program of Studies	31
A Regional Studies in Production, and in Distribution and Consumption	33
1 Studies of Major Producing Fields	33
Outline of Project and Procedure	34
Sources of Data	36
2 Studies of Important Market Areas	38
Outline of Project	40
Procedure and Sources of Data	42
B Studies of Special Functions or Aspects of the Industry	43
1 Price Structure and Pricing Policies	43
2 Flow of Capital into and out of the Industry	47
Outline of Project	48
Sources of Data and Procedure	49
3 The Bituminous Coal Industry under Governmental Regulation	50
Fuel Administration during the War	51
Emergency Regulation during the strike of 1922	52
United States Coal Commission	53
Bituminous Coal Code under the NRA	53
Bituminous Coal Conservation Act of 1935	53
Bituminous Coal Act of 1937	55
Analysis of the Pricing of Bituminous Coal under the Bituminous Coal Act of 1937	58
4 Distribution Channels and the Flow of Coal to Consuming Markets	59
5 Consumption of Coal by Use in Important Markets and Areas	62
Program Recommended	63
6 Economies in the Use of Coal	64
7 Changes in Sources of Energy utilized in the United States with reference to Competition faced by Bituminous Coal	66
Outline of Project	67

CONTENTS

xvii

C	Studies dealing with the Development and Improvement of the Factual Record of the Industry	68
1	Development of Price Series	69
a	Series of F.O.B. Mine Prices by Producing Areas and Destination Prices by Markets	69
b	Series of Retail Prices by Markets	72
2	Preparation of Source Books	74
a	Costs, Sales Realizations, and Margins	74
b	Other Related Data	75

APPENDIX I

Survey of Available Data pertaining to the Bituminous Coal Industry

A	Price Data collected currently	78
1	Prices collected by the Bureau of Labor Statistics	78
a	Wholesale Prices	78
b	Retail Prices collected prior to 1937	83
2	Prices collected by Trade Journals, Newspapers, and Private Organizations	87
B	Cost, Sales Realization, Margin, and Investment Data	94
1	Cost, Sales Realization, and Margin Data	94
a	Federal Trade Commission	94
b	United States Coal Commission	98
c	Research and Planning Division, NRA	100
d	National Bituminous Coal Commission	103
e	United States Bureau of the Census	104
f	United States Bureau of Mines	105
g	State Departments or Bureaus of Mines	106
2	Investment and Profit Data	106
a	Federal Trade Commission	107
b	United States Coal Commission	108
C	Other Related Data collected currently or periodically	109
1	United States Bureau of Mines	110
a	Labor Statistics	110
b	Consumption	114
c	Distribution	114
d	Stocks of Coal held by Consumers	115
e	Equipment and Methods of Mining and Preparation	115
2	Census of Mines and Quarries	116

3	Supplementary Data on the Bituminous Coal Industry compiled by other Federal Agencies	120
4	Federal Investigation and Regulation of the Bituminous Coal Industry	120
5	State Departments of Mines	120
D	Chronology of Federal Investigation and Regulation of the Bituminous Coal Industry	121

APPENDIX II

Appraisal of Price Series collected by the Bureau of Labor Statistics and Recommendations for their Revision

A	Wholesale Prices	127
	Recommendations	129
B	Retail Prices	134
	Modifications of Procedure during 1937	138
	Recommendations of the Committee	144

Tables

1	Value of Mineral Products, United States, 1935	4
2	Production Costs Per Ton of Coal Mined by Commercial Operations in Minimum Price Area No. 1, 1934	21
3	Labor, Supply, and other Production Costs of Commercial Mines, Selected Coal Fields, 1934	23

• APPENDIX I

I-1	Quantity Weighting Factors used in calculating Index Numbers for Bituminous Coal Prices	81
I-2	Number of Quotations from each City for Bituminous Coal included in the Bureau of Labor Statistics Wholesale Price Reporting Service	82
I-3	Publication of Retail Prices of Coal and Periods covered for Series, 1907-1916 and 1913-1936, inclusive	84
I-4	Sources of Current Prices of Bituminous Coal	88
I-5	Cost, Sales Realization, and Margin Data for the Bituminous Coal Industry available in Published Reports	96
I-6	Data on Production compiled by the United States Bureau of Mines	111
I-7	Supplementary Data on the Bituminous Coal Industry compiled by Federal Agencies	118

I-8	Publication of Surveys of Wages and Hours of Labor in Bituminous Coal Mining, United States Bureau of Labor Statistics	121
-----	--	-----

APPENDIX II

II-1	Number of Reporting Companies and Percentage of Total Production by Producing Districts	132
II-2	Distribution of Retail Fuel Schedules and Reporters, by Regional Areas and Cities	139
II-3	Relative Heating Requirements of 51 Cities, based upon Dwelling-Day-Degrees	140
II-4	Retail Fuel Price Weighting Factors for Richmond, Virginia	141
II-5	Preliminary Weighting Factors for Richmond, Virginia	142

FIGURES

1	Retail Prices—Coal	73
2	Retail Prices—Fuel A	136
3	Retail Prices—Fuel B	137