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PART ONE

Elementary and Secondary Education

1 *Number of Teachers*

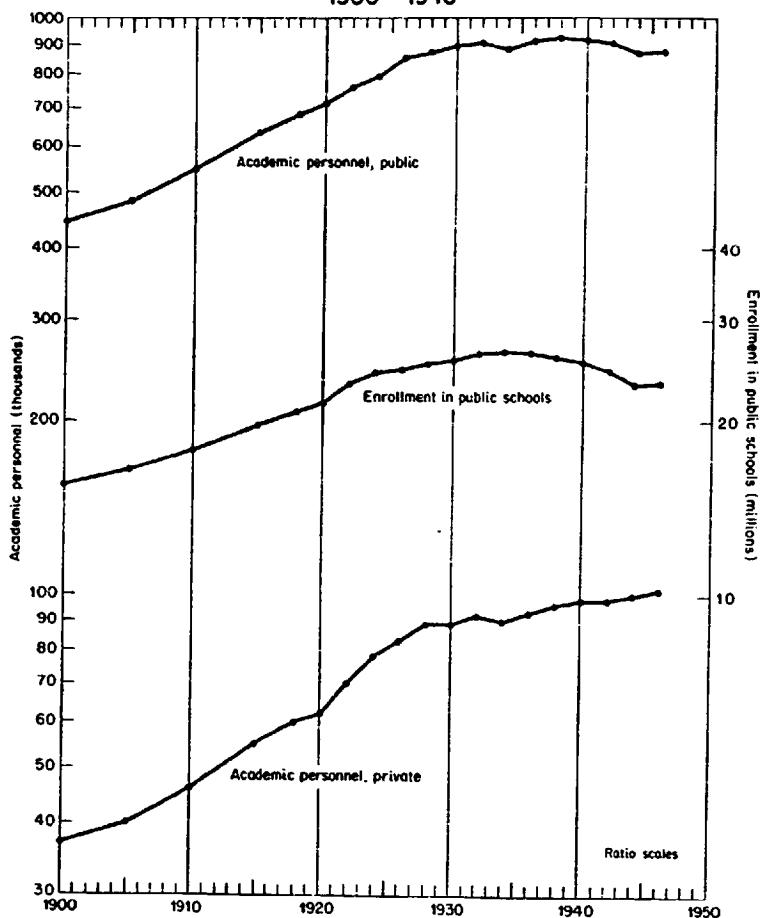
The number of teachers, principals, and supervisors in public and private schools more than doubled between 1900 and 1940, and enrollments in public schools increased by two-thirds (Table 1 and Figure 1).¹ In addition, public schools employed about 20,000 professional administrators (superintendents, etc.) in 1940. Finally, there is a very large staff of nonacademic personnel—janitors, bus drivers, nurses, attendance officers, physicians, etc. There was about one nonacademic employee for every eight teachers in 1900, and the proportion rose to one for four by 1940.

TABLE 1
Academic Personnel and Enrollments, Elementary and
Secondary Schools
(thousands)

	ACADEMIC PERSONNEL			PUBLIC SCHOOL ENROLLMENTS
	Public Schools	Private Schools	Total	
1900	443	37	480	15,503
1905	482	40	522	16,168
1910	548	46	594	17,814
1915	633	55	688	19,704
1918	681	60	741	20,854
1920	711	62	773	21,579
1922	759	70	829	23,239
1924	791	78	869	24,289
1926	853	83	936	24,741
1928	872	89	961	25,180
1930	896	89	985	25,678
1932	905	92	997	26,275
1934	884	90	974	26,434
1936	911	93	1,004	26,367
1938	923	96	1,019	25,975
1940	917	98	1,015	25,434
1942	903	98	1,001	24,562
1944	870	100	970	23,267
1946	872	102	974	23,300

¹The methods by which these data were assembled are described in Appendix A. We consistently report a school year by its terminal year; thus 1900 refers to the school year 1899-1900.

Figure 1
Academic Personnel and Enrollments in Elementary and Secondary Schools
1900 - 1946



The aggregate number of people employed in elementary and secondary education at the outbreak of World War II was therefore almost one and a third million. Manhours in education increased considerably more because the average number of days in a school year in public schools rose from 144 to 175, or 21 percent.

The decline in the number of public school teachers during the war was less than proportional to the decline in enrollment. The chief direct impact of the war seems to have been a large shift from men to women teachers between 1940 and 1944: the former declined 57,000, or 31 percent, and the latter rose 26,000, or 4

percent. Since 1946 there have been large, but not yet reported, increases in enrollments and in teachers. The number of births has been rising for 15 years and rapidly for 10 years—there were 2.2 million births in 1937, 3.2 million in 1943, and a peak of 4 million in 1947, and now enrollments in elementary schools are again rising.²

Private and parochial schools will not be discussed because the data on number of teachers and enrollment are poor and no information is available on finances. The ratio of private to public school teachers appears to have risen substantially, especially since 1920, and enrollment in Catholic schools has risen from 8.9 percent of public school enrollment in 1920 to 9.8 percent in 1940.

Universal education is common in west European nations, but only in the United States does a majority of the population remain in school through the age of 17. The comparison of England and Wales with the United States in the adjoining table emphasizes this difference. As a result of the protracted period of

PERCENTAGE OF POPULATION IN SCHOOL
AGE GROUP

	14-15	16-17	18-20
England and Wales, 1931	24.9	8.1	2.9
United States, 1930	88.8	57.3	21.4

schooling in the United States, teachers are a relatively large percentage of the labor force.³ A more important influence is the withdrawal of young people from the labor force. For example, if the proportions of those between 14 and 20 attending school in this country in 1940 had equaled the British figures for 1931, our school attendance would have been smaller by 7.7 million and our labor force would have been larger by 4 million, a reduction of 29 percent in enrollments and an addition of 8 percent to the labor force.⁴

²*Estimates of the Population of Continental United States: 1940 to 1948*, Bureau of the Census, Series P-25, No. 13 (Aug. 13, 1948). The number of public school teachers in cities increased 13 per cent from 1947 to 1949, according to the salary studies of the National Education Association; see Section 4.

³The percentages of the labor force who were teachers in the last comparable censuses were: United States, 1930, 2.02; England and Wales, 1931, 1.24; Germany, 1931, .64; France, 1931, .66.

⁴Estimated from the number working and attending school, not working and attending school, etc. (1940 Census, *Population*, IV, Part 1, Table XV) and adding all the unemployed to those not attending school.

2 Teachers and Enrollments

The number of teachers can be viewed as the product of three factors: the population of school age; the fraction enrolled in school;⁵ and the number of teachers per pupil. This formal decomposition is useful because it focuses attention on three factors on which considerable information is available.

Elementary and secondary schools cannot well be treated separately before 1940 because the relationship between the age of children and their grade in school changed drastically in earlier decades. This is evident from the fact that the enrollments in public high schools rose 1,172 percent from 1900 to 1940 while the population 14 through 17 rose only 58 percent.⁶ The proportion of students who completed grade school by 14 or 15 must have risen greatly.

By 1940, however, the correspondence between age and school grade was fairly well defined (Table 2): 89 percent of grade school pupils were 13 or younger and 95 percent were 14 or younger; in high schools, 80 percent were 14 to 17 inclusive and almost 90 percent 14 to 18 inclusive. A substantial number of children 15 or 16 are still in grade schools but this number will probably continue to decline,⁷ so the 5-14 group supplies the overwhelming part of potential grade school enrollments. The downward drift of the age of high school students may continue, but in the absence of a fundamental change in school organization the vast majority will continue to be 14 or older; consequently the age group 14-17 inclusive can be taken as a fairly good measure of the potential supply of high school students.

POPULATION OF SCHOOL AGE

The number of children 5-17 inclusive increased an eighth or more each decade up to 1930, after which it fell 5.8 percent (Table 3). This retardation brought about a large change in the

⁵Enrollments are preferred to attendance because there is much more information on them. A study of variations among states in 1940 in the ratio of enrollments and of attendance to teachers indicates that the patterns of the two are almost identical: the coefficient of correlation is .982.

⁶The rise in the proportion of those 14-17 who were enrolled in schools was not sufficient to explain the gap between the movements of population and enrollment (Table 5).

⁷One-fourth of the 15 year olds and one-third of the 16 year olds are Negroes, although Negroes are only a tenth of the total in these age groups. Since the differences between races in the provision of schooling is diminishing, the correspondence between age and grade will become even stronger.

TABLE 2
Enrollments in Elementary and High Schools
by Age of Student, 1940

AGE	ELEMENTARY SCHOOLS		HIGH SCHOOLS	
	Number	%	Number	%
5	384,160	2.1		
6	1,356,341	7.5		
7	1,902,241	10.5		
8	2,072,357	11.4		
9	2,077,573	11.5	1,391	
10	2,189,268	12.1	4,086	.1
11	2,101,271	11.6	10,125	.1
12	2,227,687	12.3	72,452	1.1
13	1,841,655	10.2	409,205	6.0
14	1,066,308	5.9	1,142,644	16.7
15	532,230	2.9	1,569,206	22.9
16	238,583	1.3	1,603,614	23.4
17	88,340	.5	1,198,009	17.5
18	35,118	.2	557,394	8.1
19	13,718	.1	172,815	2.5
20	5,815		53,341	.8
21	3,455		20,785	.3
22	2,380		10,980	.2
23	1,958		7,419	.1
24	1,784		5,933	.1
Total	18,142,242	100.1	6,839,399	99.9

Calculated on the assumption that those attending school who have completed 7 grades are in the eighth grade, etc.

age composition: those 5-14 inclusive declined 9 percent from 1930 to 1940; those 14-17 inclusive rose 4 percent. During the four decades the number of children 5-17 inclusive increased almost a half, which by itself would call for about 40 percent of the observed increase in the number of teachers.

The forecasts of population made in recent years by the Census Bureau have not been crowned with great success, but the predictions of the school age population in the near future are necessarily fairly accurate (since most of this population is already born), and deserve brief attention. The great rise in the birth rate in recent years is leading to a sharp reversal of the

TABLE 3
Population, 5-17 Inclusive, 1900-1940
(thousands)

POPULATION	1900	1910	1920	1930	1940
5-17 incl.	21,538	24,240	27,730	31,571	29,745
5-14 incl.*	16,954	18,868	22,039	24,612	22,431
14-17 incl.*	6,153	7,220	7,736	9,341	9,720

*The overlapping at age 14 should be noted.

downward trend of the school age population (Table 4): the elementary school population will regain its 1930 peak by 1950, and then increase by a fifth within five years; the secondary school population will regain its 1940 peak shortly after 1955, and then also rise rapidly.⁸ It is still generally believed that the birth rate will not continue at the high level of the recent past, and if this belief (which vitiated the earlier forecasts) soon proves correct, the large increase in elementary school population by 1955 and in secondary school population by 1960 will soon thereafter be reversed. In any event, the immediate prospects are for increases of astonishing magnitude.

TABLE 4
Estimated Population of School Ages, 1940-1955
(thousands)

AGE GROUP	1940	1947	1950	1955
5-17 incl.	29,745	29,387	31,468	37,080
5-14 incl.	22,431	22,779	25,212	30,179
14-17 incl.	9,720	8,685	8,443	9,370

THE FRACTION ENROLLED IN SCHOOL

The fraction of children enrolled in school rose substantially from 1900 to 1930 (Table 5). Thereafter it was relatively stable at the elementary level (5-14 inclusive) but continued to rise at a high, though decreasing, rate at the higher ages.⁹ The largest increases in the fraction enrolled were at the early school years (6-9) and the later school years (14-20); little increase in the intervening ages was possible after 1910.

At the elementary school ages the increase since 1910 in the fraction enrolled has been chiefly in the South and in rural areas generally (Table 6). The forces making for growth are apparently exhausted. If all children 7-14 inclusive attended in the same proportion as urban white children in 1940, for example,

⁸Table 4 is based upon *Forecasts of Population and School Enrollment in the United States: 1948 to 1960*, Series P-25, No. 18 (Feb. 14, 1949). The 1947 predictions of P. K. Whelpton (*Forecasts of the Population of the United States, 1945-1975*; Bureau of the Census) underestimated births between July 1, 1945 and July 1, 1948 by a fifth.

⁹The figures in Table 5 are not wholly comparable. In 1940 school enrollment was defined as enrollment in a regular school between March 1 and April 1, 1940; in 1930, the period was September 1, 1929 to April 1, 1930 and no restriction was placed on the type of school. This difference probably explains most of the decrease at certain ages. The 1910 and 1920 definitions were the same as those in 1930. Vocational schools not parts of regular schools, and also nursery schools (since children under 5 are not included) are excluded.

TABLE 5
Percentage of Population of Specified Ages Enrolled in Schools,
1900-1940

AGE	% INCREASE					
	1900	1910	1920	1930	1940	1910-40
5	48.1	17.0	18.8	20.0	18.0	5.9
6		52.1	63.3	66.3	69.1	32.6
7		75.0	83.3	89.4	92.4	23.2
8		82.7	88.5	94.1	94.8	14.6
9		86.2	90.4	95.6	95.6	10.9
10	79.8	90.0	93.0	97.1	95.7	6.3
11		91.2	93.9	97.5	95.9	5.2
12		89.8	93.2	97.1	95.5	6.3
13		88.8	92.5	96.5	94.8	6.8
14		81.2	86.3	92.9	92.5	13.9
15	41.8	68.3	72.9	84.7	87.6	28.2
16		50.6	50.8	66.3	76.2	50.6
17		35.3	34.6	47.9	60.9	72.5
18	11.7	22.6	21.7	30.7	36.4	61.1
19		14.4	13.8	19.8	20.9	45.1
20		8.4	8.3	13.1	12.5	48.8

enrollments in this age group would have risen only 460,000, or 2.7 percent. A similar calculation would indicate an increase of another 475,000 children 5 or 6, but the stability of the enrollments of 5 year olds is apparent in Table 5. Moreover, many school systems require that children reach their sixth birthday before entering school and this provision excludes many 6 year old children.¹⁰ The 'market' for elementary education is saturated: enrollments will closely follow the movements of the school age population.

At the secondary school ages (14-17 inclusive), 79.3 percent

¹⁰Only 42 percent of the 6 year olds would attend school if the age requirement were universal and enrollment was not permitted after September 1. The changes in enrollment ratios during and after the war are given in sample Censuses. The large increase in the percentage of 6 year olds seems wholly explicable by the shift in the date of enumeration to October. Unfortunately the Census has returned to the less stringent 1930 definition of school enrollment, so some increase is to be expected on this score also. See School Enrollment of the Civilian Population: October 1947, Bureau of the Census, Series P-20, No. 19 (July 30, 1948); also April 1947, Series P-20, No. 12 (Feb. 16, 1948); October 1948, Series P-20, No. 24 (April 18, 1949).

DATE	5 YEAR OLDS	6 YEAR OLDS
April 1940	18.0	69.1
October 1945	28.3	93.2
October 1946	32.3	93.8
April 1947		67.2
October 1947	25.4	93.8
October 1948	21.6	93.4

TABLE 6
Percentage of Population 7-13 Inclusive
Enrolled in Schools, 1910-1940

	1910	1920	1930	1940
All	86.1	90.6	95.3	95.0
Urban	91.8	94.4	97.3	97.1
Rural	82.4	87.6	93.3	92.9
Northeast	93.5	94.5	97.7	97.3
South	75.1	84.1	90.8	91.0
North Central	92.7	94.6	97.8	97.3
West	89.1	93.1	96.9	97.0

were enrolled in school in 1940, or a sixth less than in the group 5-14 inclusive (95.0 percent). The percentage of urban white children 14-17 inclusive enrolled in school has been much less stable than that of younger children and therefore offers a less satisfactory estimate of the potential enrollment.¹¹ (Using the urban white enrollments in 1940 as an estimate of potential enrollments, total enrollments of those 14-17 inclusive would have risen 660,000, or 8.7 percent.)

Secondary school enrollments are the outcome of a multitude of factors we need not analyze; it is sufficient to mention two factors in addition to race and urbanization:¹² legislation, and income and employment. The influence of legislation is difficult to isolate, but a brief investigation (reported in Appendix B) suggests that on the whole compulsory school attendance laws have followed more than led the increase in enrollments of children over 14.

The effects of a community's income upon school enrollments are complicated. The relatively low school enrollment ratios in states with the lowest per capita incomes are easily explained by both the necessity for older children to work and the inability of

¹¹The percentage of urban white children enrolled in school has risen as follows:

AGE	1920	1930	1940
7-13 incl.	94.4	97.7	97.3
14-17 incl.	62.4	77.4	86.0

¹²Urbanization and race are already allowed for by using urban white children as the measure of potential enrollments. The difference between urban and rural enrollments is not large in the younger age groups (Table 6); at higher ages it reflects income and employment in good part. In the age group 14-17 inclusive the fraction of Negroes enrolled in schools in 1940 was .84 of the fraction of white children enrolled in school, but in the South the ratio was .90 and in the remainder of the United States .95. Both sections have lower ratios than the nation because of the concentration of Negroes in the South, where the fraction of all children enrolled in school is lower.

these states to support long schooling. But when business conditions are depressed, older children tend to stay on in school because of the difficulty of finding employment. One evidence of this is that in 1940 the states with higher percentages of unemployed children 16 or 17 in the labor force were commonly also the states with higher enrollment ratios.¹³ Another is that the enrollment ratio for those 16 or 17 in October 1947 was less than in April 1940,¹⁴ and the large decline in high school enrollments during the war points in the same direction. Since the 1940 Census was taken when unemployment was large, and the preceding decennial censuses were taken in relatively prosperous times, the upward trend in the enrollment ratio after 1930 of those 14-17 inclusive is probably exaggerated. While enrollments do not press as hard on the ceiling of population as they do at the elementary level, it seems improbable that more than a 10 percent increase in enrollments in secondary schools will come from a rise in the enrollment ratio.

ENROLLMENT PER TEACHER

The enrollment per teacher in both elementary and secondary schools has been relatively stable since 1920 (Table 7). This stability in the national averages reflects the approximate canceling of a set of forces that have effected considerable changes within the various states.

TABLE 7
Enrollment per Teacher in Public Elementary and
Secondary Schools, 1900-1946

	ELEMENTARY SCHOOLS	SECONDARY SCHOOLS		ELEMENTARY SCHOOLS	SECONDARY SCHOOLS
1900	37.2	25.5	1932	33.0	22.2
1910	35.1	22.0	1934	33.5	24.9
1918	34.2	19.6	1936	33.8	22.3
1920	33.6	21.6	1938	33.2	22.0
1922	34.3	22.2	1940	32.7	22.0
1924	33.9	23.5	1942	32.6	21.3
1926	32.6	22.2	1944	32.9	19.2
1928	33.1	20.7	1946	32.7	19.4
1930	33.2	20.6			

¹³The rank correlation between the percentage of unemployed persons in the labor force and the percentage enrolled in schools (in the 16-17 age group) for the 48 states was + .561. Persons 16-17 seeking work probably include a few attending school.

¹⁴The respective percentages were 67.6 (based upon a less stringent definition of enrollment) and 68.7; see note 9 above.

The primary factors leading to larger enrollments per teacher are associated with the growth in the size of the individual school. In part because the population is becoming more urban, in part because of improvements in transportation, and in part because of a strong movement toward consolidated schools, the number of small schools has declined sharply. The number of one-teacher schools, for example, declined about 40 percent between 1920 and 1940.¹⁵ Enrollments per teacher run higher by a fifth in urban than in rural schools, and from two to four times as high in urban schools as in one-teacher schools.

On the other hand, within urban school systems, where the growth of school size is less important, there are conflicting trends in enrollment per teacher at various levels (Table 8). At the elementary level, enrollment per teacher is somewhat above the average for the nation but is declining; at the secondary level, it is almost 50 percent larger than for the nation and is rising. As urban and high school enrollments are still gaining relatively, these forces work in opposite directions, and only gradual and moderate changes in the over-all ratio of students to teachers are to be expected in the relevant future.¹⁶

TABLE 8
Enrollment per Teacher in City School Systems, 1920 and 1938

SIZE OF CITY	ELEMENTARY		SECONDARY	
	1920	1938	1920	1938
10,000-30,000	37.9	33.7	24.6	28.6
30,000-100,000	36.9	33.4	24.4	29.2
100,000 & over	39.0	36.6	25.2	30.7

SUMMARY

The future trend in the number of teachers is likely to be dominated by the population of school age. The fraction of those of elementary school ages enrolled in schools cannot change substantially and the fraction of those of secondary school age enrolled in school cannot be expected to rise much—probably a tenth at the outside. Enrollment per teacher can change much

¹⁵No continuous series is available but series for 1 room schoolhouses and 1 teacher schools may be roughly spliced.

	1920	1930	1940	1944	1946
1 room schoolhouses	189,227	148,712			
1 teacher schools		149,282	113,600	96,302	86,563

¹⁶The percentage of public school teachers in high schools rose very rapidly between 1900 and 1940: from 4.8 in 1900, 8.2 in 1910, 14.9 in 1920, 25.0 in 1930, to 34.3 in 1940.

more, of course. Yet not only has the ratio been stable for almost three decades but any large decrease in the size of classrooms would encounter the obstacle of greatly increased educational costs, for teachers' salaries are considerably more than half of the cost of operating elementary and secondary schools. Thus it appears probable that the number of teachers will increase by about one-fifth in the next decade if the population forecasts (Table 4) prove to be near the mark.

3 *Recruitment of Teachers*

GENERAL CHARACTERISTICS

Women comprise a much larger majority of teachers in the United States than in most European countries: they were 68.1 percent of all teachers in England in 1931, and most continental countries fall well below this level. There is some evidence of a reversal of trend in this respect: women increased relatively throughout the nineteenth century and down to 1920, but a very substantial reaction set in during the 'thirties (Table 9).¹⁷ The increase of male teachers is due in part to the growth of secondary schools, where men are relatively more numerous, and perhaps in part to the difficulty of getting employment in private industry during the 'thirties.

The median age of female teachers has risen sharply but unevenly since the beginning of the century. It has been widely

TABLE 9
Some Characteristics of All Teachers, 1900-1940

	1900 ^a	1910	1920	1930	1940
Male (%)	25.5	19.9	15.5	18.2	24.7
Female (%)	74.5	80.1	84.5	81.8	75.3
White (%)	95.1	95.0	95.2	91.6	93.6
Nonwhite (%)	4.9	5.0	4.8	5.4	6.4
% of women married	4.5	6.4	9.7	17.9	24.5
Median age ^b (years)					
Male	30.1	34.1	35.2	32.6	34.3
Female	26.0	31.7	28.5	28.8	31.0

^a Based upon teachers plus a relatively small number of college professors, except in the sex distribution.

^b The great width of the age groups in 1900 and 1910 makes the estimate of median age very approximate; our linear interpolation probably yields overestimates.

¹⁷ Still another reversal occurred during the war, when the number of men teachers fell sharply (see Sec. 1); and it in turn was partly reversed between 1944 and 1946.

held that the occupation is staffed chiefly by women who soon leave it for marriage: state departments of education estimated in 1930 that the average professional life of teachers was 6 years.¹⁸ The age data do not confirm this view of the transitory nature of teaching, except to the extent that most teachers are women and on the average women leave the labor force at an earlier age than men. In 1930 the median age of teachers was only .6 years less than that of all women in the labor force (and in 1940, 1.7 years greater), a difference smaller than one would expect simply because of the rapid growth of the number of teachers. The proportion of married women has increased more than in the labor force at large, despite a growing objection in many school systems to employing married women.

On the whole the occupation seems to have been relatively fully employed; in 1930, 1.65 percent of male teachers were unemployed, 1.53 of female; in 1940, the percentages were 2.67 and 2.05.¹⁹ Teachers' salaries in real terms increased during the decade, as we shall see, and this raises the question why more women were not attracted to the occupation so the unemployment rate would more closely approach that for all women (10.1 percent). The question cannot be definitely answered, but it is a plausible conjecture that unemployed teachers are given preference in other occupations. Teachers usually have college training, and persons with a college education had a much lower unemployment rate than the population at large.²⁰

¹⁸More precisely, this was the average of the replies to the question, "On the average, how long do teachers remain in service in your state?" The considerable mobility of teachers between states (see below) makes the intra-state service life somewhat less than the total service life. See *Teacher Supply and Demand*, National Education Association, Research Bulletin, Nov. 1931, p. 338.

¹⁹The percentage of unemployed women teachers was 3.7 in 1940 if those on public emergency work are counted as unemployed. The data on 'usual' occupation do not reveal any marked tendency for unemployed teachers to withdraw from the labor force: of the 205,000 not in the labor force who gave teaching as their usual occupation, 149,000 were 'married with husband present', and of the remainder 16,000 were 45 to 65 and 17,000 were 65 or older.

²⁰The percentage of experienced female workers who were unemployed in 1940 varied inversely with education: 9.0 percent, for those who had been only to grade school; 8.5 percent, for those who had attended high school; and 4.0 percent, for those who had attended college.

CERTIFICATION

The entrance of teachers into a particular school system is in every state controlled by the requirement that the entrant possess a certificate. Such certificates were generally required already by 1900 but with almost nominal requirements for 'low-grade' certificates and with numerous exceptions. The growing rigor of the requirements is recorded in Table 10.

TABLE 10
Distribution of States by Minimum Scholastic Requirements for
Certificates for Inexperienced Teachers
(Temporary and Emergency Certificates excluded)

YEARS OF COLLEGE	NUMBER OF STATES		
	1921	1937	1949
4		5	24
3		8	7
2		11	16
1		8	1
High school graduation and less than one year of professional preparation	4	2	
4 years of high school	14	6	
No standard	30	8	
Total	48	48	48

Sources: B. W. Frazier, *Development of State Programs for the Certification of Teachers*, Office of Education, Bulletin 1938, No. 12, p. 73. Data for 1949 compiled from *Elementary and Secondary School Teachers*, BLS, Bulletin 972.

The licensing function is usually performed by state education officials, and would obviously be a convenient device for controlling the entry of new persons into the profession. Although the proposal to restrict numbers was frequently heard in the 'thirties,²¹ I have seen no evidence that the licensing system has been used extensively to this end. All states (but not all cities) automatically grant one or more types of certificate on the basis of academic credits in teacher-training institutions (both within and outside the state). At present, therefore, the power to control new entrants is diffused among a thousand or more institutions of higher learning.

Of course entry of new teachers has been discouraged by the educational requirements, both as to length of training and detailed prescriptions of courses in pedagogy. These standards, however, appear to have been formulated primarily with a view

²¹See, for example, E. S. Evenden, *National Survey of the Education of Teachers*, Office of Education, Bulletin 1933, No. 10, VI.

to improving the quality of teachers—with what success we need not discuss.²²

SUPPLY AND DEMAND

Numerous studies have been made of the sources from which new teachers are drawn by a school system and the reasons for vacancies.²³ The largest and most informative of these surveys, for the school year 1930-31, was based upon replies to questionnaires by half of the public school teachers in the country (Table 11).²⁴

The mobility of teachers is substantial: an average of 9.1 per-

TABLE 11
Supply and Demand for Public School Teachers
and the Sources of Each, per 1,000 Teachers Employed, 1931

SOURCE	E L E M E N T A R Y S C H O O L S						
	Open Country	Under 10,000	10,000- 100,000	100,000 or more	JUNIOR HIGH	SENIOR HIGH	ALL*
New teachers	372	222	100	50	148	205	205
Predecessor died or retired	26	15	6	3	7	9	13
Predecessor went to college	29	13	3	1	9	11	13
Predecessor married	51	41	25	6	20	26	32
Predecessor moved to another teaching position	194	95	26	11	53	88	91
Predecessor moved to another occupation	28	14	3	1	11	19	14
New position created	17	24	20	12	31	33	23
Other	27	20	16	16	18	18	20
College or normal school	145	87	41	20	64	92	84
Moved from another teaching position	165	107	46	13	62	86	91
Moved from another occupation	42	19	6	7	13	18	20
Other	21	9	7	9	8	8	11

Source: Evenden, *op. cit.*, p. 202; calculated from rounded data.

*The respective weights of the columns are .210, .249, .122, .147, .071, and .199. They are estimated from the number of teachers in 1930; the division of teachers between open country and urban is based on the number of children 7-13 inclusive enrolled in school in 1930 in rural farm and other areas.

²²For a highly critical appraisal, see 'Required Courses in Education', Report of Committee Q, Bulletin of American Association of University Professors, XIX (1933), 173-200; for references to the literature calling for an expansion of such requirements, see Frazier, *op. cit.*

²³To the economist perhaps the most baffling finding in certain of these studies is that the demand (appointments) has often exceeded the supply (appointees); see, for example, B. R. Buckingham, Supply and Demand in Teacher Training, Ohio State University, Bureau of Research Monograph 4 (1926).

²⁴The average percentage of replies was 47.9, ranging from 5.8 for West Virginia to 79.1 for New Jersey. The South as a whole is underrepresented and the sample appears to contain other systematic biases but insufficient information is given to estimate or correct them.

cent (or about 90,000) shifted among school systems between 1929-30 and 1930-31, and another 2 percent entered teaching from other occupations. The total turnover was correspondingly high: one-fifth of all teachers entered their positions in 1930-31, and only a tenth of these newly filled positions were newly created.

There is a general drift of teachers toward larger cities, witness the higher rates of supply than of demand due to movement among teaching positions in the larger cities. This drift is confirmed by evidence on teaching experience: the median number of years of teaching experience of elementary school teachers was 5 in open country schools, 7 in communities under 10,000, 10 in cities of 10,000-100,000, and 12 to 13 in cities of 100,000 or more.²⁵

4 *Salaries of Teachers*

The salaries of public school teachers vary systematically with the type of school, size of community, region, age and training of teacher, and numerous other factors. We shall first describe certain of the leading characteristics and determinants of this salary structure, then examine trends in salaries since 1900. Thereafter some comparisons will be made between teachers' salaries and earnings in other occupations.

SIZE OF COMMUNITY, REGION, AND GRADE OF SCHOOL

The most prominent feature of the salary structure of teachers in 1938 is the steady increase in salary with community size, for each region and type of school. In 57 of the 60 possible comparisons of salary among adjacent community sizes in Table 12, higher salaries are paid in the larger community.

The regional differences are almost equally uniform. Salaries are highest in the Northeast in each grade of school and size of community (with three exceptions), second highest in the West (with four exceptions), next highest in the North Central region (with two exceptions), and lowest in the South (with one exception). But the regional differences among the nonsouthern regions are generally smaller than the size of community differences.

The salary differences among levels of school are smaller than those among regions and community sizes,²⁶ but even here a

²⁵Evenden, *op. cit.*, II, 30-1. The median ages in each class were 20 years higher.

²⁶The differences by school grade are larger in rural schools, in part because high schools are more often consolidated school districts; see *Salaries of School Employees, 1938-39, NEA, Research Bulletin, March 1939, 91 ff.*

TABLE 12
Average Salaries of Public School Teachers by Region,
Size of Community, and Type of School, 1938

TYPE OF SCHOOL & COMMUNITY SIZE	R E G I O N			
	Northeast	South	North Central	West
Kindergarten	\$2,148	\$1,592	\$1,688	\$1,890
10,000-30,000	1,594	639	1,273	1,454
30,000-100,000	1,803	1,233	1,454	1,695
100,000-250,000	1,892	1,601	1,552	1,745
250,000 & over	2,534	1,661	1,974	2,087
Elementary	2,212	1,268	1,707	1,981
10,000-30,000	1,546	908	1,311	1,534
30,000-100,000	1,831	1,048	1,504	1,821
100,000-250,000	1,926	1,395	1,596	1,883
250,000 & over	2,770	1,580	2,011	2,264
Junior High	2,384	1,589	1,893	2,215
10,000-30,000	1,817	1,141	1,498	1,658
30,000-100,000	2,026	1,290	1,714	2,247
100,000-250,000	2,059	1,468	1,869	2,176
250,000 & over	3,007	1,904	2,375	2,407
Senior & Junior- Senior High	2,282	1,686	1,980	2,381
10,000-30,000	1,953	1,229	1,713	1,905
30,000-100,000	2,309	1,253	1,957	2,228
100,000-250,000	2,449	1,811	1,887	2,242
250,000 & over	2,822	2,160	2,518	2,670
Regular High	2,912	1,420	2,336	2,284
10,000-30,000	1,872	1,150	1,494	1,810
30,000-100,000	2,302	1,267	1,701	2,369
100,000-250,000	2,486	1,688	2,007	2,202
250,000 & over	3,516	1,769	2,715	2,409

Source: *Biennial Survey of Education, 1937-38*. The regions are those of the 1940 Census; the community sizes those of the Office of Education, except for the class 250,000 and over, which is based on the 1940 Census.

fairly regular pattern is discernible. Salaries are lowest for kindergarten teachers, those of elementary and junior high school teachers are next in that order, and those of junior-senior and senior high schools are about equal to those of regular high school teachers.²⁷

The substantial variation of salary with size of community is a general finding in income studies; presumably it is due to

²⁷The difference between salaries of elementary and secondary school teachers in cities over 10,000 has been declining steadily over time. The trend continued to 1949.

	1915	1918	1928	1938
Average Salary				
Elementary School	\$ 673	854	1788	1876
Secondary School	\$1060	1268	2217	2249
Ratio: Secondary to Elementary School Teachers' Salary	1.58	1.48	1.24	1.20

differences in costs of living.²⁸ Regional differences, however, are usually fairly small when community size is held constant. Teachers are clearly an exception, perhaps because the general practice of state equalization of educational funds (whereby wealthier communities subsidize education in poorer communities) mixes regional and size of community influences. The variations of salaries with level of school are in keeping with variations in the training of teachers (see below).

TRAINING AND AGE

The differences among salaries by size of community and grade of school correspond closely with patterns of academic training. The survey of 460,000 public school teachers in 1931 revealed a steady rise in the amount of schooling of elementary school teachers with community size.²⁹ Teachers in junior high schools attended school an average of 15.5 years; those in senior high schools 16.2 years.

	AV. NUMBER OF YEARS TEACHERS ATTENDED SCHOOL	% OF TEACHERS WITH 4 OR MORE YEARS OF COLLEGE EDUCATION
Open country, 1 and 2 teacher schools	13.2	3.7
Open country, 3 teacher schools	14.0	11.4
Towns of less than 2,500	14.1	9.5
2,500 - 10,000	14.3	13.8
10,000 - 100,000	14.4	14.8
100,000 & over	14.6	22.0

The regional differences in salaries also parallel smaller relative differences in the amount of formal training, except that teachers in the South had on the average longer training than those in the North Central region.³⁰

We would expect a stronger relationship between salary and schooling were it not for the rapid increase in the number of

²⁸H. E. Klarman, A Statistical Study of Income Differences Among Communities, in *Studies in Income and Wealth, Volume Six*; Friedman and Kuznets, *Income from Independent Professional Practice*, Ch. 5 (NBER, 1943 and 1945, respectively).

²⁹Evenden *et al.*, II, 43.

³⁰(*Ibid.*, p. 224). There appear to be serious errors in the data: the average years of school attendance are as high or higher in each region than in the country as a whole.

AVERAGE YEARS OF SCHOOL ATTENDANCE BY REGIONS FOR TEACHERS IN CITIES OF 10,000-100,000			
NORTHEAST	SOUTH	NORTH CENTRAL	WEST
15.0	14.6	14.4	14.8

school teachers before 1930.³¹ Salaries rise steadily with teachers' ages, in part because of the movement from rural to city school systems, in part because of the widespread practice of granting automatic salary increases. The older teachers, however, have had less formal education, so as late as 1919, there was a consistent negative relationship between salary and academic training in cities.³² As the number of teachers with a college degree increases, we would expect the relationship between education and salary to become more pronounced.

SEX AND RACE

The median salary of all teachers, public and private, was \$1,458 for men and \$972 for women in 1939.³³ The difference seems due almost exclusively to differences in type of work, grade of school, or region. Of these factors grade of school is most important: in 1940 in cities over 10,000, men were 4.4 percent of all public school teachers in elementary schools, but 41.3 percent of all teachers in the regular high schools. Men generally hold the supervisory positions in school systems, and this works in the same direction. There are also relatively few men teachers in the South, where salaries are relatively low: in 1940, of the 17 states in which fewer than a fifth of the teachers were men, 9 were in the South.³⁴

³¹Many school systems have schedules that automatically increase the teacher's salary with academic training: in New York, for example, a teacher with a master's degree receives \$200 more per year than a teacher with a bachelor's degree.

As will be shown below (Sec. 2, Note 40), the average increase in annual salary necessary to compensate for an additional year of training is about 5 or 6 percent: judged by this standard the \$200 differential is too narrow in New York City and too wide in most of the remainder of the state.

³²Evenden, *Teachers' Salaries and Salary Schedules*, NEA, Commission Series 6 (Washington, D. C., 1919), p. 79.

³³1940 Census, *Population*, III, The Labor Force, Part 1, U. S. Summary, Table 73. The medians are for experienced persons in the labor force in 1939. The medians for those working 12 months in 1939 are less instructive because most teachers considered themselves, or were considered, unemployed during the summer.

³⁴*Biennial Survey of Education, 1938-40 and 1940-42*, II, Ch. 7, p. 11. On the other hand, there was a somewhat higher proportion of men than women in rural schools: men were 20.4 percent of all urban teachers and 23.9 percent of all rural teachers (*ibid.*, Ch. 3, p. 39).

After allowing for these factors, the difference between salaries of men and women teachers appears to be small—probably about 5 percent larger for the former group.³⁵ In 11 states and a majority of city school systems, different rates of pay for men and women teachers are forbidden by law.³⁶

The salaries of Negro teachers averaged only 57 percent of those of white teachers in 12 southern states in 1938.³⁷ However, this figure exaggerates the differences in salaries paid for teachers of different race but similar ability and working in similar schools:

- 1) The Negro school systems in 17 southern states had an average school term of 30.6 weeks; the white school systems in these states averaged 34.0 weeks.
- 2) Relatively more Negro teachers are in elementary schools. Only 8.5 percent of the Negro students were in secondary schools, whereas 21.4 percent of the white students were in secondary schools in these 17 states.³⁸
- 3) Negro schools are more often located in rural areas or small communities than white schools (Sec. 2).
- 4) The formal education of Negro teachers is on the average less than that of white teachers. Of white teachers in the South in 1940, 58 percent had completed 4 or more years of college; of the Negro teachers, only 38 percent.³⁹

We do not possess information to estimate the salary differences that would still be found after allowing for these factors.

SALARIES SINCE 1900

The average salary of public school teachers rose from about

³⁵In the 16 states from which 50 or more replies were received from men teachers in 1 and 2 teacher open-country elementary schools in the National Survey of the Education of Teachers, men's salaries averaged 5 percent more than women's (Evenden *et al.*, Office of Education, Bulletin 1933. No. 10. II, 251-2). The difference was considerably larger in high schools, but here it was impossible to segregate the influences of community size and administrative rank.

³⁶M. L. Plunkett, Equal Pay for Women Workers, *Monthly Labor Review*, September 1946, p. 385.

³⁷*Biennial Survey, 1936-38*, Bulletin 1940, No. 2, Ch. 2, p. 137.

³⁸*Ibid.*, p. 138.

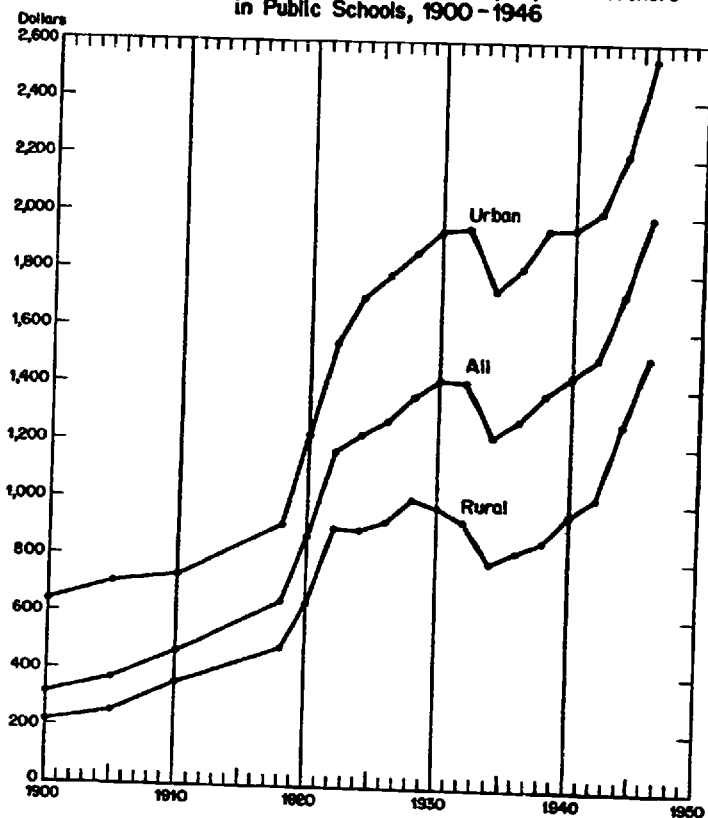
³⁹1940 Census, *Occupational Characteristics*.

\$311 in 1900 to \$1,995 in 1946 (Figure 2 and Table 13).⁴⁰ As the rise was somewhat more rapid in rural than in urban schools, the fraction rural salaries were of urban salaries rose from one-third in 1900 to almost three-fifths in 1946.

The upward march of salaries has been interrupted only once—in the 'thirties, when the average salary fell 13 percent from 1932 to 1934, then more slowly recovered. Rural teachers' salaries followed a less even course, beginning to decline earlier and failing to regain the previous peak until (1941 or) 1942.

The cost of living index compiled by the Bureau of Labor Statistics is a very shaky instrument with which to 'deflate'

Figure 2
Average Salaries of Supervisors, Principals, and Teachers
in Public Schools, 1900-1946



⁴⁰These figures are really a mixture of salary and earnings: they are aggregate payrolls divided by number of teachers employed (or at times teaching positions; see App. A).

TABLE 13
Average Salaries of Supervisors, Principals and Teachers
in Public Schools, 1900-1946

	AVERAGE SALARY			COST OF LIVING INDEX (1935-39:100)	URBAN SALARIES IN 1935-39 PURCHASING POWER
	All	Rural	Urban		
1900	\$ 311	\$ 215	\$ 638	52.6	\$1,213
1905	368	252	704	59.3	1,187
1910	463	353	732	62.4	1,173
1918	641	478	911	97.8	931
1920	871	638	1,222	135.3	903
1922	1,166	899	1,545	123.6	1,250
1924	1,227	895	1,706	123.5	1,381
1926	1,277	927	1,787	128.2	1,394
1928	1,364	1,007	1,865	123.8	1,506
1930	1,420	979	1,944	122.8	1,583
1932	1,417	930	1,951	104.2	1,872
1934	1,227	787	1,735	93.9	1,848
1936	1,283	827	1,818	98.0	1,855
1938	1,374	864	1,952	103.0	1,895
1940	1,441	959	1,955	99.6	1,963
1942	1,507	1,018	2,013	110.5	1,822
1944 ^c	1,728	1,276	2,215	124.4	1,781
1946 ^c	1,995	1,508	2,545	129.9	1,959

Source: Salaries, *Biennial Survey of Education*. Rural includes cities under 4,000 through 1910, and cities under 2,500 thereafter to 1930. Beginning with 1930, urban includes also small cities that are part of larger school district. Cost of living index: See Table 21.

^cUrban and rural salaries estimated from city and aggregate data. The National Education Association estimates average salaries to be \$2,550 in 1948 and \$2,750 in 1949; Teachers in the Public Schools, NEA Research Bulletin, Dec. 1949.

teachers' salaries to obtain a series on real income. Aside from its technical deficiencies, such as failure to take full account of changes in the quality of goods, it pertains to a wholly different type of consumer (a family with husband and wife, living in a large city, engaged in clerical or manual work).⁴¹ Half of the teachers are unmarried women, and only about one-sixth of all teachers (and two-fifths of urban teachers) live in cities with more than 100,000 inhabitants. The deflation carried out in Table 13 therefore yields only a very rough estimate of the movements of real salaries of urban teachers.

Moreover, one must avoid the tendency, common in educational literature, to interpret a movement of the average salary

⁴¹The differences in cost of living by community size are substantial, and in particular rural teachers' salaries cannot be set against urban costs of living. In 1921 the median salary of rural teachers in Pennsylvania was only \$411, but the median annual cost of room and board was only \$121 (L. A. King, Status of the Rural Teacher in Pennsylvania, Office of Education, Bulletin 1921. No. 34).

as representing the movement of the salary of the average teacher. In a period when there are many departures from and new entrants into teaching, the average salary could be stable while everyone who remained in teaching received large increases by moving from small to large cities, from elementary to secondary schools, etc. These sorts of movement are believed to have occurred, but on an unknown scale, since 1940.⁴²

'Real' salaries of urban teachers fell sharply during World War I but recovered very rapidly thereafter; on the average they increased two-thirds between 1918 and 1928 (and dollar salaries doubled). Thereafter the cost of living fell sooner and further than salaries, so real salaries rose another sixth by the early 'thirties. They maintained this level throughout the decade as dollar salaries kept pace with the rise in the cost of living.

Salaries have been increasing at an increasing rate since 1940; the average salaries in cities with over 2,500 inhabitants are given in the adjoining table. The large increases between 1945 and 1949 have almost fully restored these teachers' real salaries to their prewar level, as was true in the four years after World War I.

	1941	1943	1945	1947	1949
Elementary school teachers	\$1,917	\$1,996	\$2,227	\$2,552	\$3,185
High school teachers	2,338	2,418	2,740	3,026	3,672

Calculated from NEA Research Bulletins, March 1941, Feb. 1943, Feb. 1945, Feb. 1947, Apr. 1949. The reports by individual cities are incomplete but cover more than half the city teachers and appear to be fairly comparable from year to year. As large cities are relatively overrepresented, the averages are higher than those for all teachers.

The present postwar rise in salaries, like that after World War I, has been accompanied by, and to a considerable degree occasioned by, widespread publicity emphasizing the loss of teachers to other occupations, the fall in real incomes, etc. The prominent role of teacher unions, however, is distinctly recent. Much the largest of these unions is the American Federation of Teachers (AFL), founded in 1916. Before 1934 this union was very small; thereafter it participated in the general expansion of union membership. In 1947 it had 42,000 paid-up members, perhaps a ninth of city school teachers.⁴³ The national union has been opposed to the use of the strike, but some locals (beginning

⁴²For a fuller discussion of this problem, see Part 2, Section 4.

⁴³For the membership each year since 1916, see *American Teacher*, Oct. 1947, p. 11.

with St. Paul in 1946) have resorted to this weapon. The most important strikes have been in St. Paul, Buffalo, Minneapolis, and Providence. The strike has been outlawed in some states, and it (and unionization of teachers) is opposed by the National Education Association (the professional society to which more than half the country's teachers belong), so its future role in salary determination is problematical.

FACTORS AFFECTING COMPARISONS WITH TEACHERS' SALARIES

Direct comparisons of teachers' salaries with those in other occupations (except college teaching) must take into account three factors peculiar to teachers' salaries: exemption from federal income taxation before 1939, the length of the working year, and the role of pensions.

The first factor, tax exemption, was of relatively small importance because before 1939 personal exemptions were large (\$1,000 for individuals and \$2,500 for a husband and wife during most of the period) and the initial tax rate was low (4 percent on the first \$4,000 of taxable income in 1938). The savings to single teachers from tax exemption would, therefore average about 1 or 2 percent of income plus the perplexities of filing a return.

The second factor, length of the school year, is much more substantial. In 1940 public schools were in session an average of 175 days or 35 five-day weeks, but vacations within terms lengthened the period between the opening and closing of school to about 9 months. In addition, the hours of work per week in teaching (which may, however, include only work at school) were less than the average for the labor force.⁴⁴

For purposes of comparison with other occupations it is difficult to place a monetary value on the long vacation.⁴⁵ A common practice is to compare salaries with those in other occupations on a weekly or monthly basis,⁴⁶ which is equivalent to valuing the summer vacation at the salary rate. If we adopt this convention, urban teachers' salaries on an annual basis would be about

⁴⁴During March 24-30, 1940, 82.4 percent of female teachers worked 40 hours or less; 57.5 percent of all female workers worked 40 hours or less.

⁴⁵The very unsatisfactory data in this field suggest that relatively few teachers take advantage of the vacation to earn supplementary income; see, for example, *The Rural Teacher's Economic Status*, NEA Research Bulletin, Jan. 1939.

⁴⁶See W. Randolph Burgess, *Trends of School Costs* (Russell Sage Foundation, 1920).

12/9 = 1.33 of reported salaries and rural teachers' salaries about 12/8.4 = 1.43 of reported salaries.⁴⁷

The varying length of the school year affects the comparison of periods and groups of teachers. The more important differences are:

- 1) Through time. Since the school term has been lengthening, a portion of the salary increases is for more work. Conversely, since school terms did not change appreciably after 1910 (the term was 35.1 weeks in 1944), comparisons with other occupations in which overtime was common during the war should be qualified on this score.

School term (weeks)	1900	1910	1920	1930	1940
Annual salary (\$)	28.9	31.5	32.4	34.5	35.0
Current					
Equivalent for 175-day school year	311	463	871	1,420	1,411
	377	514	941	1,440	1,411

- 2) Between rural and urban areas. In 1940 school terms were 2.8 weeks shorter in rural than in urban areas. Annual rural salaries were 49.1 percent of urban salaries; on a weekly basis they were 53.2 percent of urban salaries.
- 3) Among states. There is a fairly high correlation between salary and length of the school year in rural schools,⁴⁸ but variations in both are due primarily to differences in the wealth of the states. The variation among states in salaries is only slightly greater for annual salaries than for salaries per week.

The third factor, pensions and retirement plans, is most difficult to assess. The first plan was introduced in New York City in 1894; coverage has extended gradually until about two-thirds of public school teachers were covered by 1937 and almost all by 1944.⁴⁹ Retirement allowances vary widely, but the most common pension is about half the average salary in the years immediately preceding retirement, provided the teacher has served 20 to 30 years.

The net contribution of these retirement provisions to the teacher's income cannot be estimated with any accuracy. In the

⁴⁷Urban schools were in session in 1910 an average of 36.3 weeks; rural schools, 33.5 (in both cases 3 weeks have been added for intra-term vacations).

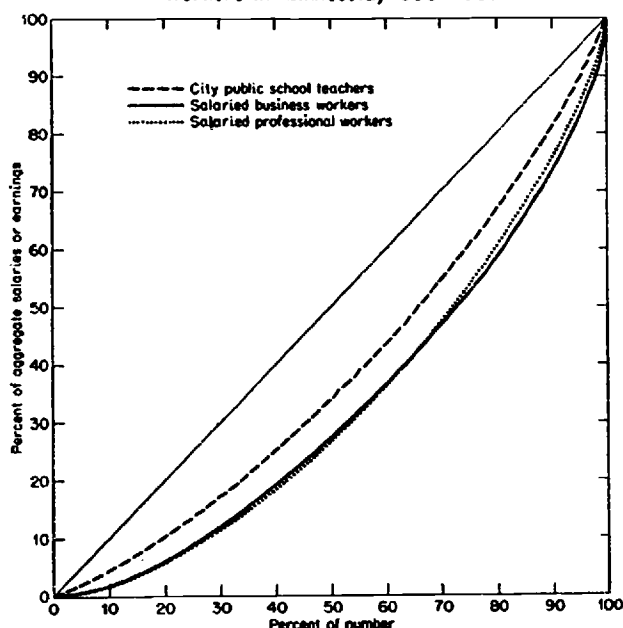
⁴⁸In 1940 in 41 states for which these data were available, the rank correlation coefficient was .58.

⁴⁹Teacher Retirement Systems and Social Security, NEA Research Bulletin, May 1937, p. 94; Statistics of State and Local Retirement Systems, 1943-44, *ibid.*, April 1945, p. 31.

first two decades virtually no such plan was on an actuarial basis,⁵⁰ and many systems still do not provide for growing liabilities. The teacher's contribution may therefore be half of current contributions to the pension fund (it actually averages somewhat less), and still pay only a quarter of the pension. As a very rough estimate, pensions add another five to ten percent to the current salaries of teachers.

In addition, there are two related characteristics of teachers' salaries that are not nearly as pronounced in private employment. The first is security of tenure: in many city systems, particularly, the tenure of the teacher has been so strongly protected by legislation that the possibility of discharge is remote. The second is the equality of their salaries. The Lorenz curve of urban teachers' salaries may be compared with those of salaried business and professional workers in Minnesota in 1938-39 (Figure 3).

Figure 3
Lorenz Curves of Salaries of City Public School Teachers
and of Earnings of Salaried Business and Professional
Workers in Minnesota, 1938-1939



⁵⁰In 1914 the New York City system had liabilities of \$70 million and assets of \$15 million. On the early systems, see Paul Studenski, *Teachers' Pension Systems in the United States* (Appleton, 1920), Ch. I.

It is evident that the prospects of a salary much different from the average in the occupation is small in teaching relative to business and professional employment. The effects of these characteristics, which are equally prominent in college teachers' salaries, will be discussed in Part 2.

COMPARISONS WITH OTHER OCCUPATIONS

Only a few occupations compete with teaching for college trained women on a large scale: the largest are stenographers, typists and secretaries; nurses; and other clerical workers (see Table 14). None of these occupations, moreover, is more than one-quarter staffed by college trained women. Male teachers, on the other hand, are a small proportion of college trained men: 2.5 percent of those who attended college 1 to 3 years, and 9.9 percent of those who attended college 4 or more years, were in elementary and secondary teaching in 1940.

TABLE 14
Educational Training of Women in Selected Occupations, 1940

OCCUPATION	NUMBER (000)	% OF THOSE IN OCCUPATION WHO ATTENDED COLLEGE	% OF ALL ATTENDING COLLEGE	
			1-3 years	4 or more years
All	11,279	15.0	100.0	100.0
Teachers	769	87.7	29.3	52.1
Stenographers	1,001	22.0	16.7	7.9
Clerical	697	15.4	7.7	4.3
Nurses	361	25.5	7.4	2.8
Saleswomen	729	9.1	5.2	2.2

1940 Census, *Occupational Characteristics*, pp. 75 and 81.

The economic status of teachers has risen relative to the population as a whole in the last five decades. Between 1899-1908 and 1949 teachers' salaries rose from \$340 to \$2,750, or 709 percent.⁵¹ Meanwhile per capita national income rose from \$242 to \$1,484, or 513 percent.⁵² If we roughly divide the period at 1924-33, when the respective averages were \$1,341 and \$581, we find that teachers' salaries rose much more rapidly than per capita income in the earlier period (294 vs. 140 percent) and more slowly in the later period (105 vs. 155 percent). Trends in the salaries of

⁵¹Table 13, and NEA Research Bulletin, Dec. 1949.

⁵²Simon Kuznets, *National Product since 1869* (NBER, 1946), Tables II-16, 17; *Survey of Current Business*, Feb. 1950. Kuznets' figures are for national product; in 1929-38 they average \$486 per capita whereas Department of Commerce data for national income average \$488.

public school and college teachers are compared in more detail in Part Two.

The average salary of school teachers is relatively meaningless unless compared with salaries or earnings in fairly similar occupations, and unfortunately there are few such occupations, and fewer with adequate data. The work of college teachers is similar in many respects, and we compare their absolute salaries also in Part Two. A sample from this comparison, given in Table 15, indicates that the salaries of college teachers have averaged about \$1,000 a year higher than those of public school teachers in the last two decades, and that the relative differential has been declining.

TABLE 15
Average Salaries of Urban Public School Teachers
and College Teachers

	URBAN PUBLIC SCHOOL TEACHERS	COLLEGE TEACHERS		URBAN PUBLIC SCHOOL TEACHERS	COLLEGE TEACHERS
1928	\$1,865	\$3,045	1940	\$1,955	\$2,886
1930	1,944	3,065	1942	2,013	2,892
1932	1,951	3,111	1944	2,215	3,282
1934	1,735		1946	2,545	3,429
1936	1,818	2,732	1947	2,731	3,705
1938	1,952	2,861	1948		4,098
			1949	3,368	4,217

Sources: Teachers' salaries, Table 13; 1947 and 1949 from NEA Research Bulletins, Feb. 1947 and April 1949.
College teachers' salaries, Table 29 and text.

The largest number of college trained women in the labor force, outside the schools, is found in office work, but college trained women form less than one-fourth of the total (Table 14). We may offset this difference in educational training in good part by comparing teachers' salaries with salaries of the highest paid occupation reported in the large study of office workers recently made by the Bureau of Labor Statistics (Table 16).⁵³ In these fourteen cities, teachers' salaries consistently exceeded the salary of hand bookkeepers, without any allowances for longer vacations, pensions, or security of tenure.

The rising trend of teachers' salaries since 1900 can be explained at least in part by the increasing proportion of teachers in high schools and by the lengthening of the school year. The higher standards of academic training and the increasing propor-

⁵³In an earlier study of office workers, it was reported that educational training had little influence on salaries; see Office Work in Philadelphia, 1940, U. S. Women's Bureau, Bulletin 188-5 (1942), p. 83.

TABLE 16
Salaries of Classroom Teachers and 52-week Salaries
of Women Hand Bookkeepers, 1949

CITY	TEACHERS	BOOKKEEPERS	CITY	TEACHERS	BOOKKEEPERS
Atlanta	\$2,632	\$2,600	New Orleans	\$3,204	\$2,366
Boston	3,756	2,470	New York	4,618	3,120
Chicago	4,061	2,886	Philadelphia	3,642	2,574
Cleveland	3,684	2,938	Portland, Ore.	3,353	3,120
Hartford	3,996	2,652	Richmond	3,110	2,626
Los Angeles	4,294	3,250	Seattle	3,734	2,886
Minn.-St. Paul	3,847	2,340	St. Louis	3,533	2,392

Sources: Teachers' salaries, average of kindergarten, elementary, junior high school and high school teachers; NEA Special Salary Tabulations, 1-A, April 1949.

Office workers' salaries, Salaries of Office Workers in Large Cities, 1949 (BLS, Bulletins 960-1, 960-2, 960-3, 1949). Salaries are for January, February, or March 1949.

Hand bookkeeper "keeps a set of books for recording business transactions..."

tion of teachers in large cities may also have contributed to this result, although similar changes took place in the working population as a whole. As to the markedly higher salaries of teachers than of office workers we do not possess sufficient information to estimate the individual importance of factors such as differences in ability, relative social advantages of the two kinds of work, and differing determinants of salaries in private and public employment.