This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: Source Book of Statistics Relating to Construction

Volume Author/Editor: Robert E. Lipsey and Doris Preston

Volume Publisher: NBER

Volume ISBN: 0-87014-082-5

Volume URL: http://www.nber.org/books/lips66-1

Publication Date: 1966

Chapter Title: Front matter and Introduction, "Source Book of Statistics Relating to Construction"

Chapter Author: Robert E. Lipsey, Doris Preston

Chapter URL: http://www.nber.org/chapters/c1588

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

# SOURCE BOOK OF STATISTICS RELATING TO CONSTRUCTION

Robert E. Lipsey and Doris Preston



PUBLISHED 1966 BY NATIONAL BUREAU OF ECONOMIC RESEARCH, New York DISTRIBUTED BY COLUMBIA UNIVERSITY PRESS, New York and London COPYRIGHT © 1966 BY NATIONAL BUREAU OF ECONOMIC RESEARCH, INC. ALL RIGHTS RESERVED L.C. CARD NO. 66-22747

.

PRINTED IN THE UNITED STATES OF AMERICA

## NATIONAL BUREAU OF ECONOMIC RESEARCH

ہ جب ر

GENERAL SERIES 82

SOURCE BOOK OF STATISTICS RELATING TO CONSTRUCTION

•7

## National Bureau of Economic Research 1966

#### OFFICERS

Frank W. Fetter, Chairman Arthur F. Burns, President Theodore O. Yntema, Vice-President Donald B. Woodward, Treasurer Geoffrey H. Moore, Director of Research Douglas H. Eldridge, Executive Director Hal B. Lary, Associate Director of Research Victor R. Fuchs, Associate Director of Research

#### DIRECTORS AT LARGE

Joseph A. Beirne, Communications Workers of America Wallace J. Campbell, Foundation for Cooperative Housing

Erwin D. Canham, Christian Science Monitor

Solomon Fabricant, New York University

Marion B. Folsom, Eastman Kodak Company

Crawford H. Greenewalt, E. I. du Pont de Nemours & Company

Gabriel Hauge, Manufacturers Hanover Trust Company Walter W. Heller, University of Minnesota

Albert J. Hettinger, Jr., Lazard Frères and Company

Harry W. Laidler, League for Industrial Democracy

Geoffrey H. Moore, National Bureau of Economic Research

Charles G. Mortimer, General Foods Corporation J. Wilson Newman, Dun & Bradstreet, Inc.

George B. Roberts, Larchmont, New York

Robert V. Roosa, Brown Brothers Harriman & Co.

Harry Scherman, Book-of-the-Month Club

Boris Shishkin, American Federation of Labor and Congress of Industrial Organizations

George Soule, South Kent, Connecticut

Gus Tyler, International Ladies' Garment Workers' Union

Joseph H. Willits, Langhorne, Pennsylvania

Donald B. Woodward, A. W. Jones and Company

#### DIRECTORS BY UNIVERSITY APPOINTMENT

V. W. Bladen, Toronto Francis M. Boddy, Minnesota Arthur F. Burns, Columbia Lester V. Chandler, Princeton Melvin G. de Chazeau, Cornell Frank W. Fetter, Northwestern R. A. Gordon, California Harold M. Groves, Wisconsin Gottfried Haberler, Harvard Maurice W. Lee, North Carolina Lloyd G. Reynolds, Yale Paul A. Samuelson, Massachusetts Institute of Technology Theodore W. Schultz, Chicago

Willis J. Winn, Pennsylvania

#### DIRECTORS BY APPOINTMENT OF OTHER ORGANIZATIONS

Percival F. Brundage, American Institute of Certified Public Accountants

Nathaniel Goldfinger, American Federation of Labor and Congress of Industrial Organizations

Harold G. Halcrow, American Farm Economic Association

Walter E. Hoadley, American Finance Association

Murray Shields, American Management Association Willard L. Thorp, American Economic Association W. Allen Wallis, American Statistical Association Harold F. Williamson, Economic History Association Theodore O. Yntema, Committee for Economic Development

#### DIRECTORS EMERITI

Shepard Morgan, Norfolk, Connecticut

N. I. Stone, New York City

Jacob Viner, Princeton, New Jersey

#### **RESEARCH STAFF**

Moses Abramovitz
Gary S. Becker
Gerhard Bry
Arthur F. Burns
Phillip Cagan
Frank G. Dickinson
James S. Earley
Richard A. Easterlin
Solomon Fabricant

Victor R. Fuchs H. G. Georgiadis Raymond W. Goldsmith Jack M. Guttentag Challis A. Hall, Jr. Daniel M. Holland F. Thomas Juster C. Harry Kahn

Milton Friedman

Irving B. Kravis Hal B. Lary Robert E. Lipsey Ruth P. Mack Jacob Mincer Ilse Mintz Geoffrey H. Moore Roger F. Murray

John W. Kendrick

Ralph L. Nelson G. Warren Nutter Richard T. Selden Lawrence H. Seltzer Robert P. Shay George J. Stigler Norman B. Ture Victor Zarnowitz

# Relation of the Directors to the Work and Publications 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 National 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 report shall be published until the Director or Directors of Research shall have submitted to the Board a summary drawing attention to the character of the data and their utilization in the report, the nature and treatment of the problems involved, the main conclusions, and such other information as in their opinion would serve to determine the suitability of the report for publication in accordance with the principles of the National Bureau.

5. A copy of any manuscript proposed for publication shall also be submitted to each member of the Board. For each manuscript to be so submitted a special committee shall be appointed by the President, or at his designation by the Executive Director, consisting of three Directors selected as nearly as may be one from each general division of the Board. The names of the special manuscript committee shall be stated to each Director when the summary and report described in paragraph (4) are sent to him. It shall be the duty of each member of the committee to read the manuscript. If each member of the special committee signifies his approval within thirty days, the manuscript may be published. If each member of the special committee has not signified his approval within thirty days of the transmittal of the report and manuscript, the Director of Research shall then notify each member of the Board, requesting approval or disapproval of publication, and thirty additional days shall be granted for this purpose. The manuscript shall then not be published unless at least a majority of the entire Board and a two-thirds majority of 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 shall have approved.

6. No manuscript may be published, though approved by each member of the special committee, until forty-five days have elapsed from the transmittal of the summary and report. The interval is allowed for the receipt of any memorandum of dissent or reservation, together with a brief statement of his reasons, that any member may wish to express; and such memorandum of dissent or reservation shall be published with the manuscript if he so desires. Publication does not, however, imply that each member of the Board has read the manuscript, or that either members of the Board in general, or of the special committee, have passed upon its validity in every detail.

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

(Resolution adopted October 25, 1926, as revised February 6, 1933, and February 24, 1941)

# Contents

ACKNOWLEDGMENTS	viii
INTRODUCTION	ix
I. LIST OF SERIES	3
II. DATA	
A. ANNUAL	15
B. MONTHLY AND QUARTERLY: ORIGINAL AND SEASONALLY ADJUSTED	55
III. SOURCE NOTES AND DESCRIPTIONS	
A. CONSTRUCTION CONTRACTS	229
B. BUILDING PERMITS AND HOUSING STARTS	240
C. CONSTRUCTION EXPENDITURES AND RELATED MEASURES	251
D. CONSTRUCTION MATERIALS	282
IV. CYCLICAL MEASURES	293
INDEX BY TYPE OF CONSTRUCTION	309

## Acknowledgments

This book is primarily a product of many years of data collection by a long succession of research staff members and assistants whose specific contributions cannot be identified. Their work has built up the National Bureau's files of time series from which most of the data in this book have been selected.

Geoffrey Moore was mainly responsible for initiating this source book and has provided valuable advice and guidance throughout our work. We could not have collected or processed these series without aid from and consultation with the members of the National Bureau staff most responsible for work on time series, particularly Martha Jones on data processing, Sophie Sakowitz on seasonal adjustment and business cycle analysis, and Johanna Stern on sources of data. Gerhard Bry and Charlotte Boschan reviewed the text of Section IV and made numerous useful suggestions.

In the preparation of the source book itself we are indebted to several intelligent and capable research assistants. Sheila Lerner and Carol Schwartz aided in the preparation of the original list of series, Beverly Ratner Brown assisted in the compilation and checking of new data, Joan Robinson provided help with the sources and descriptions of series, and Madeleine Schreiber participated in every aspect of our work including the final preparation of the manuscript.

We owe thanks also to Daniel Creamer of the National Industrial Conference Board, Manuel Gottlieb of the University of Wisconsin-Milwaukee, and Lawrence Grose of the Office of Business Economics, U.S. Department of Commerce, who reviewed the list of series and made suggestions for additions and deletions, and also to Harold Barger of Columbia University, F. W. Dodge Corporation, *Engineering News-Record*, and *Railway Age* for permission to print unpublished or copyrighted data.

The source book was financed partly by a grant from the National Science Foundation and partly from the general funds of the National Bureau. Computer time was provided by the International Business Machines Corporation. Joan Tron edited the manuscript.

> ROBERT E. LIPSEY DORIS PRESTON

## **Introduction**

The National Bureau, in the course of several decades of research, has collected and analyzed hundreds of monthly, quarterly, and annual time series relating to almost every aspect of economic activity. These series, compiled with great care, checked, annotated, and seasonally adjusted in the course of various Bureau studies, represent a large investment. This is particularly true of the monthly and quarterly data. The Bureau has often been asked to draw on this valuable resource for the benefit of economists in business firms, government agencies, universities, and other institutions. Because the data are not in published form, the National Bureau has not been able to satisfy all the requests for assistance.

This source book, a compilation of the principal time series on construction in the United States, is a first step towards making the National Bureau's data collection available to the public in convenient form. The Bureau's series, which form the main basis of the source book, have been brought up to date and revised, where necessary. Furthermore, many series not previously collected by the Bureau have been added for completeness of coverage. Source notes have been provided for every series, and certain analytical measures for some of them.

We attempt to cover construction expenditures, contracts, permits, and starts fairly completely and to give a sampling of the main series on construction materials. Only national totals are included, except in cases where data for a particular activity exist only for a smaller area during a period. Where regional breakdowns are given in the source they are mentioned in the notes to series. The original plan and list of series for the source book envisaged covering all fixed investment, including series on machinery and equipment investment and on total investment (construction and equipment) but time did not permit completion of that whole area. However, the existence of some series on total investment is pointed out in the notes.

No source book of this type could possibly be complete, but an effort was made to include the major series in each area. In choosing series to be included, preference was given to longer series and to data for earlier periods rather than the more readily available information for recent years. Where a series had been clearly superseded by another produced by the same agency (as was the case with successive revisions of the U.S. Department of Commerce estimates of construction put in place) we have included only the latest version. However, earlier versions of the Commerce estimates are imbedded in other series. such as those of Kuznets and Goldsmith. These partly obsolete series have been shown if the superseded data are necessary for comparability with earlier parts of the series.

We have excluded from our compilation certain very crude estimates, such as extrapolations based on assumed trends or fixed relationships to population or income, which we judged were constructed for purposes that did not require even rough accuracy in annual or even decadal movements. However, the existence of these has been noted whenever we were aware of them. The source book is divided into four sections. Section I is the list of series and page references. It shows the pages in this volume on which the monthly and quarterly data, the annual data, and the source notes appear. The data themselves, in Section II, are divided into a monthly and quarterly section, including both original and seasonally adjusted series, and an annual section. Section III contains source notes and a description of the compilation of each series, and Section IV includes cyclical measures for selected series and a brief description of these measures.

The annual data in Section II are arranged by subjects. The monthly and quarterly data, however, are partly arranged by source to save space in printing. As a result, it will be necessary to use the list of series in Section I to find particular ones. For some series the data have been published in segments at different levels, with overlaps of a year or more. We have generally reproduced these series as published, but the seasonally adjusted data have sometimes, for convenience, been linked and placed on a single level, usually that of the latest segment. In most cases, however, the seasonally adjusted data have been put on the same level as the unadjusted.

The notes in Section III are also, in some cases, arranged by source rather than subject, particularly where many series were taken from a single source. It was convenient to write a general note describing the characteristics of a source and to follow this with descriptions of all the series based on that source.

We have attempted, in these notes to each series, to be very specific about sources. The series descriptions are less complete, however, and fall short of providing the information needed to reproduce the series. They aim, instead, at giving the user an idea of the nature and quality of the particular series, the method of construction in general terms but not in detail. The notes are thus guides to further investigation of the series but do not attempt to provide definitive descriptions of them.

The original plan for the source book was to cover only monthly and quarterly series in order to meet the needs of those interested in business cycle research. Upon further consideration we decided that it would be useful to include annual series as well, in order to make the compilation useful to those interested in economic growth and other topics, and to extend the length of the period covered.

This book is, to a considerable extent, an experiment to determine whether the publication of these data in this form will meet an important need. If so, it may be worthwhile to extend the work to cover other areas of economic activity.

#### 2,005,954

National Bureau of Economic Research, Inc.

Lipsey, Robert E

Source book of statistics relating to construction <sub>1</sub>by<sub>1</sub> Robert E. Lipsey and Doris Preston. New York, National Bureau of Economic Research; distributed by Columbia University Press, New York, 1966.

x, 307 p. 27 cm. (National Bureau of Economic Research. General series, 82)

1. Construction industry—U. S.—Seasonal variations. 2. Construction industry—U. S.—Bibl. 1. Preston, Doris, joint author. 11. Title. (Series)

HD9715.A2L5 338.476900973 66-22747

MATERIAL SUBMITTED BY PUBLISHER,