Employment and Compensation in Education

GEORGE J. STIGLER
Columbia University

OCCASIONAL PAPER 33
NATIONAL BUREAU OF ECONOMIC RESEARCH, Inc.
1819 Broadway, New York 23, N. Y.
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 research 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 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 The manuscript shall then not be published unless at least a majority of the entire Board and a two-thirds majority of those members of the Board who shall have voted on the proposal within the time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 memoranda 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)
PREFACE

In 1940 the adults in this country had on the average spent a fifth of their years in school; in another generation the fraction will exceed a fourth. This powerful yearning for formal education has given rise to a very large industry, employing a million and a half persons. Indeed, until recently teachers have been the most numerous peacetime employees of government, and education has been its most expensive peacetime function.

The measurement and explanation of the trend in the number of teachers and in their compensation are the main subjects of this study. The substance of the educational process — the quality of the product, if you will — involves wholly different problems and skills and will not be entered into.

Elementary and secondary education are considered separately from higher education. The two levels differ in many respects. Elementary and secondary education are primarily public; higher education is half private. The fraction of the population between 6 and 17 enrolled in school is so high that population movements are the chief cause of fluctuations in enrollments; only a seventh of those between 18 and 21 were in college in 1940. Elementary school teachers are usually women who have taken a formidable list of courses in pedagogical principles and practices; college professors are usually men who possess or aspire to a Ph.D.

I wish to acknowledge the helpful suggestions I have received from several Directors and members of the research staff of the National Bureau, especially Arthur F. Burns, Milton Friedman, Geoffrey H. Moore, and Donald H. Wallace. Lois Proctor and Jane Kennedy did much of the statistical work, Irving Forman drew the charts, and Martha Anderson edited the manuscript.
CONTENTS

Preface

Part One

Elementary and Secondary Education
  1 Number of Teachers
  2 Teachers and Enrollments
    2a Population of School Age
    2b The Fraction Enrolled in School
    2c Enrollment per Teacher
    2d Summary
  3 Recruitment of Teachers
    3a General Characteristics
    3b Certification
    3c Supply and Demand
  4 Salaries of Teachers
    4a Size of Community, Region, and Grade of School
    4b Training and Age
    4c Sex and Race
    4d Salaries since 1900
    4e Factors Affecting Comparisons with Teachers’ Salaries
    4f Comparisons with Other Occupations

Part Two

Higher Education
  1 Number of Teachers
  2 Institutions of Higher Education
  3 Recruitment and Promotion
    3a Formal Entrance Requirements
    3b Appointment and Promotion
  4 Salaries and Earnings
    4a Trend of Salaries
    4b Rank vs. Salary Increases
    4c Structure of Salaries
    4d Other Earnings
    4e Comparisons with Other Professions

APPENDIX

A Number Employed in Elementary and Secondary Education
B Effect of Legislation on Enrollments
C Academic Personnel in Higher Education
D College Teachers’ Salaries

TABLE

1 Academic Personnel and Enrollments, Elementary and Secondary Schools, 1900-1946
2 Enrollments in Elementary and High Schools by Age of Student, 1940
3 Population, 5-17 Inclusive, 1900-1940
4 Estimated Population of School Ages, 1940-1955
TABLE.
5 Percentage of Population of Specified Ages Enrolled in Schools, 1900-1940
6 Percentage of Population 7-13 Inclusive Enrolled in Schools, 1910-1930
7 Enrollments per Teacher in Public Elementary and Secondary Schools, 1920-1946
8 Enrollment per Teacher in City School Systems, 1910 and 1938
9 Some Characteristics of All Teachers, 1900-1940
10 Distribution of States by Minimum Scholastic Requirements for Certificates for Inexperienced Teachers, 1921-1949
11 Supply and Demand for Public School Teachers and the Sources of Each, per 1,000 Teachers Employed, 1931
12 Average Salaries of Public School Teachers by Region, Size of Community, and Type of School, 1929
13 Average Salaries of Supervisors, Principals and Teachers in Public Schools, 1920-1936
14 Educational Training of Women in Selected Occupations, 1920
15 Average Salaries of Urban Public School Teachers and College Teachers
16 Salaries of Classroom Teachers and 52-week Salaries of Women Hand Bookkeepers, 1919
17 Enrollments and Academic Employees in Higher Education, 1900-1916
18 Classification of Institutions of Higher Education by Type of Control, 1920
19 Enrollments, Faculty, and Expenditures of Institutions of Higher Education, 1910
20 Enrollments in Institutions of Higher Education, 1900-1910
21 Average Annual Tuition Fees in Arts Colleges
22 Current Income of Institutions of Higher Education, 1940
23 Percentage of Faculties of the Liberal Arts Colleges Holding the Ph.D. Degree, 1900-1940
24 Average Period between B.A. and Ph.D. for Recipients of the Ph.D. at Columbia and Harvard, 1900-1940
25 Inbreeding in Land-Grant Colleges Measured by Percentage of Faculty Who Received All or Part of Their Academic Training at the Institution in Which They Are Employed
26 Faculty by Rank, University of Illinois, 1940 and 1946
27 Faculty by Rank in Universities and Colleges and in Professional Schools, State of New York, Percentage Distribution, 1925-1935
28 Median Salaries of College Teachers in Large Public Institutions, 1908-1942
29 Average Salaries of College Teachers in Large Public Institutions, 1908-1942
TABLE
30 Salaries of Identical Teachers, University of Illinois, 1930 and 1946
31 Salaries of Identical Teachers, University of Illinois, Percentage Increases, 1930-1946
32 Average Salaries in Degree-Granting Institutions, 1940
33 Average Salaries in Men's and Coeducational Colleges, 1947
34 Salaries of College Teachers, 1940, and Earnings of Independent Practitioners in Law, Medicine, and Dentistry, Percentage Distribution, 1941
35 Earnings of College Teachers who had Supplementary Earnings, 1937
36 Average Incomes and Salaries in Four Professions, 1929-1938

A Distribution of States by Maximum Age through which Children were Required to Attend Full-time Schools
B Average by States of Percentage of Children Enrolled in Schools by Age and Maximum Age through which Attendance was Compulsory, 1945
C Average Percentages of Children 16-17 Enrolled in Schools in 1940, by Percentage of Nonwhite Children in 1940 and Per Capita Income Payments in 1939
D Three Salary Series for College Teachers

FIGURE
1 Academic Personnel and Enrollments in Elementary and Secondary Schools, 1900-1946
2 Average Salaries of Supervisors, Principals, and Teachers in Public Schools, 1900-1936
3 Long Curves of Salaries of City Public School Teachers and of Earnings of Salaried Business and Professional Workers in Minnesota, 1938-1939
4 Academic Personnel and Enrollments in Institutions of Higher Education, 1900-1946
5 Salaries of College Teachers in Large Public Institutions, 1908-1948
6 Long Curves of Salaries of All College Teachers, 1930, and of Earnings of Independent Practitioners in Law, Medicine, and Dentistry, 1941
7 Long Curves of Salaries of Teachers in Large and Small Private Universities and Colleges, 1940
8 Average Salaries of Urban Public School Teachers and Teachers in Large Public Colleges and Universities, 1900-1948