

## COMPENSATION OF ENGINEERS\*

BY O. C. MERRILL†

*Chief Engineer, Forest Service, U.S. Dept. of Agriculture*

THERE are few questions which are being more actively agitated, to which more attention is being given by the individuals personally concerned or by official and unofficial agencies, or for which an adequate solution is more urgently needed, than that of compensation for services rendered. Our transportation activities, our industrial operations, and our social relations will remain in an unsettled condition, and the efficiency with which both business and government can function, will depend in no small degree upon the rapidity with which a satisfactory solution of this question is obtained.

A very considerable adjustment has already been made in the compensation of wage earners, particularly of organized wage earners, and in several instances special machinery has been established for the settlement of wage questions. To a much less degree has there been adjustment in the compensation of the great unorganized, or only partially organized, group of salaried workers. This is especially true of those who are in public employ, whether federal, state or municipal, and who are dependent upon legislative action for any change in conditions of employment or rate of compensation.

## High Costs Not Temporary

The existing situation is not due in any material degree to any diminution of demand for services, or to any decrease in the number of dollars paid, but almost exclusively to a reduction in the purchasing power of the dollar. We speak of the "high cost of living" as if the increase in commodity prices represented an increase in real commodity costs. This confusion of cause and effect, with the attendant assumption, tacit or expressed, that the situation is merely temporary, is responsible in a large degree for the failure to take the steps necessary to restore rates of compensation to the position relative to commodity prices which they held before the war.

The three main elements in commodity prices are the real cost of production, transportation and distribution; the relation of supply to demand; and the scarcity or abundance of the various media of credit and exchange. The curve of index numbers of composite commodity prices, while showing many fluctuations, has maintained a general upward trend throughout the period during which such numbers have been compiled. Had it been possible, however, to have had an absolute standard of costs—a standard, for example, which would have represented the sum total of human effort, direct and indirect, which had been expended upon the commodities—it can hardly be doubted that the curve of composite commodity costs would have shown a constantly downward trend; for the period during which index numbers have been compiled has been a period of constantly increasing application of machinery to every stage of production, transportation and distribution.

## Wars and Their Effect

Furthermore, it cannot be assumed that the general upward trend of commodity prices has been due to any progressive reduction in the ratio of supply to demand. If this is correct, the upward trend is primarily due to a more rapid increase in the media of exchange—coin, currency, and credit instruments—than in the production of commodities.

This conclusion is most apparent when we consider the periods of extreme financial inflation which characterize the prosecution of great wars. During the four years, 1861-5, wholesale prices in the United States increased 116% and in

1874 were still 33% higher than before the war. The Civil War cost \$3,500,000,000, and materially affected one nation only. The present war has unsettled the financial structure of the entire world. The United States alone in the four years, 1914-8, increased its gold reserve 200% and expanded its credit instruments in the form of demand deposits and notes by \$6,600,000,000. It has also issued bonds aggregating \$21,400,000,000. The belligerent nations, exclusive of Russia, have increased their note circulation 447%, while the total cost of the great conflict is estimated to have exceeded 200 billions of dollars. If the depreciation in the value of the dollar was still felt 15 years after the outbreak of the Civil War, what shall we expect from a war that has cost ten times more than all the other wars waged in the world during the last 70 years?

## Dollar Worth "Forty Cents"

While it is true that a world shortage of food and of raw materials, the dislocation of means of transportation and distribution, and reduced industrial production all have their effect, the primary cause, now and for many years to come, of the depreciation in the purchasing power of the dollar is and will be financial inflation. Furthermore, the possibilities of additional credit expansion through the use of the huge volume of outstanding government bonds and the probable flotation in this country of foreign securities for European reconstruction, are likely, at the least, to offset any immediate appreciation in the dollar that might otherwise be brought about by increase in production.

In an address before the conference of governors and mayors held at the White House, March 3rd-5th, 1919, Prof. Irving Fisher, a recognized national authority on matters of finance, stated: "We are on a permanently high price level, and the sooner the business men of this country take this view and adjust themselves to it the sooner will they save themselves and the nation from the misfortune which will come if we persist in our present false hope." Prof. Fisher spoke with 1918 figures before him, several months after hostilities had ceased, and at a time when it might have been expected that prices had reached their peak. On the contrary, however, the rise has continued, until in January of this year wholesale prices were 26% above the average for 1918, 2½ times greater than in 1915, and 50% greater than at any previous period in our history. In five years the purchasing power of the dollar has dropped from 100 cents to 40 cents.

This matter has been discussed at some length, because it is the factor of outstanding importance in the solution of the problem before us. Unless we realize that all the evidence of past price history indicates that we cannot hope for restoration of former price levels for many years, if ever, we are likely to satisfy ourselves with only a half measure, while leaving the real problem unsolved.

## Promotion Schedules Required

No properly constructed salary scale can overlook the requirements for a promotion schedule. Such a schedule should be based upon the assumption that a properly qualified individual entering any position shall have before him the possibility within a reasonable time of progressing by successive steps to the top of the service. The lack of any definite or consistent policy in this respect is one of the primary faults of public service to-day. If the services of an employee when appointed or when advanced to a new grade are at that time worth the prescribed entrance salary, and if the employee is a person who should be retained at all, it is self-evident that his services are worth more after having had experience in his new position than before he has had such experience. A certain amount of promotion in salary, based upon the very fact of experience in the position filled, should be automatically accorded to qualified employees.

As a corollary of any such promotion policy, means should be devised for disposing of the incompetent and inefficient. In the interest of the employees as a whole, as well as of the proper conduct of any public or private business, it is as necessary to get rid of those who cannot or

\*Excerpts from address before the American Association of Engineers, March 15th, 1920, Chicago, Ill.

†Member of Engineering Council's committee on classification and compensation of engineers.