

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

Volume Title: The Average Workweek as an Economic Indicator

Volume Author/Editor: Gerhard Bry

Volume Publisher: UMI

Volume ISBN: 0-87014-383-2

Volume URL: http://www.nber.org/books/bry_59-1

Publication Date: 1959

Chapter Title: Front matter, The Average Workweek As An Economic Indicator

Chapter Author: Gerhard Bry

Chapter URL: <http://www.nber.org/chapters/c2541>

Chapter pages in book: (p. -14 - 0)

The Average Workweek As An Economic Indicator

GERHARD BRY
Rutgers University

OCCASIONAL PAPER 69

NATIONAL BUREAU OF ECONOMIC RESEARCH, INC.

1959

Copyright 1959, by
NATIONAL BUREAU OF ECONOMIC RESEARCH, INC.
261 Madison Avenue, New York 16, N. Y.

All Rights Reserved

Typography and Printing by Woodhaven Press Corp.

Library of Congress catalog card number: 59-12560

PRICE: \$2.00

2,005,981

National Bureau of Economic Research, Inc.

Bry, Gerhard.

The average workweek as an economic indicator. New York, National Bureau of Economic Research, 1959.

ix, 115 p. diagrs., tables. 23 cm. (National Bureau of Economic Research. Occasional paper 69)

1. Hours of labor. 2. Business cycles. i. Title. (Series)

H11.N2432 no. 69

331.81973

59-12560

MATERIAL SUBMITTED BY PUBLISHER.



2,005,981

National Bureau of Economic Research, Inc.

Bry, Gerhard.

The average workweek as an economic indicator. (New York, National Bureau of Economic Research, 1959.

ix, 115 p. diagra., tables. 23 cm. (National Bureau of Economic Research. Occasional paper 69)

1. Hours of labor. 2. Business cycles. i. Title. (Series)

H11.N2432 no. 69

331.81973

59-12560

MATERIAL SUBMITTED BY PUBLISHER.

10

NATIONAL BUREAU OF ECONOMIC RESEARCH

1959

OFFICERS

George B. Roberts, *Chairman*
Arthur F. Burns, *President*
Theodore W. Schultz, *Vice-President*
Murray Shields, *Treasurer*
Solomon Fabricant, *Director of Research*
Geoffrey H. Moore, *Associate Director of Research*
William J. Carson, *Executive Director*

DIRECTORS AT LARGE

Wallace J. Campbell, *Director, Cooperative League of the USA*
Solomon Fabricant, *New York University*
Gabriel Hauge, *Chairman, Finance Committee, Manufacturers Trust Company*
Albert J. Hettinger, Jr., *Lazard Frères and Company*
Oswald W. Knauth, *Beaufort, South Carolina*
H. W. Laidler, *Executive Director Emeritus, League for Industrial Democracy*
Shepard Morgan, *Norfolk, Connecticut*
George B. Roberts, *Larchmont, New York*
Beardsley Ruml, *New York City*
Harry Scherman, *Chairman, Book-of-the-Month Club*
Boris Shishkin, *American Federation of Labor and Congress of Industrial Organizations*
George Soule, *Professor Emeritus, Bennington College*
N. I. Stone, *Consulting Economist*
J. Raymond Walsh, *New York City*
Joseph H. Willits, *Director, The Educational Survey, University of Pennsylvania*
Leo Wolman, *Columbia University*
Donald B. Woodward, *Vick Chemical Company*
Theodore O. Yntema, *Vice-President-Finance, Ford Motor Company*

DIRECTORS BY UNIVERSITY APPOINTMENT

V. W. Bladen, *Toronto*
Arthur F. Burns, *Columbia*
Melvin G. de Chazeau, *Cornell*
Frank W. Fetter, *Northwestern*
H. M. Groves, *Wisconsin*
Gottfried Haberler, *Harvard*
Walter W. Heller, *Minnesota*
Maurice W. Lee, *North Carolina*
Lloyd G. Reynolds, *Yale*
T. W. Schultz, *Chicago*
Jacob Viner, *Princeton*
Willis J. Winn, *Pennsylvania*

DIRECTORS APPOINTED BY OTHER ORGANIZATIONS

Percival F. Brundage, *American Institute of Certified Public Accountants*
Harold G. Halcrow, *American Farm Economic Association*
Theodore V. Houser, *Committee for Economic Development*
Stanley H. Ruttenberg, *American Federation of Labor and Congress of Industrial Organizations*
Murray Shields, *American Management Association*
Willard L. Thorp, *American Economic Association*
W. Allen Wallis, *American Statistical Association*
Harold F. Williamson, *Economic History Association*

RESEARCH STAFF

Moses Abramovitz	Raymond W. Goldsmith	Ruth P. Mack
Gary S. Becker	Leo Grebler	Ilse Mintz
Gerhard Bry	Millard Hastay	Geoffrey H. Moore
Arthur F. Burns	W. Braddock Hickman	Roger F. Murray
Morris A. Copeland	Daniel M. Holland	G. Warren Nutter
Frank G. Dickinson	Thor Hultgren	Lawrence H. Seltzer
James S. Earley	C. Harry Kahn	Robert P. Shay
Richard A. Easterlin	John W. Kendrick	George J. Stigler
Solomon Fabricant	Simon Kuznets	Leo Wolman
Milton Friedman	Clarence D. Long	Herbert B. Woolley

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 and revised February 6, 1933
and February 24, 1941)*

TABLE OF CONTENTS

<i>Chapter</i>	<i>Page</i>
I INTRODUCTION AND SUMMARY	1
The Task	1
Long Term Changes in Weekly Hours	1
The Workweek as a Cyclical Indicator	4
Some Problems	6
The Data	8
The Approach	10
Summary of Findings	11
 II AVERAGE WEEKLY HOURS AND RELATED ACTIVITIES	 15
Some Aggregate Measures	15
Hours, Employment and Manhours	17
Hours, Orders, Production and Sales	17
How Changes in Weekly Hours Come About	19
Overtime and Short Time	19
Diffusion of Changes in Hours, by Industry	27
Diffusion of Changes in Hours, by State	29
Changes in Hours and in Related Activities	38
Changes in Hours, Manhours and Production	38
Changes in Hours and Employment	42
Changes in Hours and Employment Determinants (Labor Turnover Rates)	42
A Typical Sequence of Turning Points	50
The Business Cycle Peak of July 1953	50
The Business Cycle Trough of August 1954	52
The Need for Structural Detail	54

<i>Chapter</i>	<i>Page</i>
III AVERAGE WEEKLY HOURS IN MAJOR MANUFACTURING INDUSTRIES	57
Incidence of Leads and Lags	57
Average Length of Leads and Lags	63
Dispersion of Turning Points	67
Persistence of Sequence, by Industry	71
Similarities and Differences between Cycles	78
IV AVERAGE WEEKLY HOURS IN NONMANUFACTURING INDUSTRIES	82
Incidence of Leads and Lags	82
Average Length of Leads and Lags	86
Summary	90
V WHY DO HOURS LEAD?	91
The Problem	91
Two Models	91
Some Statistical Evidence	93
Managerial Considerations	96
Labor Input Adjustments at Peaks	97
Labor Input Adjustments at Troughs	100
Will Hours Continue to Lead?	101
APPENDIX	104
Description of Statistical Data on Hours and Employment	104
Hours and Employment Data Collected by the National Industrial Conference Board	104
Hours and Employment Data Collected by the Bureau of Labor Statistics, 1932-1941	106
Hours and Employment Data Collected by the Bureau of Labor Statistics, 1947-Date	110
Hours Data Collected by the Bureau of the Census	112

TABLES

	Page
1. Weekly Hours and Related Economic Activities, All Manufacturing, 1921-1956	15
2. Weekly Hours and New Orders in Durable Goods Industries, 1933-1956	18
3. Weekly Hours, Overtime and Straight Time, 1947-1956	24
4. Weekly Hours, Overtime Hours, and Employment on Class I Railroads, 1921-1938	25
5. Diffusion Indexes (by Industry) and Other Summary Measures of Weekly Hours, 1921-1956	30
6. Diffusion Indexes of Weekly Hours, by Industry and by State, 1947-1954	35
7. Cumulative Diffusion Indexes of Weekly Hours in All Manufacturing, by State Growth Trends, 1947-1957	37
8. Selected Diffusion Indexes and Corresponding Aggregates, Manufacturing, 1947-1956	39
9. Diffusion Indexes and Corresponding Aggregates, Weekly Hours and Production Worker Employment, Manufacturing, 1921-1954	41
10. Diffusion Indexes of Weekly Hours and Employment, and Labor Turnover Rates, Manufacturing, 1921-1956	43
11. Sequence of Cyclical Turns in Weekly Hours and Related Variables, at the July 1953 Peak and the August 1954 Trough, Manufacturing	49
12. Weekly Hours, by Skill and Sex Groups, All Manufacturing, 1921-1941	54
13. Weekly Hours in Manufacturing, Number of Leads, Lags, and Coincidences at Matched Turns, 1920-1956	58
14. Weekly Hours in Manufacturing Industries, Number of Leads, Lags, and Coincidences, and Average Timing	60
15. Weekly Hours in Manufacturing, Average Timing at Matched Turns 1920-1956	64
16. Weekly Hours in Manufacturing, 1920-1956. Average Dispersion of Industry Turns, in Months	67
17. Weekly Hours in Manufacturing, Sequence of Industry Turning Points at Four Business Cycle Peaks, 1921-1941	72
18. Weekly Hours in Manufacturing, Sequence of Industries Based on Timing Relative to Employment, at Four Business Cycle Peaks, 1921-1941	74
19. Weekly Hours and New Orders in Seven Manufacturing Industries, 1947-1956	77
20. Weekly Hours in Manufacturing, 1927-1956	79
21. Weekly Hours in Nonmanufacturing Industries, 1935-1956	83
22. Weekly Hours in Nonmanufacturing Industries, Incidence and Timing of Turning Points by Industry	87
23. Weekly Hours in Nonmanufacturing Industries, Average Timing at Matched Turns, 1935-1956	89
24. Weekly Hours in Twenty Manufacturing Plants, 1947-1957	94

CHARTS

	Page
1. Weekly Hours and Related Economic Activities, All Manufacturing, 1920-1957	2
2. Weekly Hours Worked, 1947-1957	5
3. Weekly Hours, Overtime Hours, and Straight Time Hours, All Manufacturing, BLS, 1956-1959	21
4. Per Cent of Wage and Salary Earners in Manufacturing, Working Forty-one Hours or More, Forty-eight Hours or More, and Less than Thirty-five Hours, 1947-1957	23
5. Diffusion Indexes, Average Weekly Hours in Manufacturing and Nonmanufacturing, 1920-1957	31
6. Cumulative Diffusion Indexes of Weekly Hours by Industry, and Related Aggregates, 1920-1941 and 1947-1957	32
7. Diffusion Indexes, Weekly Hours in Manufacturing, by Industry and by State, 1947-1957	34
8. Cumulative Diffusion Indexes of Weekly Hours, All Manufacturing, by State Growth Trends, 1947-1957	36
9. Diffusion Index of Weekly Hours, Diffusion Index of Employment, and Net Accession Rate, Manufacturing, 1920-1957	40
10. Labor Turnover Rates, All Manufacturing, 1921-1941 and 1947-1957	45
11. Labor Input and Related Variables, All Manufacturing, 1952-1955	48
12. Average Weekly Hours in Manufacturing, Frequency Distributions of Industry Turning Points, Relative to Business Cycle Turns, 1921-1954	69
13. Weekly Hours and Employment of Production Workers in Four Manufacturing Plants, 1947-1957	95

ACKNOWLEDGMENTS

It gives me pleasure to acknowledge the helpful criticisms and the many constructive suggestions which I received from Geoffrey H. Moore and Charlotte Boschan while I was preparing this paper. Solomon Fabricant and Harvey Segal drew me into some fruitful discussions concerning the explanations for the statistical evidence (they had to overcome some resistance, since I had just finished what I optimistically believed to be a final draft). Rudolph C. Mendelssohn and Seymour L. Wolfbein, of the Bureau of Labor Statistics, were very helpful in connection with the provision and analysis of plant information. I also wish to express gratefulness to Ribhi Abu El-Haj for his persevering assistance; and to H. Irving Forman for his excellent charts.

GERHARD BRY

