

thirty-three going concerns who actually do have means of determining the relative efficiency of advertising media.

Consumers' purchasing power is of first importance as a sales volume determinant; few concerns claim any mathematical methods of following it. Here is a field for statistical experimentation. The turnover of bank deposits is definitely discredited as a single index of buyers' purchasing power.

Although there were no banking houses on the mailing list, a number of firms follow the cautious practice of adjusting credit standards to changing hazards; credit losses do vary with the stages of the business cycle.

The procedures under Finance and Administration, if they would be of value to business men, are almost unknown to those represented in the replies. Several men answered to the questions under Finance: "No financial problems"; their position is most enviable but hardly universal in the business world.

The percentage of firms supporting an economist and statistician must be further reduced. A few answering affirmatively noted that the economist was not yet devoting his full time to the work described in the questionnaire. Two or three companies employing statisticians are doing almost no statistical work as contrasted to others without the services of an expert. "Doubtless in most large businesses many different individuals act as both economist and statisticians, and yet perhaps no one person is assigned to be the economist or statistician."

One of the most interesting things shown by the replies was that where the statistical procedure required was relatively simple it was used extensively but where the work required was so complex as to demand the specialized training in statistics, the procedure was not used. The writers are inclined to believe that the lines of inquiry which are relatively neglected are quite as significant and inexpensive as the ones more generally stressed, and that many concerns would aid the coordination of the various departments of their business and improve their adjustment to the changing industrial environment if they added to their organizations an individual thoroughly trained in modern statistical methodology.

It should be emphasized that the outspoken criticism of the questionnaire was almost wholly favorable to the business methods suggested. Successful men are spending, and are willing to spend more, in adopting these comparatively untried aids to scientific management. There is opportunity for the expert capable of making complex statistical studies. Criticism not unreservedly laudatory was for the most part only cautionary. This can best be presented by quotation:

While the writer is heartily in sympathy with the spirit of all that is being done to ascertain the basic laws of business, he feels that it may be overdone. Compilations of statistics may lead to certain conclusions, and yet these conclusions cannot be accepted because simple principles of trading or competitive conditions may prevent. . . . The fact remains that unscientific competition exists, particularly many little fellows in business, who do not know their costs, and for that matter many big fellows, too. . . . An understanding of the science of business is, of course, valuable as is technical knowledge to the engineer.

To my mind, educational institutions do not lay sufficient emphasis on the necessity of preparation for fine cost accounting in the training of business research students. External studies of markets, business cycles, and all sorts of conditions fall short of requirements if the research man cannot link them up scientifically with the internal facts of the business; he cannot depend on the accounting department to furnish complete internal data, for no accounting system provides for all the needs of a competent research department.

It is my opinion that there is a considerable field for the kind of work you outline, but I feel that perhaps the greatest service is to inculcate into the young business man how to get up his own report which will particularly apply to his business, using all the many sources available to him.

Those who have a professional interest in the field of business research may be interested to know that four concerns whom the writers had regarded as having made the most progress in this sort of record keeping management, modestly stated that they had as yet only scratched the surface of possibility of business control through statistical guidance.

Scientific management now embraces an expert use of statistics—tabulated experience—and of statistical devices. The use of statistics to guide executive judgment cannot justly be branded "speculative"; rather it is tending to lessen the importance of chance in business success. And in so far as statistical research illuminates the dynamics of business, intelligent provisions can be made for some stabilization of the affairs of the concerns utilizing such service. It is through individual stabilization that the "wobbly business environment" may be steadied, and the business cycle curve partially ironed out.

THE FUTILITY OF LOCKOUTS AND STRIKES

By PAUL OGILVIE, Ottawa, Canada

OWING to the needs and lessons of the war, a wave of interest and research has carried thought and knowledge very rapidly forward in consideration of the human factor. This interest is properly divided into two headings: (1) the physical conditions under which men work; and (2) remuneration, and settlement of disputes. It is the settlement of disputes with which this paper deals.¹ It has been found that the difficulty with the settlement of industrial disputes by arbitration or permanent court is that there is no way of enforcing the findings; consequently this system of settlement of disputes has eventually broken down, usually with a reversion to the age-old system of lockout and strike. Just how effective this system has proven to be will be the subject of our interest.

The question of the usefulness of the lockout and strike is difficult to answer because the view is generally held that they have been and are of service and that practical results are obtained. Thus, in a recent book purporting to be a textbook on Capital and Labor, it is said:

Discontent, expressed in constant agitation, has, unfortunately, been of practical value—that is one reason why it is so rife in industry today. No substantial increase in wages or improvements in working conditions have, in the past, been conceded voluntarily by employers, but only after pressure by the unions subject, of course, to considerable qualification in special cases. It is more or less inevitable that it should be so, having regard to the way in which the machinery of collective bargaining has been operated by both sides. Every time, when an increase of wages or an improvement in conditions is demanded and refused and then ultimately given under threat of a strike, it feeds the springs of future discontent and confirms in the workers' minds the efficacy of agitation.

The foregoing rather sweeping statement is not supported by the citation of concrete examples, nor is it mentioned whether the alleged "practical value" has been maintained, or has been an equivalent for the loss,

¹The writer is indebted for material and inspiration to Lord Askwith, Comptroller General of the Commercial Labour Statistical Department of the Board of Trade and subsequently Chief Industrial Commissioner, and particularly to his lecture before the Royal Society of Arts, of whose Council he was chairman, at the November 1922 meeting in London.

distress and hindrance caused by lockouts and strikes to the well-being of the parties concerned, whether they care or not for the interests of other industries and persons affected by their action. On the other hand, the sixty members of the Provincial Joint Committee constituted from employers and the principal trade unions, after an industrial conference in February, 1919, recorded their opinion that "Employers' organizations and trade unions should enter into negotiations for the establishment of machinery or the revision of the machinery for the avoidance of disputes." Various other pronouncements might be cited indicating that it is not every leader of organized unions who desires to attach "practical value" to such disputes.

Although lockouts and strikes go back to Biblical times, it was not until 1825, with the repeal of the Combination Laws, that the rights of collective bargaining and the power of withholding labor by concerted action was obtained, not by reason of, but rather in spite of strikes. On the other hand, the coal miners of Northumberland and Durham tried two years of rioting and strikes leading to the use of troops, with the result that trade unionism scarcely survived after the signal failure of strike upon strike. A generation later, the Blackburn and other cotton lists on which the gradual evolution of the basic piece-work rates of the cotton trades is founded, were obtained by careful and patient work, and gradual proof of value. No strikes could settle such complicated details. The success of the methods then employed led to "Councils of Conciliation" in other trades, and offered contrast to the complete defeat of the engineers about the same time. The engineers were locked out in answer to a concerted threat of immediate action for the abolition of piece-work and systematic overtime. As in anticipation of the sudden strike of 1911, they proposed general action upon matters involving many qualifications and adjustments capable only of settlement by close examination of detail. In the result they failed entirely.