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## CHAPTER XXI

### VARIOUS DEVICES USED FOR STABILIZING BUSINESS

BY A COMMITTEE OF THE FEDERATED AMERICAN ENGINEERING SOCIETIES

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This chapter is based on three sources of information: (1) sixteen answers received in reply to a questionnaire sent to a list of selected firms by the Taylor Society; (2) statements received from twenty-five editors of trade journals; and (3) answers to a series of questions sent out by the Committee to which ninety-four replies were received.

The answers received from the several firms will be considered in the order in which the questions were put by the Committee.

#### I. THE PREVALENCE OF EFFORTS TO STABILIZE PRODUCTION AND EMPLOYMENT

Question 1. Is special effort made to stabilize production and employment throughout the business cycle? (a) If so, what devices have proved successful? (b) If not successful, what are the obstacles?

Of the one hundred and seven replies received to this question, fifty-nine answer "Yes" to the first part of the question and thirteen answer "No." Out of the total number of replies received, thirteen are based on seasonal fluctuations rather than the major business cycle. Five firms, representing the following lines of business; electric light and power, telephone, laundry, bakery, and cement mill, consider that they are in the fortunate position of having no need of stabilization.

The belief of thirteen firms is that business depends upon supply and demand and that nothing can be done to modify this condition. In several answers it is shown that the nature of the business to a large extent precludes the use of the more usual methods of stabilization. For example, three firms cannot manufacture for stock because they make goods only to special order, and a firm dealing in crushed stone cannot store such bulky material. In giving a general answer to the question as a whole, a manufacturer of valves and pipe fittings concludes:

It is not possible to stabilize production and employment throughout a major business cycle. We stabilize production through short periods by running a

<sup>1</sup>The members of the Committee were named by the Washington Society of Engineers. The Committee was aided in collecting data by similar committees appointed by thirty other engineering societies.

certain percentage of output, based on long-term averages, which percentage is revised every three months according to conditions.

To give a general picture of the information derived from Question 1, the replies are classified (Table LII) according to the character of the various methods of stabilization which the answers show to be in use. A glance indicates that several of these so-called methods are only expedients made necessary during the recent business depression and are not methods deliberately planned in advance.

TABLE LII.—CLASSIFICATION OF REPLIES WITH REFERENCE TO METHODS OF STABILIZATION

	NUMBER OF ANSWERS
Manufacturing to stock.....	18
Increasing variety of product.....	12
Selling on a smaller margin of profit.....	10
Working the sales department harder.....	9
Elimination of waste.....	3
Reduction in hours, part-time employment.....	3
Planning ahead.....	3
Standardization of stock.....	2
Transfer and training of understudies.....	2
Extending manufacturing facilities during dull times...	1
Regulation of production and development.....	1
Employing only skilled labor and paying good wages...	1
"Cut employment to the quick and reduce pay-roll"...	1
"Hard work and effort".....	1
Curtaiment of research in dull times.....	1
"Change selling policy, retailer to wholesaler, increasing output and getting cash".....	1

The answers received by the Taylor Society indicate practices very much the same as those shown in Table LII; also some new ideas are brought out. A rubber company reports:

The sales are handled through a selling company. Production requirements for the year are established by analysis of customers' requirements, checked by factory facilities, and a minimum and maximum manufacturing program approved by the management. If market conditions of the season prevent customers from ordering from the selling company, the selling company acts as a customer in furnishing stock orders to the factory to keep uniform production. Responsibility for stocks and distribution lie entirely with the selling company. Responsibility for keeping the production up rests entirely with the manufacturing company.

Among those who sent the answers in Table LII, a few mentioned advertising. These replies are listed under the general method indicated in one of the answers, "working the sales department harder." The answers received by the Taylor Society bring out various other ideas

about advertising and methods of stabilization, as described in the following quotations:

Localize entire advertising efforts from national to particular districts not producing normal amount of business.

Use of prize contests.

Participating in retail marketing of product so as to provide constant outlet.

By good planning and study and some stocking up, we have found natural turnover of labor in departments without any replacement to cut down production adequate to our requirements. In pre-war days we had an absolutely perfect record for thirteen and one-half years. During that time we did not work a single department even a day of short time, nor lay off an individual because of insufficient work.

As we are manufacturers and not distributors, our problem is quite complex. The best we have been able to accomplish is to plan our orders ahead, plotting them on advance period charts, and then endeavoring to sell the unfilled departments' output in order to give continuous employment.

The replies of business editors furnish a specially clear view of the difficulties and possibilities as regards different industries. Apparently no effort is made to stabilize the machinery and jewelry industries, and the textile industry finds it impossible to anticipate the fashions. The steam and electric roads can only take business as it comes because "car miles cannot be stored."

The special possibilities of the steel mills are described as follows:

I believe more attention will be paid in the future to the economics to be had from accumulating pig iron stocks and stocks of semi-finished steel. It is possible to borrow money on pig iron where it would not be easy to borrow on piles of iron ore. Finishing capacity should be larger than steel-making capacity, and if rolling mills could draw on accumulated supplies, it would lessen the outlay for new blast furnaces and new steel plants which are more expensive per ton of output than finishing mills.

The above quotation seems to indicate that the time to prepare for the storm is during fair weather.

## II. THE USE OF STATISTICAL INFORMATION

Question 2. Is use made of statistical information as a basis for studying and forecasting business conditions? (a) If so, what information is most useful for this purpose? (b) What additional information, not now available, would be useful? (c) How and by whom could it be compiled?

Of ninety-eight replies to this question, fifty-seven indicate the use of some form of statistical information and twenty-six answer "No." One of the parties answering "No" suggests the following cure for present conditions:

Some of the conservatism practiced during dull times injected into business during good times would create more of a balance.

Twenty-one firms use the business reports and forecast of one or more of several well-known professional economic services, and twenty-two make use of various other statistical information, while three use statistics "only to a limited extent." Seven firms appear to rely mostly upon trade journals and fifteen upon other records. Of the remaining three answers, a cigar manufacturer relies wholly on the quarterly report of the Census Bureau, a foundry company declares that its work is 95 per cent special and, therefore, its production and employment cannot be stabilized, and a flour mill is happily free from care because a bakery, belonging to the same owners, takes its entire output.

One of the firms which uses statistics suggests that the ordinary business man needs instruction in regard to the proper interpretation of facts revealed by statistics. The most complete reply is from a manufacturer of hoisting machinery who believes the most useful information is that obtainable from

Curves of general business conditions, of conditions in the iron and steel industry and particularly of employment conditions, due to the fact that our product is primarily labor-saving machinery and its sale depends upon whether employment of labor is above or below normal; comparative curves of labor rates also of great importance for the same reason, for high labor rates will cause stimulated demand for labor-saving equipment.

He also expresses the opinion that the Department of Commerce at Washington, through cooperation with chambers of commerce, trade associations, and engineering societies, might furnish valuable data regarding stocks on hand in various industries, both of raw materials and finished product and stocks in the hands of distributors, which when compared with normal are a guide in determining production programs.

While the answers convey the general impression that information in regard to the amount of stocks on hand in the various industries is of great value, it is pointed out by the editor of one of the trade journals that adequate information may be obtained in regard to the cost of raw material of textiles, but it is "difficult to get data on stocks on hand which manufacturers do not wish to divulge." Also, an editor of a chemical journal asserts that "traditions in industry favor secrecy rather than publicity and exchange of information in regard to consumption, production, and costs." That there is some tendency, however, to modify this practice is shown by an answer from the petroleum industry, in which the statement is made that data are now being gathered by the American Petroleum Institute which were "heretofore looked upon by major companies as confidential to them." Some of the more important

kinds of statistical information found useful in forecasting business conditions by firms answering Question 2 are as follows:

Reports of professional forecasting and statistical services	Market reports
Agricultural statistics	Crop reports
Firm's own records	New building
Production of pig iron	Trend of stock market
Production of steel	Prices of farm products
Unfilled steel orders	Bank bulletins
Trade journals	Reports of copper and brass research associations
Territorial and sales analysis	Commerce reports
Lumber statistics	Statistics gathered from firm's branch managers
Prices of materials	Information from all sources as to what has happened under similar conditions in the past
Mining statistics	Weather and crop reports
Labor conditions	Quarterly reports of Census Bureau
Federal Reserve Bank figures	Daily newspapers
Money market	
Car loadings	
Trend of business in all lines other than our own	

The suggestions received as to what additional information not now available would be useful, and how and by what agency it could be collected, are shown in a general way in the following table:

TABLE LIII.—SUGGESTIONS RECEIVED AS TO ADDITIONAL INFORMATION DESIRED

Trade	Desired statistics	Collecting agency
Automobile.....	Production and sale of farm tractors, various automotive parts, units, accessories.	Bureau of Foreign and Domestic Commerce (U. S. Department of Commerce) with co-operation of trade associations.
Lumber.....	Consumption, and stock in retail establishments.	Lumbermen's Association.
Engineering and mining...	Production, consumption, and stocks.	
Foundry trades.....	Statistics in regard to production of pig iron and stock on hand, now available only to producers of pig iron.	
Furniture.....	Wages and hours of labor in the furniture industry. Production and sales of hardwood lumber.	U. S. Department of Labor and Department of Commerce.

In contrast to the replies generalized in the above table, one firm states, "We do not require any additional information, and would not have the time or inclination to read any more than we now use." Some of

the firms advance the proposition that a general statistical and forecasting service, of the type now furnished by several professional agencies, should be maintained by the government and the reports disseminated widely throughout the country.

From the foregoing discussion of the replies to Question 2, one gathers the general impression that manufacturers recognize the need of extensive use of statistical information in formulating their production programs and business policies, and that it undoubtedly would be a service to the country if this information could be compiled and disseminated by some public agency. It is pointed out in one answer to Question 2 that the services of professional statistical, and forecasting agencies are too expensive for the small firm and for the individual, and that a cheaper source of this information should be devised. It is also pointed out that the average business man should have such statistics interpreted as well as made available for him, as he has not the time or, in most cases, the specialized knowledge necessary to do this correctly for himself. In this connection, it might be said that to make statistics and their meaning most valuable to the public, the agency compiling them should, when feasible, take the responsibility of making forecasts of business conditions from them. The government forecasts weather conditions from meteorological data, why not also business conditions from suitable statistics?

Among the questions sent out by the Taylor Society is the following:

Do you employ an officer to study business conditions?

Of fifteen answers received, four are affirmative and four negative without details. One contains the statement that the firm has a sales engineering department, and two say that it is part of the business of all executives in main charge of the production, management, and distribution departments to study business conditions. One answer sets forth that the firm "holds frequent discussions by means of a docket method for determining such policies."

### III. RESERVE FUNDS AND THEIR USES

Question 3. Is a reserve fund accumulated during periods of prosperity to take care of continuation of the business during subsequent depression when interest rates are high and capital scarce? If so, how is this fund used?

Out of eighty-six replies received to the first part of the question, twenty-three were affirmative and the same number were negative; no details given.

To the second part of the question, the answers are varied and interesting, some indicating only a small conception of what the question means. Eight use the surplus to manufacture for stock, "conversion of surplus into inventory;" another uses it for "capital expansion;" one "places it in interest bearing accounts;" and six others say that

the fund is invested in various ways. One uses it to keep up dividends; one to keep the plant going; one "to equalize returns to stockholders so as to give at least a small return on investment during poor business." One firm makes the statement, "any gain is used to keep the banks good natured," and three report that they do not need a reserve as they never have to borrow in dull times. Two others would gladly have saved a surplus if they could, but this was impossible, one finding business too poor and the other, taxes too high. One reply states that the surplus was used

to stabilize production and employment and to offset extreme price fluctuations by averaging overhead charges over the business cycle instead of allowing them to fluctuate from unusually low overhead costs in time of abnormal business to extremely high overhead costs in times of subnormal business.

A manufacturer of fire engines says:

Question not clear. Capital tends to become plenty and interest rates low during periods of depression rather than scarce and high, as stated in your question. If the earlier part of a period of depression is referred to, we doubt whether as a rule it is possible to accumulate reserves. On the contrary, during periods of prosperity and the first part of a period of depression, when capital is scarce and rates are high, a manufacturing industry such as ours is usually under a severe strain in the direction of expansion of production, while conditions are usually favorable for financing. If profits are high, reserves may be accumulated. Generally, however, we would say that the tendency was toward a severe financial strain to be followed by liquidation as prosperity passes away, and by permanent financing during the period of depression to the extent that liquidation has not solved the problem.

From the answers received, the general impression is gathered that the basis for almost any method of alleviating the effects of the cyclical period of depression requires capital surplus or some other form of financing. The Committee believes, however, that capital thus used would be most effective if its accumulation and purpose were deliberately planned over a period of years, with the whole problem in mind, rather than if reliance is placed on the hand-to-mouth method of meeting depression emergencies only when they arrive.

#### IV. THE PREVALENCE OF LONG-RANGE PLANNING OF CONSTRUCTION WORK

Question 4. Is construction work planned ahead so as to secure advantage of the lower costs of material and labor during times of depression?

Among the ninety-four replies to this question, fourteen indicate that attempt is made to take advantage of low construction costs as much as possible, or at least to do so to a limited extent according to circum-



stances. Seven of the firms report adequate facilities for some time to come, some of them saying such conditions are due to expansion during the war. One firm is growing so rapidly that it is continuously extending its plant in order to keep up with business. One buys machinery when prices are low; another buys supplies; but these statements do not really answer the question. The direct answers are thirty-four "Yes" and twenty-five "No."

Among the general comments received on the subject, six express doubts of the advantage of saving construction work for dull times. Four state that extensions should be made only when production warrants, one of them remarking that he prefers to use funds for manufacture during dull times. A manufacturer of pumps, tanks, and filtering equipment, and a manufacturer of crackers and cakes, declare the policy impossible; and, in contrast to these, we have the reply of a manufacturer of chemicals who says:

All good and successful employers of labor must plan construction work ahead so as to secure advantage of the lower costs of material and labor during times of depression.

The question brought forth several statements from business editors as to the reasons construction work is not to a greater extent reserved for periods of depression. The reasons are summarized as follows:

TABLE LIV.—REASONS GIVEN FOR NOT PLANNING CONSTRUCTION WORK FOR PERIODS OF DEPRESSION

Industry	Comments of editors
Automobiles.....	Business grows too rapidly.
Coal.....	It is done by larger units in coal industry. Only obstacle, lack of vision on part of executives.
Chemistry.....	Expansion cannot be foreseen or planned far in advance.
Furniture.....	Lack of capital and incentive.
Iron and steel.....	Very costly to carry surplus idle capacity due to wide and abrupt fluctuations of demand.
Iron and steel.....	Andrew Carnegie believed emphatically in this policy. Several large steel companies follow this policy, but no important consumer of iron and steel.
Power plants.....	It is customary to put up buildings in dull times and install machinery when needed.
Railroads.....	Restriction of earnings prevents accumulation of funds.
Textiles.....	Majority of manufacturers delay building operations until forced by circumstances to begin them.

It would appear that the majority of the editors believe that construction work should be undertaken to a greater extent than it is at present in advance of the increased needs for production.

#### V. EFFORTS TO RELIEVE WORKMEN LAID OFF

In the two remaining questions asked by the Committee an attempt is made to ascertain to what extent any plans are made use of by manufacturers to relieve the laborer who is thrown out of employment during periods of depression. It goes without saying that no such plan would be quite so satisfactory as one which would be big enough to preclude any possibility of unemployment. Undoubtedly one of the first things to be dealt with in any broad business policy looking to the prevention of acute depressions is the status of the laborer, keeping him employed at all costs. A large percentage of business comes from the laboring man, and one of the essentials is that he should be kept employed so that he can buy.

To the first of these questions, which is, Has any plan been used looking to the relief of employees who have been laid off during slack times? eighty-nine answers were received. Two answered "Yes" without details and forty-two answered "No," but, unfortunately, it is not clear how many of the forty-two firms never lay off employees at all and how many do lay them off without giving them any assistance. Nine firms reported that practically none of their employees are laid off, and an equal number reported laying off only a few, keeping the best men and letting the "floaters" go. Three reported that no relief is necessary because the men get jobs elsewhere. The means of helping the employees most generally used appear to be by part time or rotation of jobs as reported by eleven firms. In two cases there are no definite plans, but individuals are helped as occasion demands. Construction work is mentioned twice and general repair work twice. Each of the following means of helping is mentioned once:

- Cutting prices to keep work going
- Free life insurance
- Free rent
- Relief from a benefit association supported by dues from both employer and employees
- Use of a charity fund

The report of a manufacturer of garments also gives a number of ideas concerning methods of helping employees:

We have slack periods each spring and fall, and we attempt to fill these in two ways: by manufacturing allied products which will not conflict with our regular business at a cost to cover direct labor and as much of our indirect expenses as possible; and secondly, it has been our policy for a great many years to manufacture for stock in advance of orders. In addition to this, all employees receive

a week's vacation with pay after two years' service and two weeks' vacation with pay after three years' service. These vacations of course are usually given in the slack periods. We also pay a service bonus of 50 cents after three years, \$1.00 after five years, \$2.00 after ten years, and \$3.00 after fifteen years, respectively.

We have found during this slack period that, in order to keep our plant going at its normal capacity, it was necessary for us to cut the price of our product radically. In order to effect this we made very drastic cuts in our overhead and operating expenses, however cutting direct wages only 10 per cent. This 10 per cent cut has not been felt by the employees, inasmuch as they have worked so much the harder in order to earn the same amount of money as before.

## VI. USE OF UNEMPLOYMENT OR DEPRESSION INSURANCE

The second question regarding the welfare of the laborer during depressions is:

Is unemployment or depression insurance made use of?

The outstanding feature in the one hundred and two replies to this question is that ninety-three answer "No" and one answer is "do not know what you mean." Only in nine cases are any details given, and in no case is unemployment insurance reported or wage guaranty, or so many weeks employment guaranteed throughout the year. One firm says unemployment insurance is not necessary; another that it is too expensive; and a third thinks the recent depression was too severe to be remedied by insurance.

The forms of insurance reported include insurance for sickness, life, and accident insurance paid by the employees, and group insurance paid by the company. The indications are that unemployment insurance has not been taken up in the United States except in a very few cases. This deduction is confirmed, at least in so far as the textile industry is concerned, by the following comment of one of the trade journal editors:

Unemployment insurance is not very popular with manufacturers in the textile industry, the feeling being, whether warranted or not, that the adherent of such insurance would be playing into the hands of Union Labor. There are a few concerns in the industry that have adopted such a plan.<sup>1</sup>

## VII. CONCLUSION

In considering the foregoing resumé, it should be kept in mind that the data used are very limited, both in number of firms replying and their geographical distribution. The geographical distribution is shown in Table LV (excluding the comments of the editors), and Table LVI shows the extent of diversification of the industries covered by the investigation.

<sup>1</sup> For the details of these plans, see Chap. XVIII, above.

The investigation has revealed few indications of any organized or individual effort being made by American business enterprises to anticipate changes in business conditions. Such activities as are developed, are, for the most part, expedients to ameliorate adverse conditions due to poor business and unemployment attending the periods of depression. The necessity for predicting and preparing for approaching changes in the major cycle and taking business advantage of them before the changes occur appears not yet to be recognized as a business principle.

TABLE LV.—GEOGRAPHICAL DISTRIBUTION OF FIRMS WHICH ANSWERED THE QUESTIONS

State	Number of replies	State	Number of replies
Alabama.....	1	Michigan.....	6
Arizona.....	1	Minnesota.....	13
California.....	1	Missouri.....	4
Connecticut.....	10	Nebraska.....	1
District of Columbia.....	1	New Jersey.....	1
Georgia.....	1	New York.....	12
Illinois.....	2	Ohio.....	6
Indiana.....	5	Pennsylvania.....	1
Iowa.....	33	Texas.....	4
Massachusetts.....	4	Vermont.....	2

TABLE LVI.—THE KINDS OF INDUSTRIES AND THE NUMBER OF REPLIES RECEIVED FROM EACH

Business	Number of replies	Business	Number of replies
Advertising novelties.....		Glass.....	1
Automobile assembling.....	1	Harness and saddles.....	1
Awnings, tents, canvas.....	2	Heating and ventilating.....	1
Bakeries.....	1	Hoisting machines.....	2
Baskets.....	2	Hosiery.....	1
Biscuit companies.....	2	Ice and fuel.....	1
Bleachery.....	1	Laundries.....	2
Blowers, cleaning systems.....	1	Lubricating oils.....	1
Books.....	3	Lumber.....	1
Bookkeeping and filing equipment, office desks.....	2	Machine tools, hardware.....	5
Brass.....	1	Milling.....	1
Brooms.....	1	Monuments.....	1
Buttons.....	1	Musical instruments.....	1
Candy manufacturers, ice cream, bottling works.....	3	Oil producing and refining.....	1
Carpets.....	1	Packers.....	1
Cement.....	1	Paper products.....	3
Chains.....	2	Public service.....	2
Chemicals.....	1	Pulleys.....	1
Cigars.....	1	Quarrying and stone crushing.....	1
Cooperage.....	1	Retailers' tea, coffee, and spices.....	2
Construction.....	2	Rubber.....	1
Copper.....	1	Shoes.....	1
Dairy machinery.....	1	Silk.....	1
Electrical goods.....	3	Silverware.....	1
Fiber cans.....	1	Soap.....	1
Firearms.....	2	Steam turbines.....	1
Fire engines.....	1	Steel construction.....	6
Food products, canning.....	4	Typewriters.....	1
Foundries.....	1	Valves and fittings.....	3
Furniture.....	2	Wire and rope.....	1
Garments.....	5	Woodwork milling.....	2
Gas appliances.....	1	Water supply systems.....	1
Gasoline engines.....	1	Miscellaneous.....	4

