the individual employer to govern his own practice, insofar as possible, accordingly. When the second condition holds and the various factors operate in a vicious circle, you have depression; when the first condition holds and the factors interact in a benign circle, you have prosperity. Whichever the situation, when once the forces are set in motion they tend to maintain themselves. It is one of the purposes of this study, and possibly the finest, to try to keep the forces from becoming unfavorable, because of this tendency of the circle to complete itself.

The third point is the bearing of size on efficiency. Certainly there is no point of livelier interest, nor one on which figures can be more misleading. Comparative cost figures which attempt to show the inefficiency of large-scale production too frequently fail to take into consideration all the factors. The case is not proved against large-scale organization by figures showing that at any given time it is not so good. I should say that where there is inefficiency it is the fault of the management rather than the size. When the management gets the idea, it can be expected to overcome difficulties that might be supposed to be insuperable.

Generally the problem is regarded as static. As a matter of fact it is dynamic, dealing with phenomena that are constantly in motion. In the field of banking, where mergers and consolidations have been carried on with feverish activity, there is scarcely ever any realization of the possibilities of change in management. I do not mean changes in personnel, but changes in method. The point of view in general is that we have the best banking system in the world. To a lesser extent this is true in industry as well. We must realize that large-scale organization is a thing that is becoming, and not a thing that is and always has been.

Management must be adequate to size. And it must not be expected that two units when added together will necessarily produce twice as much. It is not a matter of putting two and two together and getting four; it is a matter of putting two and two together and getting something like seven or eight. Large-scale operation is comparatively new and consequently the difficulties are apt to be viewed without realizing the possibilities of research. It is possible to measure the wieldliness of large-scale organizations and to find their point of efficiency. What is much more difficult to measure is the important and essential element of inventiveness and ingenuity that man brings into operation when he feels the pressure of difficulties that he may at the outset have thought insuperable. Many managements are content to handle immediate routine problems without considering the future. And many managements that are quite capable under a given set of conditions show no inclination to examine the permanence and stability of those conditions. They are taken for granted, and when change occurs their capabilities are in danger of vanishing. Research in business has this matter to deal with as well as improvements in technique.

The problem of large-scale organization amounts largely to one of personnel. It will fail when the people in it are not for it. A large-scale organization cannot be run merely from the top. Management must do three things. First, it must discover such qualities in people as adaptability, energy, inventiveness; second, it must place people possessing these qualities where there is scope and opportunity for the exercise of them; and third, it must compensate them commensurately with their accomplishments.

George Soule.[4] I am going to concentrate on two points made in the paper. One is the same that Mr. Hammond discussed — the doctrine of high wages. The other is minor, the growth of industrial pension systems. Since there is much less to say about the latter and since it has come less within my studies, I think perhaps it had better be taken up first.

I merely want to direct attention to a recent report of the Industrial Relations Counselors, Inc., which points out, as I understand it, that industrial pensions adopted by private concerns have proved to a great degree disappointing. The motives behind these pensions were the stabilization of working forces, the reduction of strikes and labor turnover, increased satisfaction, and so on, besides the ordinary motive of eliminating superannuated employes who have become inefficient. The investigation reveals that the firms that have not installed pension systems have gained practically the same advantages from reduced labor turnover and absence of strikes as the firms that have installed them. On the other hand, many of the pension funds are proving inadequate and serious problems are faced because of this. If the funds are made adequate it is felt that the burden on the earnings of the specific concerns may prove a very great disadvantage in competition with the firms which do not have the systems. The author, therefore, raises the question as to whether industry must not turn to public or state pensions in order to obtain the advantage of being able to get rid of superannuated employes. A questionnaire recently sent out by the Society of Industrial Engineers showed that a little more than one-half of all the important employers answering it favored state as opposed to private pension systems. Of course, the advantages of the state system to the worker have been emphasized many times. It includes all the workers; it includes men who have to, or want to, transfer from one firm to another, and it somewhat minimizes the urge of the individual employer to discharge, or refrain from hiring, the man over forty who is going to prove a disproportionate burden on his own pension fund.

It seems to me that the report on "Recent Economic Changes" throws less light on the doctrine of high wages than on the other subjects it treats. The course of wages is one of the most uncertain things in the industrial future of the United States. I question whether a majority of ordinary employers, even in the United States, seriously accepts the doctrine of the economy of high wages. And I question further whether, if they did accept it, their individual action alone would be sufficient to put it into effect.

The doctrine itself is a rather vague thing. In its elementary form I believe no one would question it. It is simply that, as the power of the community to produce valuable goods advances, the wage earners should share in that advance. In order to share in it, their purchasing power must, of course, be increased. That is a social doctrine without any bearing on the business cycle, or any other technical economic problem, and seems to me beyond question.

There is a good deal of evidence in the report, as in other publications of the National Bureau of Economic Research, that the doctrine, as stated in a rather back-handed way to catch the attention of business men, has something to bear it out. We cannot keep up production unless consumption is adequately increased to absorb that production, and consumption cannot be increased unless the wage earners, who form such a large part of the public, have increased purchasing power.

It is true that wages and salaries form a far larger part of our national income than the income from property. And in the income from property are included, of course, the returns of more than six million farmers and small business men who are not engaged in manufacturing at all. This income of wage and salary earners is about 40 per cent larger than the income from property. It is not only the biggest, but one of the most stable, elements of national income and has been constantly growing for the past eight years. It is difficult to conceive how the increased production of American industry could have taken place if the purchasing power represented in this element of the national income had not increased as it has. And it is difficult to conceive how we go on increasing production, as we have the technical and managerial ability to do, unless such income increases correspondingly again during the next eight years. We could not distribute many of the products of American industry simply to those who receive profits, rent, interest and dividends. The question is: Is it going to happen? And if so, how?

That leads us to the question whether it has happened during the past eight years because employers adopted the policy of making it happen. This I doubt very much. In the first place there was no appreciable growth in the purchasing power of wages between 1913 and 1919. As a matter of fact the purchasing power of wages was somewhat less in the year 1919 than it had been in 1913. There were two or three years between when it had been higher, but throughout the period there was no growth. The big boost came between 1920 and 1923 when we had a great depression and a recovery from that depression. During the depression, through no desire on the part of business men, prices fell very rapidly indeed. Wages fell somewhat also, but they did not fall so rapidly as prices; that is, wage rates did not fall so rapidly. (There was, of course, a great deal of unemployment.) This was a perfectly natural thing both because wages are, in the nature of things, not so flexible as prices and because there was a great deal of active resistance to wage reductions on the part of organized labor. And employers

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