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Volume Title: The Rising Trend of Government Employment

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Volume Publisher: UMI

Volume ISBN: 0-87014-344-1

Volume URL: <http://www.nber.org/books/fabr49-1>

Publication Date: 1949

Chapter Title: FACTORS AFFECTING THE TREND OF GOVERNMENT EMPLOYMENT

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Chapter URL: <http://www.nber.org/chapters/c3254>

Chapter pages in book: (p. 22 - 29)

1896 the only 'welfare' activities of the federal government we could identify as such were the supervision of Indian affairs and operation of federal penitentiaries.

The federal agencies that appeared on the scene after 1896 employed 264,000 persons by 1939. Agencies in existence in 1896 (other than the postal and national defense services) employed only 193,000 in 1939. Excluding the post office and national defense, then, over half of federal employment in 1939 was in bureaus and divisions not organized in 1896. Corresponding or even larger proportions characterize agencies associated with such functions as conservation and development, welfare, regulation, general information and research, and public service enterprises (other than the postal system).

Measured by 1939 employment, the big additions to federal agencies came during the seven years beginning with 1933. Yet, in every decade the agencies and functions of the federal government were added to: for example, the early conservation agencies and the Panama Canal were established during 1903-12; and in every period the number of workers engaged in existing agencies and functions increased.

III FACTORS AFFECTING THE TREND OF GOVERNMENT EMPLOYMENT

The factors underlying the rising trend of government employment may be put into two groups: first, those affecting the relation between the number of government workers employed and the services they perform; second, those affecting the volume of government services.

Relation between Employment and Output

Influencing the ratio of employment to production are: change in hours worked by government employees; substitution of capital goods, and materials, supplies, and services purchased from the nongovernment sector, for the labor of government workers (or the reverse); and change in the efficiency of utilization of labor and other resources

in government activities. Interactions among these factors are also involved. Some factors contributed to the rise in government employment, some to its retardation. Even in this brief Paper we must at least list such factors and comment on them.

In practically all industries in the private sector of the economy—the outstanding exception may be agriculture—hours of labor put in by workers declined between 1900 and 1940. The average reduction was probably about 20 percent including agriculture, perhaps 25 or 30 percent excluding agriculture. In government, also, hours declined on the average. In some types of government work, it is true, hours have not fallen by as large a percentage as in private establishments. Such a difference in trend is suggested by the probable decline in the relative importance of part-time government work, the lengthening of the average public school year, and strong pressures towards shorter hours in private industry (especially after 1929) not as successfully matched by corresponding pressures in government. On the other hand, hours put in by policemen, hospital employees, and similar groups have probably declined more than average hours in private industry.

Any fall in the hours of government work per week tends to push government employment up. In some cases the effect of fewer hours might be partly offset by the higher productivity induced by the reduction. But this offset could hardly be complete. The maintenance of certain government services, at least, requires a fixed number of manhours per unit of service rendered. Police protection provided by foot patrol is an example. In such cases, reductions of hours would lead to exactly corresponding rises in employees per unit of service rendered.

The history of internal governmental operations suggests that capital goods and other purchases have to some extent tended to supplant labor in all or most individual functions of government. As in private industry, governments now use motor trucks, mechanical shovels, typewriters, carbon paper, and telephones on a scale not dreamed of at the

opening of the century. This seems to have been accomplished by a different kind and better quality of capital assets (not reflected in measures of deflated assets) and by greater efficiency in the use of capital and other resources, rather than by more capital per worker. The figures suggest, indeed, that between 1900 and 1940 real capital per worker declined on net balance in most individual nonwar functions of government, with the major exception of education. (Data on military assets are not available.)

Heightened productivity, that is, reduction in the quantity of resources required to produce a 'unit' of government services, also would tend to keep down the rate of growth in government employment, as well as in other resources used by government. Review of some factors affecting the trend of government productivity—the use of improved technology and equipment, the spread of the merit system, the introduction of centralized purchasing, and various other advances in public administration—leaves the strong impression that the savings effected by their means have been far from negligible. Indeed, it is hard to think of any factor tending in the opposite direction except possibly the very increase in the scale of government operations. A tendency for unit costs to rise when size of establishment increases beyond some optimum level, supposed to affect private operations, might have affected government operations. On the other hand, the same reasoning suggests that an increase in scale of operations before the point of optimum size has been reached reduces costs; and some of the growth in government operations might have had this effect.

Unable to weigh all the factors affecting productivity, we cannot be sure what the net balance is. Yet, as has been suggested, governmental operations are not altogether unlike those of private enterprise, however different the objectives and means of financing may be; nor are government bureaus cut off from technological changes in the world in which we live. For the few areas of government for which some sort of measure can be attempted (for example, the postal

service), there is clear evidence of substantial advance in productivity. I think it is safe to assume, therefore, that as in practically all private industry, a given volume of government production is turned out today with a smaller input of resources than at the opening of the century. The long-term trend in government's productivity has probably been upward.

Whether government productivity rose more or less rapidly than productivity in private enterprise is another matter, but one on which lack of information makes it idle to speculate. Another disclaimer may be in order. To hold that government productivity has probably advanced does not imply an opinion about its absolute level or the relation of that level to the level in private business. Whether government is more or less efficient than nongovernment enterprise also is an important question, but one not immediately relevant to the matter under discussion, and in any case not answerable with the data we have considered.

To sum up: Reduction in hours probably tended to raise employment per unit of government product. The other factors we have noted probably worked in the opposite direction. The net result has probably been a decline in employment relatively to output. This much, at least, we may conclude with confidence: if the ratio of employment to product rose, it did not rise very much. More likely, it fell. Not much, if any, of the big increase in government employment since 1900 can be attributed to the factors affecting the ratio between employment and output.

The Trend in Government Output

The major factor accounting for the increase in government employment has been the growth in government services, reflecting growth in both population and government services per capita.

Between 1900 and 1948 the population almost doubled. This is merely a rough index of the effect of population growth on government employment, however. The trend in school employees, for example, depends upon the age

distribution as well as upon the size of the total population; and there may be indirect effects of population growth; for example, on the scale of operations and therefore on government's 'productivity'. Nevertheless, it seems safe to conclude that a doubling of the population would, apart from the effects of other factors, be accompanied by something like a corresponding rise in government workers. But that number rose 450 or 500 percent. While considerable, population growth alone accounts for only a part of the trend in government employment.

More important has been ampler provision of government services per capita. Services rendered in 1900 are on a larger scale today. And services are provided today that were not available at all in 1900. The simple arrays of figures in our tables, which portray the functional distribution of government workers, have something to tell us about these changes.

The contribution of national defense to government employment in the form of a standing army and navy has been indicated by Chart 4. There are interesting and distracting differences among the decades covered, but from the trend as a whole it appears that even before World War I—and certainly for the entire period—the armed forces at least kept pace with other government personnel. This means, of course, that the army and navy grew more rapidly than total population. Civilian employees participating directly in national defense increased even more rapidly than the armed forces (Chart 7). In the conditions and policies determining the magnitude of the peacetime defense effort we have, then, another factor contributing substantially to the growth in government employment.

The continued trend towards urbanization also has played a role. More and more of our people reside in incorporated places. In 1900 the urban population constituted about 48 percent of the total. By 1940 the percentage had risen to almost 65, and is higher still today. Further, a bigger fraction of the urban population now lives in the larger cities, which typically provide more municipal services and employ

more municipal government workers per capita than the smaller cities. These shifts in population have thus acted to increase the number of municipal government workers per capita, as has expansion in the types of municipal service rendered by cities of all sizes.

In this connection it is interesting to observe that the distribution of employees among the various classes of state and local governments (Chart 3) reveals no pronounced trend, upward or downward, in the share of urban governments in total state and local personnel, whether including or excluding education. Increasing urbanization, with its shift of people to areas in which more government services per head are commonly rendered, though important, was not dominant in adding to state and local government workers.

The increases in employment in certain municipal functions—sanitation and streets—seem, indeed, to be very modest, barely exceeding the increase in municipal population. Does this mean that the volume of these services rendered per capita of the city population did not change appreciably or that more services were rendered more efficiently? The latter, I think, is the correct answer. And it explains also the modest rises in the number of government workers engaged in the general control function and police and fire protection. In the case of the post office, we know definitely that service per worker and per capita has expanded greatly.

Did absorption by government of functions commonly performed at the opening of the century by private enterprise play any role in expanding government employment? Employees engaged in public service enterprises rose only slightly more rapidly than population. Measured in this way and in this sense, increased 'socialization' of production does not appear to have been a significant factor. Attention may not be confined to public service enterprises (the postal service, municipal electric light systems, and the like), which are simply those so operated that their costs are largely or entirely borne by fees or charges levied

on the user of their services. Government may encroach on the private sphere also by expanding the services (medical and health, for example) for which it levies no specific or significant charge on the consumer. Yet even the few facts we have observed give some basis for believing that this kind of encroachment on the private sphere has not done much to swell government employment. Encroachment through loans, subsidies, regulation, and similar means not involving direct ownership and operation is, of course, another matter.

There are, finally, 'new' government services. Not until the twentieth century did the nation really try to conserve its natural resources. Conservation of human resources also made headway. It took on new forms and old forms grew. Government employment in these functions expanded. Public health, hospitals, recreation and parks, charities, farm resettlement, public housing, unemployment compensation, 'other protection' (such as inspection of factories, foods, and drugs)—all growing more rapidly than the average for government functions—contributed considerably to the increase in government workers. Even federal workers engaged in Indian activities increased, though at a lower than average rate.

The great depression and the New Deal further stimulated the conservation of both natural and human resources. But the upward trend originated in earlier decades.

New and far-reaching regulatory activities, especially by the federal government, also appeared during the period covered. In terms of number of workers, however, these still account for only a small part of the whole job of government.

To explain why these various increases in government production occurred raises another type of question. Here it is only necessary to observe that the explanation is to be sought in several developments.

First, the rise of national income per capita made it possible to add to the government services provided final consumers and at the same time pushed up demand for

these services. Despite the absence of definitive figures, it seems clear that aggregate government services rendered final consumers rose more rapidly than the rest of the nation's real product.

Second, the developments underlying the rise in national income brought with them certain costs which were met by government action. Among these are the costs of providing services essential to urban life. There are also the costs of regulating our increasingly complicated, interdependent economy and providing relief from the aberrations of its operation. The nation's progressive recognition of its responsibility created the demand for these services, and ensured satisfaction of this demand by government. Whether this sense of responsibility would have deepened as it did in an environment not characterized by a rising secular trend in income per capita or whether it is being satisfied in the most effective way by current government activity are questions into which I shall not go.

The third development may be described most simply and vividly in terms of some of the figures assembled here. In 1900 only about 160,000 persons—civilians in the nation's military establishment as well as uniformed men in the armed forces—were directly engaged in national defense. By 1925, at the middle of the period under review, the number was more than double, 350,000. Today it is 2.3 million, over six times the 1925 figure. Third, then, is the changing international scene and our reactions to it.

NOTE ON STATISTICAL SOURCES

The Census of Population data on government employment, plotted in Charts 1, 2, and 6, are derived from Bureau of the Census reports on the status of employers (1940 and 1948), on occupations and industries (1910 and 1930), or on occupations alone (1900 and 1920). The 1900-40 data are actual censuses for Census dates; the 1948 data are based on Bureau of the Census sample surveys