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Volume Author/Editor: Moses Abramovitz and Vera F. Eliasberg

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IN GREAT BRITAIN AND THE UNITED STATES, 1900-1950

Chapter Author: Moses Abramovitz, Vera F. Eliasberg

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CHAPTER 7

COMPARISON OF GOVERNMENT
EMPLOYMENT IN GREAT BRITAIN AND
THE UNITED STATES, 1900-1950

THIS chapter makes use of the data furnished by Solomon Fabricant¹ for the United States to make certain comparisons between the levels and trends of government employment in this country and in Britain. The purpose of the comparison is rather narrowly descriptive, because a serious attempt to explain the differences we observe would raise questions too far-reaching for the present study. Nevertheless, by way of affording perspective at various points, we introduce measures related to government employment that we believe are of significance in comparisons of governmental activity in two or more countries, for example, measures of population, labor force, national income and urbanization.

It should also be remembered that, since our figures concern only one type of resource—namely, labor expressed in terms of numbers of employees—they cannot tell us much about differences in the output of government services in the two countries. Equal numbers employed at a given time do not mean equal output, for output depends also on the amount and quality of capital equipment, on efficiency in organization, on the effort and skill of the workers, and on the number of hours they work. Similarly, parallel trends in the numbers employed do not mean parallel trends in output because the trends of changes in labor productivity may have been dissimilar.²

As to hours of work, the evidence suggests that, at least so far as the central governments of the two countries are concerned, the work week in Great Britain was about the same as or a little shorter than in this country near the beginning of the century. In the United States it has since then probably become somewhat

¹ Solomon Fabricant, *The Trend of Government Activity in the United States since 1900*, National Bureau of Economic Research, 1952.

² Fabricant has described the numerous ways in which the productivity of an hour of government labor time has been raised in the last half-century in the United States by the introduction of a larger volume of capital equipment and by an increase in its efficiency (*op. cit.*, Chap. 5). There has been a similar development in Britain, but measurement of the change in output per man-hour is not practicable in either country.

shorter. In Great Britain, on the other hand, it is now longer than around 1900 and longer than in this country.³

³ For the United States, Fabricant notes that while the average reduction in hours of labor between 1900 and 1940 was between 20 and 30 per cent, it is doubtful that the reduction for government employees was nearly so large. He cites the facts that some government workers—soldiers and sailors, for example—have no fixed hours, that the average public school year was lengthened, that the regular work week of federal employees in the District of Columbia has changed but little from the 39 hours that prevailed in 1900-1903. Although there is evidence of a reduction of hours in most government posts since 1900, Fabricant doubts that the decline can have been as great as the 20 or 30 per cent characteristic of private industry (*op. cit.*, pp. 84-85).

In Great Britain there have been but few changes in nominal working hours of central government employees. In 1890 a 42-hour week was prescribed for the clerical grades generally. This involved a 7-hour day for 6 days a week, but included a lunch interval of unspecified length. Some departments, however, had already begun to grant a Saturday half-holiday in alternate weeks. This was made general by an Order in Council of January 1910. With allowance for lunch and half-holidays, the standard work week was therefore in the neighborhood of 36 hours early in the century. The actual work week, however, was always longer in the provinces and usually longer for most London employees.

During World War I, 51 hours per week were worked, but in 1920 the Civil Service National Whitley Council agreed on a week of 42 hours, including lunch, in London and of 44 in the provinces, to be worked in 5½ days. This standard became effective somewhat later and remained in force until World War II.

Beginning May 1941, hours were increased to 51 per week, and many grades worked these hours through the war without overtime pay. In July 1945 the Treasury asked the Departments to aim at a 48-hour standard week, and in February 1947 it was agreed that the standard week should be reduced from 48 to 45½ hours, to be worked in 5½ days. These hours were still generally in effect at the beginning of 1954 (see *Introductory Memoranda Relating to the Civil Service*, submitted by the Treasury, to the Royal Commission on the Civil Service, Appendix I to Part I of Minutes of Evidence, 1930, pp. 34 and 37-42; *The Whitley Bulletin*, January 1953, and May 1954; and G. Routh, "Civil Service Pay, 1875 to 1950," *Economica*, August 1954).

In addition to the number of hours for which civil servants are in attendance there is a question concerning the pace of work. In Great Britain at any rate there is a suggestion that this has grown more intense. Mr. Guy Routh writes: "There is evidence to suggest that, within the prescribed hours, some departments once afforded ample time for recreation, literary work or simple meditation, but that others, in particular the Post Office, demanded a good deal of application from their servants. In some offices, most of the work seems to have been left to the lowest-paid and least secure members of the staff.

"As in so many walks of British life, the first world war marked the end of a broader and more leisurely era. It is probable that the number of literary and scientific works privately produced at Treasury expense has declined radically and that the modern Civil Servant has to put in a good deal more effort than his Victorian counterpart in exchange for his pay" (*op. cit.*, p. 203).

Our employment figures, moreover, do not furnish an exact comparison of the total quantity of labor absorbed in the production of government service, for they do not measure the number of workers employed indirectly by government as a result of government purchases of goods and services from private industry. Strictly speaking, therefore, our figures indicate only the comparative number of workers directly in the employ of governmental agencies. Presumably these figures give some indications of the total absorption of labor, direct and indirect, by the two governments and of the output of government services. But we cannot tell how reliable these indications are until more comprehensive measurements of government activity in Britain, such as are afforded by data on total expenditure, are available.⁴

Comparability of the Data

Table 10 presents a summary view of the development of government employment in the two countries. The figures in the table reduce the available information to a form which is as comparable for the two countries as we could make it and which affords as much comparable detail as the sources permit. Some differences in the meaning of the figures remain, however. These are negligible for some categories, and we consider them of minor importance for the level and trends of the sum totals. But they are of considerable importance in particular sections of the table, and we try to allow for them where they seem important. The reader, of course, needs to know how the table is constructed in order to form an opinion about the reliability of the comparisons we make. Detailed descriptions of the British figures are provided in the appendix notes to Table 10 and in other tables in this volume from which the data were drawn. The derivation of the American figures is described in detail in the appendixes to Fabricant's volume, as specified in the notes to Table 10.

With some exceptions, we tried to prepare a table which would show for both countries the number of employed persons whose principal occupation was in government or in a government-owned corporation or enterprise. Workers engaged in emergency work relief programs have been excluded, a decision which significantly affects only the 1940 figures for the United States. We have also excluded the employees of nationalized industries

⁴ See Chapter 1, note 1, on work by Alan Peacock.

TABLE 10

Total Government Full-Time and Part-Time Employment, and Distribution among Main Types of Government Unit,
in Great Britain and the United States, Selected Years, 1900-1950

	U.S. 1900	G.B. 1901	U.S. 1910	G.B. 1911	U.S. 1920	G.B. 1921	U.S. 1930	G.B. 1931	U.S. 1940	G.B. 1938	U.S. 1950	G.B. 1950
	Thousands of Persons											
Federal—U.S.; central—C.B.	312	583	485	614	957	983	820	777	1,532	966	3,526	1,792
National defense	166	458	198	389	581	580	364	419	788	562	2,430	1,085
Armed forces	126	423	140	343	344	475	266	354	532	385	1,673	690
Other defense	40	35	58	46	237	105	98	65	256	177	757	395
Non-defense	146	125	287	225	376	403	456	358	744	404	1,096	707
Post Offices ^a	89	85	163	142	195	211	241	223	255	252	354	331
Other	57	40	124	83	181	192	215	135	489	152	742	376
State and local—U.S.; local—C.B.	963	375	1,385	660	1,888	976	2,787	1,153	3,317	1,273	4,054	1,422
School	483	150	596	214	835	257	1,150	273	1,273	275	1,488	330
Non-school	480	225	789	446	1,053	719	1,637	880	2,044	998	2,566	1,092
Total non-defense	1,109	500	1,672	885	2,264	1,379	3,243	1,511	4,061	1,677	5,150	2,129
Total government employment	1,275	958	1,870	1,274	2,845	1,959	3,607	1,930	4,849	2,239	7,580	3,214
	Per Cent of Total Government Employment											
Federal—U.S.; central—C.B.	24.5	60.9	25.9	48.2	33.6	50.2	22.7	40.3	31.6	43.1	46.5	55.8
National defense	13.0	47.8	10.6	30.5	20.4	29.6	10.1	21.7	16.3	25.1	32.1	33.8
Armed forces	9.9	44.2	7.5	26.9	12.1	24.2	7.4	18.3	11.0	17.2	22.1	21.5
Other defense	3.1	3.6	3.1	3.6	8.3	5.4	2.7	3.4	5.3	7.9	10.0	12.3
Non-defense	11.5	13.0	15.3	17.7	13.2	20.6	12.6	18.5	15.3	18.0	14.5	22.0
Post Offices ^a	7.0	8.9	8.7	11.1	6.9	10.8	6.7	11.5	5.3	11.3	4.7	10.3
Other	4.5	4.2	6.6	6.5	6.4	9.8	6.0	7.0	10.1	6.8	9.8	11.7
State and local—U.S.; local—C.B.	75.5	39.1	74.1	51.8	66.4	49.8	77.3	59.7	68.4	56.9	53.5	44.2
School	37.9	15.6	31.9	16.8	29.4	13.1	31.9	14.1	26.3	12.3	19.6	10.3
Non-school	37.6	23.5	42.2	35.0	37.0	36.7	45.4	45.6	42.1	44.6	33.9	34.0
Total non-defense	87.0	52.2	89.4	69.5	79.6	70.4	89.9	78.3	83.7	74.9	67.9	66.2
Total government employment	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(continued on next page)

TABLE 10 (continued)

	U.S. 1900	G.B. 1901	U.S. 1910	G.B. 1911	U.S. 1920	G.B. 1921	U.S. 1930	G.B. 1931	U.S. 1940	G.B. 1938	U.S. 1950	G.B. 1950
Federal—U.S.; central—G.B.	1.1	3.5	1.4	3.3	2.4	5.0	1.8	4.1	3.2	4.7	5.7	7.9
National defense	0.6	2.8	0.6	2.1	1.4	3.0	0.8	2.2	1.6	2.7	3.9	4.8
Armed forces	0.5	2.5	0.4	1.9	0.8	2.4	0.6	1.9	1.1	1.9	2.7	3.0
Other defense	0.1	0.2	0.2	0.2	0.6	0.5	0.2	0.3	0.5	0.9	1.2	1.7
Non-defense	0.5	0.8	0.8	1.2	0.9	2.1	1.0	1.9	1.5	2.0	1.8	3.1
Post Offices ^a	0.3	0.5	0.5	0.8	0.5	1.1	0.5	1.2	0.5	1.2	0.6	1.5
Other	0.2	0.2	0.3	0.4	0.4	1.0	0.5	0.7	1.0	0.7	1.2	1.6
State and local—U.S.; local—G.B.	3.6	2.3	3.9	3.6	4.7	5.0	6.2	6.2	6.9	6.2	6.6	6.2
School	1.8	0.9	1.7	1.2	2.1	1.3	2.6	1.5	2.6	1.3	2.4	1.4
Non-school	1.8	1.4	2.2	2.4	2.6	3.7	3.6	4.7	4.3	4.9	4.2	4.8
Total non-defense	4.1	3.0	4.7	4.8	5.6	7.0	7.2	8.1	8.5	8.1	8.4	9.8
Total government employment	4.7	5.8	5.2	6.9	7.1	10.0	8.0	10.3	10.1	10.9	12.3	14.1

^a Estimated full-time equivalent numbers, rather than part-time, are given.

^b As a percentage of the total labor force, Great Britain, 1901-1921.

in Great Britain in 1950 on the grounds that these represent a peculiar group of huge proportions. To offset this omission we take account of these workers at various points in the discussion below.

The United States and British figures are drawn from different kinds of sources and are not equally reliable. Most of the United States data depend on the payrolls of federal government departments and local authorities. Most of the British data, on the other hand, are of Census origin. Our treatment of unemployed government workers is inconsistent, and the same is true of part-time workers. To be consistent would have driven us to use figures for the one or the other country which we think would have been less apt for the comparisons we wish to make than those included in our table.

Total Government Employment

If we leave the British nationalized industries out of account, aggregate government employment appears to have behaved in the two countries in much the same way over the last half-century (see Chart 7). It is true that the rate of increase, taken by itself, was greater in this country than in Britain. Total government employment in the United States in 1950 was nearly six times as great as in 1900. In Britain in 1950 it was only 3.4 times as large as in 1901. However, since population and labor force also rose more rapidly in this country, it is more meaningful to express government employment as a percentage of total employment. When we do so, the difference between the two countries becomes very small, at least so far as net change in the totals over the fifty years is concerned (see Chart 8). In 1900, total government employment in the United States was 4.7 per cent of total employment. The comparable British figure was 5.8 per cent.⁵ By 1950 the American government share in total employment was 12.3 per cent, the British share 14.1 per cent.⁶ These figures sug-

⁵ The British government figure for 1901 includes a small number of unemployed workers. It is therefore expressed as a percentage of the total labor force.

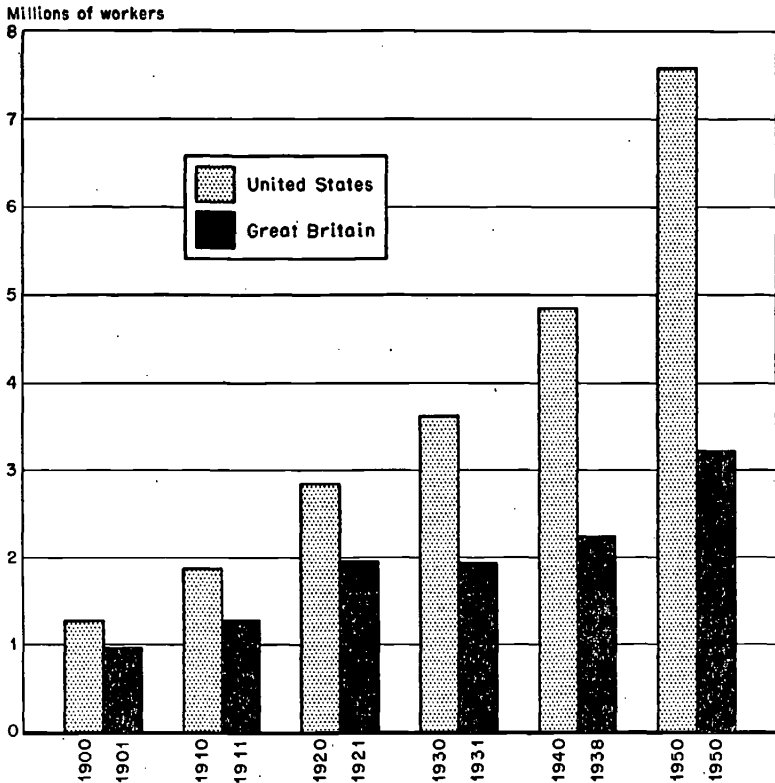
⁶ The British figures include part-time workers as full units. The United States figures do the same except for Post Office part-timers, who are reduced to an estimated full-time equivalent (see appendix notes to Table 10). In the United States the ratio of the full-time equivalent number to the figure in Table 10 was 0.91 in 1900 and 0.94 in 1949 (Fabricant, *op. cit.*, Appendix Tables B-13 and B-14). The comparable ratio for the non-in-

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CHART 7

Number of Government Workers in Great Britain and the United States, Selected Years, 1900-1950

(including military personnel; excluding nationalized industries in Great Britain and public emergency workers in the United States)



Source: Table 10.

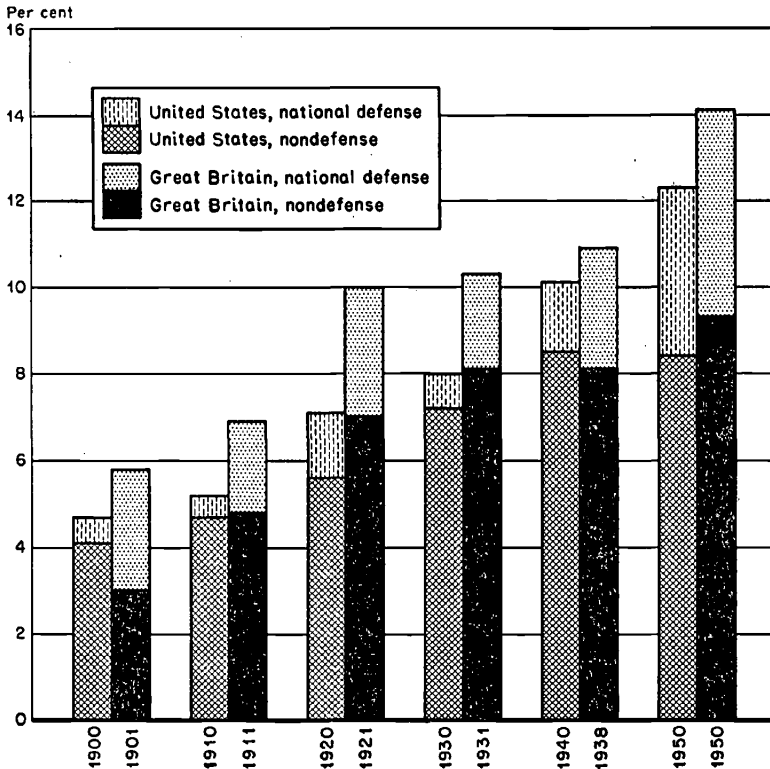
gest that the share of total employment absorbed by government in Great Britain was a little larger than in the United States but that these shares increased over the half-century in much the same way (see Chart 8). The American share was 81 per cent

dustrial civil service in Great Britain (central government only) in 1950 was 0.97 (*Annual Abstract of Statistics*, No. 88, Central Statistical Office, London, 1952, Table 133). We lack information about part-time work in Great Britain in 1901, but presumably most part-time workers are excluded in Census figures.

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CHART 8

Government Workers as a Percentage of All Employed Workers in Great Britain and the United States, Selected Years, 1900-1950 (excluding nationalized industries in Great Britain and public emergency workers in the United States)



Source: Table 10.

of the British at the beginning of the century and 87 per cent of the British fifty years later.

This apparent similarity in the level and growth of government employment in the two countries is subject to certain qualifications. To begin with, the difference between the two countries is more distinct if we relate the number of government workers to population rather than to labor force or total employment. If we think of the ratio of government to total employment as one measure of resources absorbed, we may think of the ratio of gov-

ernment workers to population as one measure of services provided. Population, labor force, and employment are, of course, closely correlated, but demographic and other influences have combined to keep labor force and employment in the United States lower in comparison with population than has been the case in Great Britain. In 1900, therefore, government employment per head of the population in the United States was only some 65 per cent of the comparable British ratio (see Table 11). On the other hand, employment in the United States grew compared with population at a somewhat faster pace than in Britain. The faster growth of employment relative to population in the United States, of course, kept the share of government in total employment from advancing much faster in this country than in Britain. Expressed per head of the population, however, government employment here rose from 65 to 77 per cent of the comparable British figure.

We must also consider the fact that our figures in Table 10 do not include the nationalized industries in Great Britain. Although this omission is appropriate for many purposes, it may be inappropriate for some. The United States figures include the employees of a number of government-owned trading enterprises engaged in production, trade, or finance, many of them organized as public corporations. Fabricant lists 42 such enterprises owned by the federal government, running from the Alaska Railroad Company to the Rural Electrification Administration. In addition, a host of commercial activities, particularly public utilities, are carried on by local governments. These numerous agencies, however, accounted for only a small fraction of government employment.⁷

If we include all the British nationalized industries, total public

⁷ *Op. cit.*, p. 106, note. Employment in the public enterprises of the federal government, excluding the Post Office, was approximately 100,000 in 1950; in enterprises owned by state and local governments it was about 250,000. Approximately 50,000 of the latter group worked in industries not nationalized in Great Britain, such as water supply. These workers are, therefore, still included in our British local government figures, while those of electricity and gas works are not. (For employment in U.S. federal enterprises see *Statistical Abstract*, 1951, p. 187, and letters from the Department of Labor to the National Bureau of Economic Research, April 5 and July 21, 1954; in state and local enterprises see *National Income Supplement*, 1954, *Survey of Current Business*, Dept. of Commerce, Table 26. The total of full- and part-time workers in the state and local category, shown for 1950, is 258,000.)

TABLE 11
 Population and the Number of Government Employees per 100 Persons in Great Britain
 and in the United States, Selected Years, 1900-1950

U.S.	DATES	G.B.	POPULATION (MILLIONS)		GOVERNMENT EMPLOYEES PER 100 PERSONS		GOVERNMENT EMPLOYEES, EXCLUDING NATIONAL DEFENSE, PER 100 PERSONS	
			U.S.	G.B.	U.S.	G.B.	U.S.	G.B.
1900	1901		76.1	37.3	1.68	2.57	1.46	1.84
1910	1911		92.4	41.0	2.02	3.11	1.81	2.16
1920	1921		106.5	43.0	2.67	4.56	2.13	3.21
1930	1931		123.2	44.8	2.93	4.31	2.63	3.37
1940	1938		132.1	46.2	3.67	4.85	3.07	3.63
1950	1950		151.7	49.2	5.00	6.53	3.39	4.33

employment accounted for nearly 25 per cent of total employment in 1950. If we merely add the approximately 418,000 workers in the British nationalized industries who worked for local authority enterprises and institutions before nationalization, the British share of public in total employment becomes 15.9 per cent in 1950. The American share is 77 per cent of that figure. Since it was 81 per cent of the British share at the beginning of the century, it would seem that only if we take account of the bulk of British nationalized enterprises is there evidence that the British government's absorption of labor grew much in the last half-century relative to that of the American government.

The timing of government expansion was also similar in the two countries when measured by percentage changes in the numbers employed by government. In both countries government employment rose at a rapid pace during the first two decades of the century. In the 1920's, after the explosive growth during World War I, the pace of expansion moderated. In the 1930's it was again more rapid in both countries, and it accelerated in the 1940's.

However, the British government absorbed a larger share of additions to the labor force than the United States government over the first half of this century. Between 1900 and 1950, total employment in the United States increased by 34.6 million workers. The rise in government employment was 6.3 million or 18 per cent of the total increase. In Britain, approximately 7.5 million workers were added to total employment, and of these government absorbed 2.25 million or some 30 per cent. In these terms the British government work force grew more rapidly than the American in the first two decades of the century. During the 1920's, and still more during the New Deal 1930's, United States government employment rose more rapidly than British. The British moved ahead again between the beginning of World War II and 1950. During this last period, it may be noted, the American government work force rose 56 per cent, the British 44 per cent. Total employment in the United States, however, increased by 28 per cent, in Great Britain by only 10 per cent.⁸ It was the exceptionally rapid growth of total employment in the United States which caused the share absorbed by the govern-

⁸ This represents the increase from 1938 to 1950 in Great Britain and from 1940 to 1950 in the United States. On a strictly comparable basis, therefore, the rate of growth was still greater in the United States.

ment of this country to increase more slowly than in Great Britain.

The over-all similarity in the size and rate of expansion of government employment in the two countries also hides important differences in the structure of the government work force and in the rapidity with which its various parts have grown. The distribution of employment between the central government and the local authorities and among the various governmental activities in Great Britain differs from that in this country, and in both respects changes have occurred at a different rate.

Distribution of Employment by Level of Government

At the beginning of the century, government employment in the United States was concentrated at the state and local levels. In Great Britain, on the other hand, the central government employed more persons than the localities (see Table 10). From one decade to another the shares of the central governments fluctuated, but in 1950 total government employment in both Britain and the United States was fairly evenly divided between the center and the localities (including the states in this country).

The differences in the importance of central government in 1900 and the changes over time have been due mainly to the difference between the two countries in the importance of defense employment and to the fluctuations in the volume of such employment between decades. The relative importance of the United States federal government grew between the beginning and middle of the century chiefly because of the great expansion of our armed forces and other defense employment in recent years. In Great Britain the small relative decline in the importance of central government was almost wholly due to the fact that defense employment expanded more slowly than did other types of government employment (compare Charts 9 and 10).

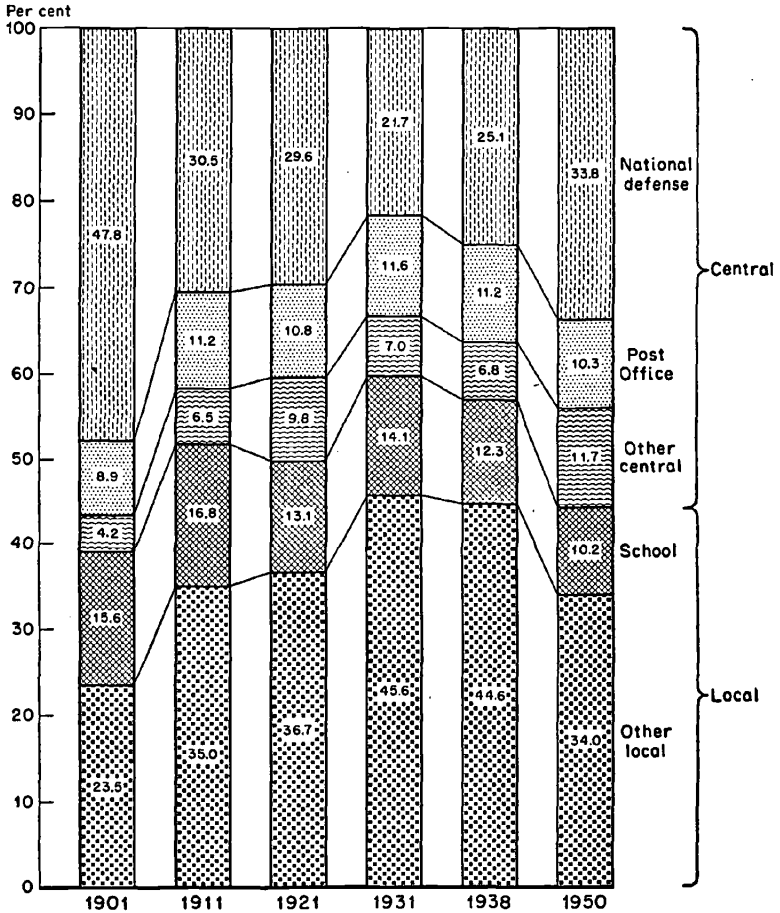
If we eliminate defense employment and calculate the shares of the central government in non-defense employment, the difference between the two countries is far less marked (see Table 12). So restricted, the central government in both countries was a smaller employer than local governments. Moreover, a good part of the remaining difference reflects the greater importance of the Post Office as an employer in Great Britain.⁹

⁹ See the section on the Post Office, below.

GREAT BRITAIN AND THE UNITED STATES

CHART 9

Percentage Distribution of All Government Workers among Main Types of Governmental Unit in Great Britain, Selected Years, 1901-1950



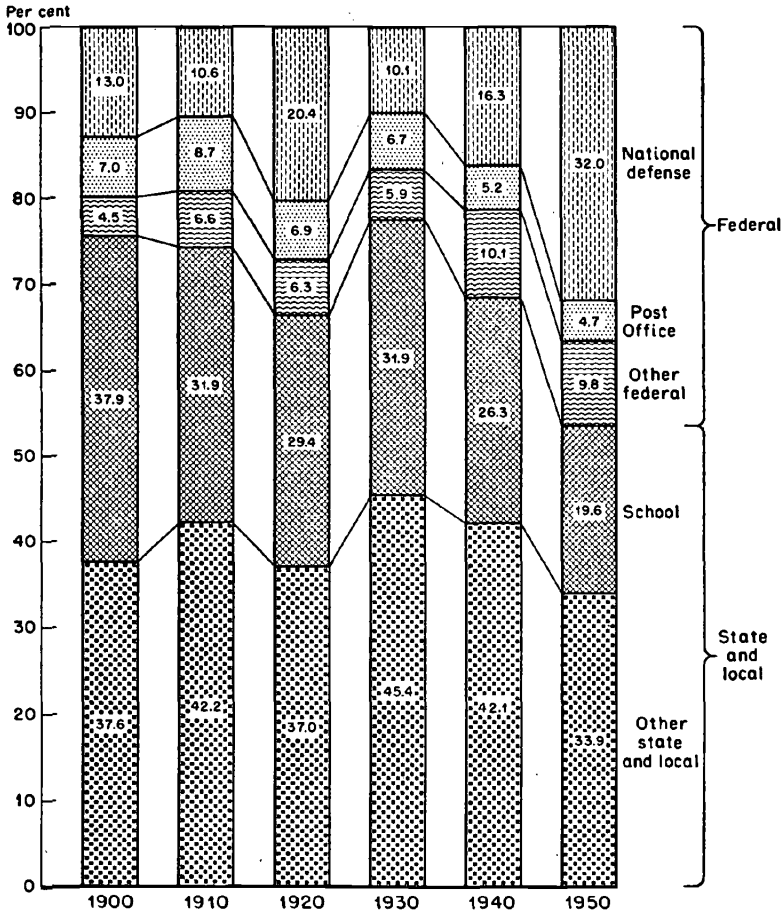
Source: Table 10.

In both countries the substantial rise in the central government's share of total government employment for purposes other than defense occurred in relatively recent times. In the United States the federal share was not much higher in 1930 than in 1900. In Great Britain it was about the same in 1938 as at the beginning of the century. Since those dates, however, the importance of the central government has grown markedly in both

GREAT BRITAIN AND THE UNITED STATES

CHART 10

Percentage Distribution of All Government Workers among Main Types of Governmental Unit in the United States, Selected Years, 1900-1950



Source: Table 10.

countries. And the reasons were generally similar. The central government's economic activities as regulator or producer were greatly expanded, and its participation in social welfare activities augmented. In part this represented the establishment of new functions or the enlargement of old central government activities. In part it represented the assumption by the central government of functions previously handled by the local authorities. In addi-

TABLE 12
Share of Central Government in Total Government Employment in Great Britain
and in the United States, Selected Years, 1900-1950
(per cent)

DATES	TOTAL CENTRAL IN TOTAL GOVERNMENT EMPLOYMENT		CENTRAL NON-DEFENSE IN TOTAL NON-DEFENSE GOVERNMENT EMPLOYMENT		CENTRAL NON-DEFENSE, EXCLUDING POST OFFICE, IN TOTAL NON-DEFENSE GOVERNMENT EMPLOYMENT EXCLUDING POST OFFICE	
	U.S.	G.B.	U.S.	G.B.	U.S.	G.B.
1900	24.5	60.9	13.2	25.0	5.6	9.6
1910	25.9	48.2	17.2	25.4	8.2	11.2
1920	33.6	50.2	16.6	29.2	8.7	16.4
1930	22.7	40.3	14.1	23.7	7.2	10.5
1940	31.6	43.1	18.3	24.1	12.8	10.7
1950	46.5	55.8	21.3	33.2	15.5	20.9

tion, the share of the British local governments was reduced in recent years by the transfer of more than 400,000 workers to nationalized industries.¹⁰

Growth of Employment by Function

While there is much interest in the over-all magnitude of government employment and in its division among the various levels of government, controversy centers chiefly around the state's assumption of unfamiliar duties. To throw some light on the comparative experience of the two countries, we must examine employment by function. This investigation will also illuminate some of the reasons for the great growth of total government employment in the two countries. And since some functions are performed largely by the central governments and others by the local authorities or states, it should also help us understand the distribution of employment among the different levels of government.

Our data enable us to separate the armed forces and other defense workers, the Post Office, and the public schools from the remainder of employment by the central and local governments. The categories we can distinguish are relatively old and well-accepted areas of government activity. The residual employment, both central and local, is a mixed bag. It contains some of the ancient as well as the newer functions. Apart from defense activity the latter account for its great expansion in recent years, so that in an important sense it is around the undefined residual that interest especially revolves. We begin, however, with a discussion of the functions which can be detached from this residual.

NATIONAL DEFENSE

In 1900, United States armed forces were still very small. Although our total government employment was, in absolute numbers, over 30 per cent larger than Britain's at that time, her armed forces were over three times the size of ours. Ours included only 10 per cent of the government work force and only one-half of 1 per cent of all workers employed. Britain's Army and Navy enrolled 44 per cent of government workers and 2.5 per cent of her whole labor force.¹¹

¹⁰ See Chapters 4-6, above.

¹¹ In the years compared, both countries maintained forces considerably larger than they had done a few years earlier. The United States had already

Britain, however, was near the summit of her power at the turn of the century, while this country was only beginning to be drawn into a chronic state of international conflict. Our armed forces have, therefore, grown far more rapidly than Britain's. Ours were twelve times larger in 1950 than in 1900, Britain's only 60 per cent larger. The share of our armed forces in government employment rose to 22 per cent, that of Britain's forces fell to the same figure.¹²

We must remember, however, that a large number of civilian employees in both countries are engaged in national defense either as officials and clerks in the service departments or as workers in government-owned munitions establishments, naval shipyards, and the like. The number of these workers rose rapidly in both countries, but, compared with the size of the armed forces, the expansion was far more rapid in Great Britain than in the United States. The relative growth of the civilian element devoted to British defense, therefore, somewhat offsets the slower increase in her armed forces.¹³

The more significant contrast is between all defense personnel, uniformed or civilian, and all non-defense personnel. At the beginning of the century, the total number of defense workers employed by the British government was 2.8 times the number in this country. Such work absorbed 2.8 per cent of the labor force in Britain against only 0.6 per cent in the United States. By 1950, however, government defense workers in the United States had become 2.2 times as numerous as in Britain. They absorbed 3.9 per cent of our total employment against 4.8 per cent in Great Britain.

It emerges, therefore, that although total government employ-

emerged from the Spanish-American War, but the military establishment was not cut back to pre-war size. Before the war our forces included some 40,000 men; in 1898 we had 184,000; in 1900, 126,000. The British in 1901 were still engaged with the Boers, and Britain's Army and Navy totaled 423,000 compared with 249,000 in 1891. The difference between British and American forces would therefore have been still greater had our comparisons been pushed back to the early 1890's.

¹² After 1950, both countries again expanded their uniformed personnel. Ours more than doubled, standing at nearly 3.5 million at the end of 1953. Britain's had increased to 866,000 by the middle of 1953.

¹³ In 1900 the figures suggest that there were 3.1 soldiers and sailors for each United States civilian government worker engaged in defense. According to our very shaky guess, the British ratio for 1901 was 12 to 1. Obviously, the precise figures for the early years are not to be depended on. By 1950 the United States ratio had become 2.2 to 1, the British ratio 1.7 to 1.

ment in Great Britain absorbed a larger proportion of the labor force in 1900 than was true in this country, non-defense services absorbed a decidedly smaller share in Britain than in the United States—in the ratio of 3 to 4. By 1950 the position was reversed. In the United States, government employment for non-defense purposes was 8.4 per cent of total employment. In Britain it was 9.3 per cent. Expressed per head of the population, the number of government workers in the United States fell from 109 to 78 per cent of the comparable British ratio (see Table 11). Moreover, the British share would be larger if we added the workers transferred from local authorities to nationalized industries.

This change indicates a considerable net expansion of government non-defense employment in Britain relative to the United States. But if we exclude the nationalized industries there is little in the figures to show that the difference may not be temporary. The British share increased relative to the American from 1900 to 1920. The United States share increased relative to the British from 1920 to the end of the 1930's, and just before World War II it exceeded the British share. The final relative rise in Britain was achieved only during the 1940's. During this last period, moreover, the governmental non-defense staffs of both countries increased at the same rate—27 per cent.¹⁴ But the exceptionally large rise in total United States employment kept the ratio of the government non-defense work force stable in this country while the British ratio rose.

THE POST OFFICE

In both the United States and Great Britain, the post office has been a substantial employer. In this country it has accounted for something between 5 and 7 per cent of total government employment in this century, while in Britain the post office share has been between 9 and 11 per cent. In both countries it accounted for more than half of the non-defense staff of the central government until relatively recently.

There have, however, been significant differences between the two countries as regards the size and growth of their post office staffs. By comparison with its total labor force, the British staff has been substantially larger than the American. An important part of the explanation is that the British Post Office includes the

¹⁴ This again covers the period from the last pre-World War II years: 1938-1950 in Britain, 1940-1950 in the United States.

country's telephone and telegraph service while the American does not.¹⁵ To measure the effect of this difference in scope, one could, in principle, either raise the American or lower the British figures by the number of telephone and telegraph workers in the given country. In fact, only the first adjustment is possible, for a large number of British Post Office personnel attend both to postal and telegraph business, and the Post Office reports do not allocate their services. Table 13 compares the share of the British Post Office in total employment with that of the United States Post Office, unadjusted and after adjustments to include telephone and telegraph workers. The adjusted figures for the United States give us, in effect, a post office of British scope.

These figures permit us to say unambiguously that the United States communications industry made a larger direct drain on manpower than did the British. United States employment in communications was much larger in absolute numbers and somewhat larger relative to total employment. But we cannot say with assurance that, relative to total employment, the staff of the United States postal service proper was larger or smaller than that of the British postal service proper. We can say that telephone and telegraph employment in the United States increased more rapidly than did postal employment proper (see Table 13). It seems very likely that this was also true in Great Britain. If so, it helps account for the fact that the share of the British Post Office in total employment rose faster than did the share of the United States Post Office. We must remember, however, that the difference in the scope of functions of the post offices of the two countries is not the only difference between them. There are also differences in their load of work due in part to the radically different economic geography of the countries and to the size and composition of their output. And there are differences in service, mechanization, organization, and labor efficiency which we are in no position to measure.

EDUCATION

Employment in public educational institutions accounts for a large identifiable block of workers under the jurisdiction of local government in both countries. Table 10 suggests that such work

¹⁵ The British Post Office did not finally absorb the private National Telephone Company until 1912, but before that it was responsible both for telegraph service and for long-distance telephone service.

TABLE 13
 British and American Post Office Staffs, and American Telephone and Telegraph Workers,
 Selected Years, 1900-1950

U.S.	C.B.	THOUSANDS OF WORKERS				PER CENT OF TOTAL EMPLOYMENT ^b			
		United States		Great Britain		United States		Great Britain	
		Post Office	Telephone & Telegraph Industries	Post Office & Tel. & Tel. Industries Combined	Great Britain	Post Office	Post Office & Tel. & Tel. Industries Combined	Post Office	Post Office & Tel. & Tel. Industries Combined
1900 ^a	1901	89	106	195	85	0.3	0.7	0.5	0.5
1910 ^a	1911	163	221	384	142	0.5	1.1	0.8	0.8
1920 ^a	1921	195	359	554	211	0.5	1.4	1.1	1.1
1930	1931	241	432	673	223	0.5	1.5	1.2	1.2
1940	1938	255	364	619	252	0.5	1.3	1.2	1.2
1950	1950	354	605	959	331	0.6	1.6	1.5	1.5

^a Figures for United States telephone and telegraph industries represent employment in 1902, 1912, and 1922.

^b As a percentage of the working population in Great Britain, 1901-1921.

has consistently absorbed a larger share of total employment in the United States than in Great Britain. The American share was almost twice the British in 1900; it was still two-thirds greater in 1950. These results are, in some respects, in accord with our expectations, since it is well known that public education was far better developed by 1900 in the United States than it was in Britain. However, public education has been greatly expanded in Britain in this century, and might have been expected to require a comparable share of the labor force.

Government's demand for teaching manpower depends, of course, on a wider range of considerations than the phrase "the development of public education" suggests. The portion of total employment absorbed by public education is determined by the following relations:

- The ratio of the school-age population to the total number of employed persons
- The ratio of the number attending school to the school-age population
- The ratio of public to private school attendance
- The ratio of teachers and others employed in public education to the number of students

It must not be supposed that these measures are completely independent of one another. There is, for example, much flexibility in the number of students who can be taught by a single teacher. An increase in the number attending school may be offset by a decline in the teacher-student ratio. Nevertheless, our understanding can be improved by a consideration of the ratios just described or measures closely approaching them. The relevant figures are summarized in Table 14.

In 1900, persons occupied with public education in the United States comprised 1.8 per cent of all persons employed. In Great Britain, grant-aided schools absorbed slightly less than 1 per cent of total employment.¹⁶ In part this difference was due to the fact that in the United States a larger proportion of children between the ages of 5 and 18 were actually attending government-supported schools. The British ratio was only 82 per cent of the American. The difference was largely on the level of the elementary school, but not entirely so. Public secondary educa-

¹⁶ This refers to the situation after the passing of the Education Act of 1902 which put teachers of voluntary schools on the payrolls of the local education authorities.

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TABLE 14
Measures Bearing on the Use of Manpower for Education,
Great Britain and United States, 1900 and 1950

	U.S. 1900	G.B. 1901	U.S. 1950	G.B. 1950
1. Total public employment in education (thousands)	483	150	1,488	330
2. Teachers in full-time public schools (thousands)				
Elementary and secondary	423	138 ^a	914	238
Colleges and universities	n.a.	n.a.	106	8 ^b
Total			1,020	246 ^b
3. Total employment (thousands)	26,984	15,400 ^c	61,630	22,787
4. Ratio of total employment in public education to total employment (per cent)	1.79	0.97	2.41	1.45
5. Ratio of teachers in public elementary and secondary schools to total employment (per cent)	1.57	0.90	1.48	1.04
6. Ratio of teachers in full-time public schools to total public employment in education (per cent)				
Elementary and secondary	87.6	92.0	61.4	72.1
Total	n.a.	n.a.	68.5	74.5
7. Population of school age (thousands)				
Ages 5-14	16,954	7,791	24,410	6,713
15-18	6,118	2,962	8,486	2,562
5-18	23,072	10,753	32,896	9,275
19-22	5,883	2,873	8,911	2,711
8. Enrolled students, all regular schools (thousands)				
Ages 5-14	16,262	n.a.	22,202	6,313
15-18 ^g	699	n.a.	6,427	311
5-18	16,961	n.a.	28,629	6,624
College and university	238	n.a.	2,659	103
9. Enrolled students, all regular public or grant-aided schools (thousands)				
Ages 5-14	14,984	5,907	19,404	6,157
15-18 ^g	519	18 ^d	5,707	266
5-18	15,503	5,925	25,111	6,423
College and university	n.a.	n.a.	1,355	n.a.
10. Ratio of school-age population to total employment (per cent)				
Ages 5-14	62.8	50.6	39.6	29.5
15-18 ^g	22.7	19.2	13.8	11.2
5-18	85.5	69.8	53.4	40.7
19-22	21.8	18.7	14.5	11.9

(continued on next page)

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TABLE 14 (continued)

	U.S. 1900	G.B. 1901	U.S. 1950	G.B. 1950
11. Ratio of students in government-supported schools to all students (per cent)				
Ages 5-14	92.1	n.a.	87.4	97.5
15-18 ^g	74.2	n.a.	88.8	85.5
5-18	91.4	n.a.	87.7	97.0
College and university	n.a.	n.a.	51.0	n.a.
12. Ratio of students in government-supported schools to school-age population (per cent)				
Ages 5-14	88.4	75.8	79.5	91.7
15-18 ^g	8.5	n.a.	67.3	10.4
5-18	67.2	55.1	76.3	69.3
19-22	n.a.	n.a.	15.2	n.a.
13. Ratio of teachers to students in government-supported schools				
Elementary and secondary schools	2.7	2.3 ^e	3.6	3.7
College and university	n.a.	n.a.	7.8	7.7 ^f
14. Ratio of total employment to total population (per cent)	35.5	41.3	40.6	46.3
15. Ratio of total employment to population 19 years and over (per cent)	61.5	69.1	60.1	63.7
16. Ratio of population 5 to 18 years to total population (per cent)	30.3	28.8	21.7	18.8

^a Includes 1,136 secondary school teachers in Scotland.

^b Includes teachers in private as well as public universities.

^c A crude estimate used in order to avoid comparing employment in teaching with the total labor force unadjusted for unemployment. For lack of a better basis, we assumed the ratio of unemployed to labor force was the same in Great Britain as in the United States. We think the error is probably smaller than that involved in using the unadjusted labor force figure.

^d Scotland only.

^e Cmd. 8244 (1951), Table 95, based on somewhat different data, gives figures equivalent to 2.1 per cent in 1901.

^f Ratio of full-time teaching staff to students in all universities.

^g The ages for attending high school in the United States are normally 14 through 17. But to avoid complicating the table, we have followed the British practice of splitting the school-age population into the two groups 5 to 14 and 15 to 18.

tion, virtually non-existent in Britain around 1900, was starting in the United States. Over 8 per cent of those between 15 and 18 were attending. Public higher education was also beginning in the United States. Some 4 per cent of those aged 19 to 22 were

enrolled in colleges and universities, many of these attending state institutions. Furthermore, the teacher-student ratio was lower in Britain. For the elementary and secondary schools it seems to have been only about 85 per cent of the United States figure.

However, these two factors—the ratio of students in government-supported schools to school-age population and the teacher-student ratio—together account for only two-thirds of the difference between the American and the British share of employment devoted to public education. So far as the data assembled in Table 14 can take us, the remainder of the difference is due to the lesser importance in Britain of the school-age population compared with total employment. In 1900 the ratio of the number of children aged 5 to 18 to all persons employed was only about 82 per cent as large as in the United States. These three factors together appear to account for virtually the entire difference in the relative importance of employment in public education in the two countries.¹⁷

The smaller ratio of children to total employment in Britain cannot be attributed to a smaller proportion of children of school age in the total population compared with the United States, for, at the beginning of the century, the school-age populations were almost equally important in both countries. The difference must instead be attributed to the fact that in the United States the ratio of total employment to total population was only 80 per cent as high as in Britain. Hence the school-age population was relatively small in Britain compared with total employment and its absorption of manpower for education correspondingly small.

This aspect of the matter is, of course, itself connected with

- ¹⁷ Let S_a = the ratio of students in government-supported elementary and secondary schools in America to population 5 to 18
 S_b = the same in Britain
 T_a = the teacher-student ratio in America
 T_b = the same in Britain
 C_a = the ratio of children 5 to 18 to total employment in America
 C_b = the same in Britain

$$\text{Then } \frac{S_b}{S_a} (= 0.82) \times \frac{T_b}{T_a} (= 0.85) \times \frac{C_b}{C_a} (= 0.82) = 0.57$$

According to the figures in Table 14, the British share of total employment devoted to public education was 54 per cent of the American share.

the relatively low proportion of children attending school in Great Britain in 1900. A child kept in school not only requires the services of teachers and others, but after a certain age is himself a loss to the labor force. The forces which made school attendance in Britain less frequent both reduced the demand for teachers and helped increase the number of persons at work. On both counts, therefore, they helped make the portion of total employment devoted to education lower in Britain than it was in this country. There were, of course, other factors that made the British labor force ratio in 1900 larger than the American, but an investigation of them would be beyond the reach of this study.¹⁸

Fifty years later, the share of total employment devoted to public education was larger in both countries. It had increased one-third in the United States and over one-half in Britain. The British share was 60 per cent of the American in 1950. This increase occurred in spite of the fact that the size of the school-age population declined markedly compared with total employment in both countries. The decline was somewhat greater in Britain and its causes were a little different in the two countries. Though school-age population declined compared with total population in both, the decline was somewhat greater in Britain. Total employment rose in both countries compared with population, but the rise was somewhat greater in the United States. One reason was that school attendance by children over 14 increased in both countries, but the rate of increase was greater in Britain, to the disadvantage of the work force.

In both countries the increased absorption of manpower by public education was due mainly to three factors: a rise in the rate of attendance at government-supported schools, a rise in the teacher-student ratio, and a rise in the ratio of non-teaching personnel to teachers.

With regard to the first matter, the experience in the two countries was somewhat different. The United States in 1900 was already putting virtually all children through a full course of elementary education.¹⁹ The rate of attendance at public ele-

¹⁸ It should be noted, moreover, that the bases of the estimates in 1900-1901 assembled in Table 14 are especially insecure. See also the appendix notes to Tables 10 and 14 for comments on the accuracy and comparability of the data.

¹⁹ In Table 14 the ratio for 1900 is only 88.4 for two reasons: first, ele-

mentary schools actually fell between 1900 and 1950 because of the relative expansion of private, mostly Roman Catholic, schools. On the other hand, there was a great growth of attendance in public high schools and in colleges and universities. In 1950, high school attendance was equal to 76 per cent of the boys and girls between 15 and 18, and nearly nine out of ten were in government-supported schools. In addition, three out of ten persons 19 to 22 years old were enrolled in colleges and universities, and state institutions provided for half of them.

In Britain both the elementary and the secondary schools gained. Elementary schooling was encouraged by a gradual rise in the school-leaving age; by government assumption of the maintenance expenditures of the voluntary schools; by the abolition of fees, which later was extended also to secondary schools; and by an expansion of facilities. Secondary school education was first made a responsibility of local authorities in 1902, so that the period of substantial secondary school growth has been confined to this century. But the expansion of secondary schooling and the increase in attendance at institutions of higher education have been much less than in the United States.

Both countries have raised their ratios of teachers to students over the century, and the British, who appear to have been considerably behind in 1900, may now employ even more teachers per 100 students than do this country's public elementary and secondary schools. A substantial portion of the increase of the work force attached to public educational institutions, however, appear to be due to the rapid expansion of the non-teaching staffs. For this category reliable and complete data appear to be virtually non-existent for the period around 1900, and even for the recent years we have to rely on rough estimates. According to our rather shaky figures the ratio of teachers to other personnel in public schools was approximately 90 per cent at the beginning of the century. By 1950 the non-teaching staffs appear to have increased to about 30 per cent of the total work force devoted to public education. In the United States their share was possibly even greater.²⁰

mentary education normally ends at 13, but in order to maintain comparability with British data we compare elementary school students with the population aged 5 to 14; second, a fraction of elementary school students attended private schools.

²⁰ See appendix notes to Table 14.

We also must remember the important development of public facilities for part-time education of young people and adults. But the lack of data does not permit us to trace the demand for manpower of this sector over a long period.²¹ It should be noted, however, that the expansion of teachers in these part-time schools, and that of non-teaching staffs generally, appears to account for the entire expansion of the ratio of public employment in education to total employment in the United States. In Great Britain the greater part of the expansion in the ratio is traceable to the same sources. Indeed, it appears that the group which comes first to one's mind if one speaks of the growth of public education—teachers in full-time elementary and secondary public schools—accounted for a smaller share of total employment in 1950 in the United States than it did at the beginning of the century, and for only a slightly larger share in Great Britain (Table 14, Item 5).

It need hardly be stressed that this review of numbers is but an introduction to a large subject. The measurements themselves are incomplete and insecure, especially for the early period. Moreover, the analysis of differences in the use of manpower for public education in the two countries permitted by our figures hardly takes us as far as we might wish to go. It cannot tell us, for example, why secondary schools reach a larger proportion of the teen-age population in the United States than in Britain, why the private elementary school has become so important in this country, or why there is such a great difference in facilities for higher education. We must, however, leave the matter at this point.

The Other Functions of Central and Local Government

After setting apart the portions of employment devoted to defense, to the post office, and to the schools, we come closest

²¹ In the United States in 1949-1950, 2.6 million persons were enrolled in adult education classes taught by 46,677 teachers. It is not specified whether the latter are part- or full-time (*Biennial Survey of Education, 1948-50*, Federal Security Agency, Chapter 2, Table 12). In the academic year 1949-1950, in England and Wales alone, there were 2.2 million persons registered in further education classes, and there were 17,078 full-time teachers in institutions for further education and special schools and 2,503 teachers in maintained and voluntary training colleges (*Education 1900-1950*, Report of the Ministry of Education for the year 1950, Cmd. 8244, 1951, Tables 33a and 51).

to those elements of government which rouse the sharpest concern at the present time. When people dispute about the scope of governmental activity and the most desirable boundary between the private and governmental spheres, they argue about functions included in this residual category. We are, unfortunately, unable to measure as closely as we should like the size of the area about which argument centers. We must be satisfied with comparing a miscellaneous group which combines some of the most ancient functions of government with its controversial incursions into economic regulation, social welfare, and the production of goods and services. This is awkward, but we may be confident that for Great Britain and the United States, the controversial functions are chiefly responsible for the expansion of the residual category in the last fifty years.²²

Our estimates suggest a development in the two countries since 1900 similar in its general aspects although different in degree and timing. The figures to which we have particular reference are set out for greater convenience in Table 15. Certain similarities between the two countries are striking. In 1900 almost all employment in this category was at the local (and state) level. In both countries the central governments—apart from defense and the Post Office—were extremely small. United States government employment, by virtue of a relatively large number of workers in the states and localities, exceeded that of the British government as a percentage of total employment. Whether the difference is really significant, however, in view of the shaky character of the estimates for this early year, is at least questionable. Between 1900 and 1950, government employment in both countries grew much more rapidly than did employment as a whole. It appears, indeed, that government employment in both countries grew more rapidly than did employment in any other major sector of the economy. The division of employment between central and local government suggests also a certain similarity in the functions undertaken. In the United States the major growth in the share of government was at the state and local level, until the Great Depression and the problems raised by World War II and its aftermath set in motion a significant relative increase in federal employment. Apart from the decade of World War I, the same trend is apparent in Great Britain.

²² See Chapters 4-6, above, for Great Britain, and Fabricant, *op. cit.*, Chap. 4, for the United States.

TABLE 15
 Government Employment excluding Defense, Post Office, and Education as a Percentage of Total Employment
 in Great Britain and the United States, Selected Years, 1900-1950

U.S. DATES	FEDERAL (U.S.) OR CENTRAL (G.B.) EXCLUDING DEFENSE AND POST OFFICE		STATE AND LOCAL (U.S.) OR LOCAL (G.B.) EXCLUDING EDUCATION		FEDERAL, STATE, AND LOCAL (U.S.) OR CENTRAL AND LOCAL (G.B.) EXCLUDING DEFENSE, POST OFFICE, AND EDUCATION	
	U.S.	G.B.	U.S.	G.B.	U.S.	G.B.
1900						
1910						
1920						
1930						
1940						
1950						
	1901 ^a	0.2	1.8	1.4	2.0	1.6
	1911 ^a	0.3	2.2	2.4	2.5	2.8
	1921 ^a	0.4	2.6	3.7	3.0	4.7
	1931	0.5	3.6	4.7	4.1	5.4
	1938	1.0	4.3	4.9	5.3	5.6
	1950	1.2	4.2	4.8	5.4	6.4

^a Number of workers attached to the British government expressed as a percentage of the working population in these columns.

Along with these general similarities there were also differences. The net increase between 1901 and 1950 in the share of employed labor absorbed by the residual category in Great Britain was somewhat greater than that in this country. While percentage increases calculated upon the small and faulty values for 1900 are bound to be in error, the figures indicate that the central government's share in Britain became more than eight times as large as it had been in 1900; in this country it became but six times as large. The local government share became nearly three and one-half times as large in Britain as it had been fifty years earlier; it became less than two and one-half times as large in this country.

The timing of change in terms of shares of total employment was also different in the two countries (Table 15, last two columns). The British government grew relatively more than the American in the first twenty years of this century, reflecting, among other things, the influence of the Liberal Governments before World War I and the effects of the war itself. The United States government grew relatively fast in the next twenty years—in the 1920's when state and local governments enjoyed the abounding revenues of great prosperity, in the 1930's when the Great Depression and the New Deal combined to produce a great expansion of the federal government. Meanwhile, the growth of the British government was constrained by a policy of strict economy.²³ By the end of the 1930's the modern functions of the United States central government accounted for a larger share of total employment than the British, and the United States share was not much smaller than the British when we combine central and local jurisdictions. It was therefore only the growth connected with World War II and the recent Labour era that gave British government the small margin it held in the early 1950's. A few years hence, the size of the controversial residual category of the central government relative to total employment may very well again be the same in the two countries, as at the beginning of the century.

Table 15 is of special interest, for it is presumably in this residual category, whose size and growth are heavily influenced by the newer activities of government, that the influences connected with industrialization and urbanization, with the level

²³ See Chapter 4, above.

of incomes, and with the evolution of political opinion, are most important. In earlier chapters we have suggested tentatively that a number of concomitants of the process of economic development in Great Britain during the last century or more were largely responsible for the expansion of the modern functions of government. The assembly of large numbers of people in cities, the growth of large-scale industry and its dependence on distant and unstable markets, the altered position of labor, the emergence of new types of monopoly, natural and otherwise, created problems difficult for private enterprise and the unregulated market to handle. The increase of incomes and the enlargement of the natural and social sciences, which were causes and consequences of economic development, provided government with the means for assuming new responsibilities. The growth in the political power of the working classes and of the collectivist policies they adopted to express their economic interests impelled the British government, after a time, to enlarge the scope of its activity. And problems were aggravated and the process hurried on by the effects of the great wars of this century, wars whose impact upon society was unprecedentedly great because of the level of economic development which Britain and other countries had attained.

The application of this thesis is hardly confined to Great Britain. Fabricant, for example, presents a very similar hypothesis for the United States.²⁴ Though it is not a wholly new thesis, it is not well tested or developed in detail. To test the validity of this argument and its range of application, would require study of many countries over an extended period. Moreover, comparison of Great Britain with the United States shows that the thesis is, at the least, incomplete.

In a general way the facts are consistent with the hypothesis. There has been economic growth in both Britain and the United States, and in both government employment has expanded markedly compared with total employment or with population. Moreover, at least since 1900, when statistical comparison becomes possible, government was the most rapidly expanding major division in either economy, as judged by employment. The presence of a similar powerful cause or set of causes is, therefore,

²⁴ *Op. cit.*, Chap. 7.

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clearly suggested, and this is perhaps the chief conclusion to be drawn from the comparisons. But consideration of some objective indications of economic development shows that that process alone does not readily account for all the observed facts. Even as between two countries generally so similar in their political and economic institutions, differences in the size or trend of government employment appear which are not easily reconciled with their relative states of economic development.

International comparisons of income are notoriously inaccurate and misleading. Rough estimates indicate, however, that income per capita in Great Britain and this country were approximately equal in 1900.²⁵ At the same time, urbanization and industrializa-

²⁵ United Kingdom:

National income at factor cost	£ 1,803 million ^a
Population	41.15 million ^b
National income per capita	£ 43.81
National income per capita in dollars (£ 1 = \$4.866)	\$213

United States:

Net national product	\$16.02 billion ^c
Population	76.1 million ^d
Net national product per capita	\$210

^a James B. Jefferys and Dorothy Walters, "National Income and Expenditure of the United Kingdom, 1870-1952," mimeographed, a paper submitted to the International Association for Research in Income and Wealth, Third Conference, Castel Gandolfo, September 1953, Table VII.

^b Registrar General.

^c F. C. Mills, *Productivity and Economic Progress*, National Bureau of Economic Research, Occasional Paper 38, 1952, Appendix Note 1. The data are based on Simon Kuznets' estimates, revised to include full defense output in national product.

^d United States Census from *Historical Statistics of the United States, 1789-1945*, Bureau of the Census, 1949, Series B-31.

The figure for Britain is low for purposes of comparison with the United States: (1) Income at factor cost is less than net national product by the amount of indirect business taxes. (2) Per capita income for the United Kingdom is lower than that for Great Britain because it includes Ireland, where incomes were lower than in England, Scotland, and Wales taken together. Allowance for this difference between the estimates for the United States and Britain would reinforce the argument of the text since that requires that per capita income in Britain in 1900 should have been no lower than that in the United States.

The use of the official exchange rate in order to convert British incomes to dollars is a dubious procedure. But it has greater justification for a time of relatively free trade like 1900 than it would today, and greater justification for Great Britain, which is so heavily engaged in foreign trade, than for most countries.

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tion had proceeded much farther in Britain than in this country.²⁶ On these grounds we should expect that government activity had attained a higher level in Britain in 1900 than in this country. But judged by the share of the labor force devoted to non-defense activities, the United States government was larger than the British (Table 10). The relative difference is somewhat smaller if we exclude the post office and education, but there is no evidence to support the view that the British share was the larger (see Table 15).

Since 1900, moreover, the pace of economic development has been more rapid in the United States. Average income in this country is now far higher than in Great Britain. While the degrees of urbanization and industrialization remain lower here, the gap has been closing.²⁷ If there were a simple connection

²⁶ Some relevant figures follow:

	U.S. 1900	G.B. 1901
Urban population in per cent of total population	40%	76%
Persons per square mile	26	425
Gainfully employed in non-agricultural industry, in per cent of total gainfully employed (U.S.) or working population (G.B.)	62%	91%

Sources: U.S.: Census of 1900.

G.B.: Censuses of England and Wales, and of Scotland, 1901.

²⁷ As regards incomes, a recent study based upon an elaborate comparison of prices in the United States and United Kingdom gives the following ratios for product per capita in the United Kingdom in 1950 (U.S. = 100):

	U.S. Price Weights	U.K. Price Weights
Gross national product	63	49
Consumption	66	52
Investment	35	31
Government	107	77
Non-defense, total	131	93
Non-defense, personnel	163	163

(Milton Gilbert and Irving B. Kravis, *An International Comparison of National Products and the Purchasing Power of Currencies*, Paris, OEEC, p. 113.) The figures for government are not wholly comparable with those cited in our study since those above exclude government enterprises including Post Office, education, and health services.

As regards urbanization and industrialization in 1950, there are the following figures for comparison with those in footnote 26, above:

	U.S. 1950	U.K. 1951
Urban population as per cent of total population	59	80 ^a
Persons per square mile	51	560
Non-agricultural employment as per cent of total employment ^b	87	95 ^c

Sources: See footnote 24, above, except as noted below:

between economic development and the size of government and if it had dominated the outcome, the non-defense activities of the United States government would have grown more rapidly than those of the British government between 1900 and 1950. The reverse, however, was true, judging by the share of the labor force absorbed in government work (Tables 10 and 15).

Our comparisons of the growth of government employment in two countries are, of course, only an imperfect and partial test of the connection between economic development and the size of government. A connection might stand out far more clearly in comparisons involving many countries than it does when we compare the experience of any two. Even in a comparison between Britain and United States, we may form a different impression when we can study more comprehensive measures of government's use of resources based on the total expenditures rather than on labor directly employed. Our judgments of long-term trends are, moreover, complicated by fluctuations in the rate of expansion in the two countries. As recently as the end of the thirties, the share of employment absorbed by non-defense activities was greater in the United States than in Great Britain, and that absorbed by the residual category was not much smaller. Ten years from now the United States shares in both categories may be the greater.

Taking the figures at face value, moreover, they do not necessarily imply that the connection between economic development and size of government is weak. They do suggest that the connection is not simple and that other significant forces are also at work. It is plausible to suppose, for example, that growth of government follows economic development only after a more or less protracted interval. Fabricant thought it likely that such a lag has been present in the United States.²⁸ Similarly, we have suggested in Chapter 2 that the expansion of the British government was retarded in the nineteenth century by the slow pace at which public opinion with regard to government evolved and political power shifted. If there is merit in this notion, the more rapid pace of British governmental growth in the twentieth cen-

^a Mid-year estimate of the Registrar General, *Annual Abstract of Statistics*, No. 89, p. 13.

^b Employed workers only.

^c *Distribution of Total Manpower*, Ministry of Labour, New Series.

²⁸ *Op. cit.*, p. 150.

tury is in part a response to the rapid industrialization in the nineteenth.

We must also consider that aggregate indexes of economic development, such as are afforded by figures on national income, population density, and over-all measures of urbanization and industrialization, are inadequate indicators of the gravity of the problems raised by economic growth in countries whose economic structures are different. Industrial composition and dependence on foreign trade, for example, may influence a country's sensitivity to business fluctuations. The distribution of the population among communities of different size may affect the seriousness of the problems of living within cities as well as those of inter-urban communication and movement. The course of population growth determines the age structure of the population and the size of families and therefore influences the demand for education, medical care, and the support of the aged, as well as the size of the work force itself. The industrialization of foreign economies creates problems whose character and severity depend on a variety of special factors.

Another large consideration is the influence of the great wars of this century. They have economic roots, and their scope and effects are certainly heavily influenced by the level of economic development. But the impact of wars on different countries cannot be measured in reference to general indexes of economic activity. They have borne upon Great Britain and this country with very unequal weight.

Still another complication arises from differences in political arrangements—for example, from the difference between the federal constitution of this country and the more centralized political structure of Great Britain, or from differences in the size and functions of local government units. If certain powers are reserved to the states, as in this country, the economic rivalries of their citizens will influence the pace at which taxes and regulatory activities are enlarged. If there are significant economies of scale in governmental, as in industrial, operations, the size of political units will affect the productivity of labor and the cost of governmental services.

It is, of course, only too evident that the material gathered in this study is not sufficient to enable one to sort out and establish conclusively the importance of the factors that control the general

trend of government activity, much less those that account for international differences. For that, the experience of a large number of countries and more detailed information about each will be needed. The international comparisons we have made and the explanatory hypotheses we have entertained were and, indeed, could be no more than incidental and tentative explorations in a study whose aims were more modest—to compile measures of the direct use of labor by the British government and to describe its expansion in the context of a summary of major developments influencing British governmental activity.