43

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SOME PRINCIPLES OF BUSINESS FORECAST

by

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SOME PRINCIPLES OF BUSINESS FORECAST

The practise of business forecast, in at least one of its aspects, reminds me of such institutions as the League of Nations, birth control, The Republican party, Prohibition, etc. Like these, forecast is a controversial subject.

But the controversy over economic prognostication has one identifying characteristic. Seemingly it moves in waves. Now and again, for one reason or another, a perfect furor is kicked up about it. Business forecasters are called charlatans and fools; their art is classed with alchemy; aspersions are openly cast at their motives. Then customarily, after a brief and boisterous swirl, the teapot tempest tends to entirely subside; forecasters again become respectable citizens, if only temporarily; they are permitted to go serenely on about their business again, unmolested and unruffled by attacks upon their stock in trade.

On several occasions during the past ten years, I have been asked to make a public talk on some phase of business forecasting while one of these assualts happened to be under way. Necessarily, in such circumstances, one's attitude must be defensive. Sometimes it is not the wisest man who prevails, but the one who shouts the loudest.

But happily, the Assistant Secretary of War's invitation to address this distinguished group of mature students comes at a time when the sea of public opinion, so far as the practise of business forecasting is concerned, is as quiet as an old mill pond. I do not know why this should be. It may be that so many terribly bad forecasts have been made during the past three years that the public has become enured to them. In any event, the fact remains that no one of any importance happens to be publically cussing forecasters at the moment.

This I regard as fortunate alike for yourselves and your speaker. It is fortunate for me because it relieves me of the necessity of making any defense whatsoever of the practise of forecast; it is fortunate for you because, not being cast in the role of an apoligist, I can say what needs to be said in just about one-half the time that would otherwise be required.

Let us, then, accept business forecast as an existing fact, something that is essayed every business day in hundred of thousands of business establishments throughout the land, and today address our attention to an effort to learn something more of its pretentions or claims, of its purposes, of its functions and of its methods.

No proposition could be simpler or more obvious, it seems to me, than that forecast is an obligatory, inescapable function in all types of business or financial enterprise. No business transaction of any importance can be both initiated and completed within the span of a single day. We begin a transaction today, and complete it tomorrow, or the tomorrow after that, or in some even more distant tomorrow. Therefore, today's action cannot conceivably be an intelligent one unless it is based upon some estimate of conditions which will prevail when it is completed tomorrow.

Moreover, it is equally true that successful achievement in the field of business activity is in direct ratio to the competency of forecast.

Look in any direction you will for illuminating examples. The store upon which to draw is so rich that it is embarrassing. Take a typical manufacturer. Forecast besets him at almost every turn, in the formulation of both his short term and long term policies.

If he buys a consignment of raw materials today, for instance, his action must be based upon several distinct forecasts, viz:

(a) He forecasts the future price of the particular commodity which he purchases. If he forecasts a downward trend of prices he will purchase sparingly. If he forecasts a stable price trend he will be likely to purchase more generously, hoping to profit somewhat by a large volume order. If he forecasts an upward trend of prices, he will purchase his raw material very generously.

(b) He forecasts the future price at which he can sell the finished goods into which he will convert the raw material which he purchases today. If he did not do so, he would have no idea as to what he could afford to pay for the basic raw material.

(c) He forecasts the volume of finished goods that he will be able to sell tomorrow. If he did not do so, he would have no idea as to what quantity of raw material to purchase.

The manufacturer forecasts when he extends his productive facilities in any way: forecasts that he will be able to sell an increased volume of goods, and at a price sufficient to compensate him for the additional expense to which he has been put.

He forecasts when he improves his facilities without extending them: forecasts that the changes he is making will result in a compensatory lower cost.

He forecasts when he advertises, when he puts on sales drives, even when he adds a score of additional workmen. Inevitably his forecast is that tomorrow's sales will justify today's enlarged expenditures.

It is needless to multiply examples. Confidently it may be set down as an assumption upon which there can be no valid argument whatsoever, that forecast is an inescapable function in any branch of economic enterprise, and one may reiterate the belief that successful accomplishment in the one field automatically implies successful accomplishment in the other field.

It is not the fact of forecast itself that confuses men's minds, but a misunderstanding of its claims, purposes and scope. Let me first give my own conception of these three points in summary form, then look at each of them somewhat in detail.

Definition: Business forecast is the estimation of reasonable future probabilities, based upon all of the facts that are knowable today, upon the principles evolved from yesterday's experience, and upon the assumption that, in varying degree, these principles will be valid in the future as they have been valid in the past.

Purpose: The purpose of forecast is to provide the basis for business policy.

Scope: The scope of forecast must always be limited. No careful forecaster claims infallibility for his work, and the more careful he is, the more fallibility he is likely to recognize. But it still remains true that, regardless of the inevitable margin of error in every forecast, business policy which is geared to only a fairly intelligent estimate of future probabilities is more likely to be sound than is policy geared only to guess, or to NO forecast whatsoever.

Our definition of business forecast, stated immediately above, has been carefully worded, and conveys the idea as clearly as is possible.

To quote: "The estimation of reasonable future probabilities." Not a mere guess as to the future, not a hunch, but an estimate, a careful estimate, a considered calculation of what appears to be the reasonable prospect; a weighing of the various probabilities, and determination of the direction in which the balance should tend to fall.

To quote again: "Based upon all the facts that are knowable today." ALL of the existing facts are seldom, if ever, the knowable facts. Were they so, forecast would be a considerably more secure tool than it currently is. But it is almost always possible to gather a sufficiently extensive body of current information to lift the forecast far, far above the plane of sheer guess. Hence the correctness of business forecast tends to increase directly with the volume of current factual information from which it is projected.

And to quote just one more clause from our definition: "Based upon the principles evolved from yesterday's experience."

In the viewpoint of business management, a "principle" is a general assumption utilized as an instrument of control. It is not possible for any business executive to know all of the facts that he should know, or even a fragmentary portion of all that he should know. Therefore, he orientates himself by falling back upon principles, each of which is a short cut to the appraisal of a great number of specific business facts. In no other way can he hope to keep abreast of his situation.

Now, in our American economy, the body of useful and reasonably trustworthy principles, applicable to business facts, is not only a relatively large one, but a steadily growing one. The search for practical economic principles, and their development, is the function of economic research; so alert and effective have been the research activities of our governmental departments and bureaus, our educational institutions, our various business concerns, our statistical organizations, etc., that the American commercial world has at its command a background of workable economic principles which is probably more significant than any other society has ever possessed.

Principles are formulated chiefly in two ways: (a) by the test of actual experience over a period of time, and therewith the determination of what has been true more often than not, and (b) by conjecture -- that is, by the acceptance of what appears to be a logical assumption, but one which has not yet been thoroughly tested. Let us call the first type established principles, and the second type tentative principles. Both kinds must be drawn upon in business forecast.

And this is another reason for the fallibility of forecast. There can never be any assurance that an established principle will remain established forever. It reports a generality which experience has demonstrated, but does not necessarily guarantee long term future validity. Tentative principles are of course even more treacherous.

Thus intelligent forecast reaches considerably beyond the mere application of known principles, the blind assumption that what has been will be. It comprehends the continuous testing of both established and tentative economic principles,

46

and, where necessary, allowance for the fact that certain principles may not be applicable to a forthcoming situation. It comprehends careful selection as between actual, demonstrated principles, and those which are merely assumed to have the status of principles.

But it is likewise true that the body of economic principles upon which business is proceeding would be virtually worthless if the majority of these principles could not be regarded as valid for present and future use. If half of them were right and half of them likely to be wrong, one might as well determine business policy by flipping a coin. If less than half were right and more than half were wrong, one would do better to discard the whole lot.

So the correctness of business forecast tends to vary with the forecaster's wisdom in selecting the principles which he uses as the framework for his calculations of probabilities, and with his intelligence in making allowance for temporary abrogations in seemingly established sequences.

Happy would be the lot of the forecaster if he could make his probability calculation, be sure it was right, and then close up shop and sit with folded hands placidly awaiting the certain fulfillment of his prognostication.

But the thing simply does not work out that way. As has previously been stated, it is virtually never possible to possess one's self of ALL the existing facts that are pertinent to a given situation today. Nor is it possible to place complete reliance at any given time upon the framework of general economic principles around which one builds one's probability calculations. And, finally, it is seldom possible to make complete or even sufficient allowance for the unknown events which will be revealed with the dawn of each new tomorrow.

So there develops the necessity for continuous REFORECAST. The existing forecast (the latest one) must be constantly under scrutiny, constantly re-examined, constantly rechecked. It must be reviewed in the light of progressive developments. Often it must be modified. Not infrequently it must be drastically revised.

Reforecast is based upon the accrual of knowledge. A, B, C and D are facts known today; therefore, over a given future period, Principle 1 should be applicable, and Development X should be the actual outcome. But tomorrow Fact E, previously unknown and unallowed for, drops out of the bright blue sky; the day after tomorrow there appears Fact F, also unexpected. E and F become modifiers in the forecast. Principle 2 now appears to be more applicable than Principle 1. And Development Z becomes the more logical expectation than X.

The business man must place himself in a position to learn these new facts as promptly as they develop, so that he can fit them into his forecast, and make due allowance in his calculations for their probable effects. He must, in other words, expose himself to a continuous stream of new information, and must be regularly turning these additional facts to his own purpose.

Forecast thus becomes a progressive, rather than a static thing.

For the most part, those who deny to business forecast an essential and valid place in our modern economy either misunderstand what careful forecasters claim as to its nature, purpose and scope, or deliberately misrepresent these claims. Their misconceptions are mainly concerned with the following points:

(1) There is a failure to differentiate between a careful forecast and a careless one-- between a good forecast and a bad one.

(2) There is a disinclination to admit the obvious and inescapable truth that business decisions made today are tested tomorrow, and that the wisdom of these decisions depends in great measure upon the validity of forecast.

(3) There is sometimes a tendency to ignore the fact that all careful forecasters recognize not only the fallibility of every forecast, but the possible fallibility of many of the economic principles upon which such a forecast is built.

(4) There is a further tendency to ignore the fact that it is the common practise of careful forecasters to make due allowance and provision for the inevitable margin of error inherent in their basic data, in the principles upon which they work, and therefore in their derivative calculations.

(5) There is a failure to recognize forecast as a progressive rather than as a static force -- as a thing in which error is continuously alleviated, although never entirely corrected, by continuous reforecast.

After all, the claims of business forecast (that is, the claims of those who really understand its functions and limitations) are quite modest. It is claimed that forecast must form the basis of careful business, financial or security market policy. It is claimed that the success of policy tends to vary with the success of forecast. It is claimed that the success of forecast tends to vary with the volume of factual data which are made available at any given time, with the intelligence and skill displayed in formulating the forecast, and with the industry and wisdom that is displayed in constant reforecast. It is claimed that always and under every circumstance it is worth while to TRY to forecast --that a good forecast is better than a bad one, a fair forecast better than none at all.

Certainly these claims are neither extravagant nor unreasonable. Do they not constitute merely a simple and obvious statement or ordinary business common sense?

Having outlined, as briefly as possible, the essential claims, functions and purposed of business forecast, we may now give passing consideration to its methodology. Here, however, it will be necessary to use the personal pronoun-- singular and plural--rather freely. I know something of the forecast methods employed by a considerable number of business organizations, but naturally can speak much more confidently of our own work at the Standard Statistics Company. I hope you will not misunderstand my purpose if I draw, for illustrative purposes, almost wholly from this source of data.

At the outset, I should like to make it quite plain that forecast is only one of our organization's numerous lines of activity. It is, relatively, a minor aspect. Emphasis during recent years has been increasingly in this direction, as it should have been. But it still remains true that the major portion of the man-hours expended in the preparation and production of our various business and financial services is expended in the gathering, interpretation and dissemination of purely factual data, without any effort whatsoever to develop the forecast angle. Forecast, however, is a rather gaudy flower, and it is quite understandable, therefore, why the impression should have implanted itself in the minds of so many of our friends that we are an organization devoting all, or at least the preponderant percentage, of our efforts to business forecast.

The dominating method which we follow may be best described as that of ECONOMIC ANALYSIS.

This is the method which most common sense business concerns use in formulating their own future courses and policies.

Our claim that we produce something that is of intrinsic value to the average business man or investor rests almost altogether upon a multiplication of effort.

We do not claim that the members of our staff are wiser than the average business man or investor, nor that they are more accurate fact gathers, nor more intelligent fact interpreters, nor shrewder calculators of future probabilities. We merely assert that we have more trained technicians continuously wrestling with the forecast problem than it is practical for the average business man or investor to provide within his own organization, and that it has been feasible (indeed necessary) for us to bulward these technicians with greatly more adequate fact studying facilities than is customary in a different type of organization.

What, then, is the method of forecast which has been referred to as that of economic analysis? The simplest way to explain it is to say that it is the method of common sense economic reasoning, based upon facts, experience, deductions and inferences, and leading therefrom to what appear to be reasonable conjectures of future probabilities.

Let us go at the thing in another way:

Those of you who were raised on the farm may remember the ritual that was carried out before a new well was driven. A forked branch was cut from a peach tree, and was neatly trimmed, so that it had what corresponded to a handle, with a fork at the end. Holding the handle of this scientific instrument in his fingers, and allowing the forked end to rest upon the ground, the water prospector would carefully go over the area in which it was hoped the well could be sunk. If, at a given place, the magic wand turned in his hand, that was a sign of a hidden spring beneath; here was the place to drive the well.

This method of computing probabilities as to the location of water is that of divination. Forecast by the process of divination is the antithesis of forecast by the process of economic analysis.

Much of the debate which swirls about the theory of business forecast doubtless arises from the fact that, when the development of this technique was in its infant stages, several persons made conspicuously public efforts to approach it by the route of divination.

For the most part, these earlier forecast divining rods took the form of "charts". Certain statistical series--bank clearings, commodity prices, pig iron production, the rate of interest, etc., etc. -- were thrown together in one composite series. This series was pictured on a chart, and the direction in which the curve moved, under certain conditions, was assumed to forecast the later movement of business and stock prices. Most of these mechanical forecasters turned out to be useless.

In our forecast work at the Standard Statistics Company, we have great respect for charts. We keep hundreds of them up to date, daily, weekly, and monthly, in our own shop. But we respect them only as illustrations; only as the means by which HISTORICAL DATA may be quickly visualized.

48

Many of the charts which we keep constantly before us we believe to have forecast significance; forecast significance when the process of economic analysis has been applied to the situation revealed by the charts. The charts themselves do not forecast; they only report. They merely facilitate forecast by giving a quick report of many series of data, and by making it possible to compare different series.

One way of defining economic analysis, therefore, is to assert that it is the opposite of divination, or of mechanical forecasting.

Assume that the problem is to forecast the probabilities derivative from Situation A. These are the most essential steps in forecast by the route of economic analysis:

(1) Get all of the facts and statistics that are obtainable bearing directly upon Situation A,

(2) If situations B, C and D have an indirect bearing upon Situation A, then get also all of the obtainable facts bearing upon these more distantly related situations.

(3) Subject all of the facts and statistics obtained to such analysis as will make them more intelligible, more obvious, easier to understand, easier to compare, more quickly comprehensible.

(4) Subject these facts and statistics to interpretation by qualified experts.

(5) Bulwark the judgment of one's own experts by the judgment of anyone else who is qualified to express a competent opinion--business executives, financial executives, shirt-sleeve economists of all kinds who are earning a daily livelihood by dealing with these raw facts themselves.

(6) Weigh these outside judgments against your own. If yours is in conflict, be certain that you can offer a convincing reason.

(7) Study these facts and statistical data, as well as their interpretations in the light of long-term experience.

(8) Study them in the light of the demonstrated and established economic principles which have direct or indirect bearing upon them.

(9) Then compute reasonable future probabilities, on the basis of the facts that are known, on the basis of their careful interpretation, on the basis of experience, and on the basis of established principles.

(10) Finally, reduce the inevitable margin of error in every forecast by going over all the pertinent facts, along with new facts which develop, again and again-- that is, continuously reforecast.

The proof of the pudding is the tasting. Therefore I propose forthwith to move from the theoretical and academic to the intensely practical, or, in other words, from a safe harbor to a hazardous one. We shall cease talking about forecast, and forecast. That is to say, I propose to lay before you our company's private forecast of the outlook for general business next year, and to bulwark this statement with a brief-- necessarily quite brief, due to the limitations of time --resume of the most essential facts, principles and assumptions from which this forecast is derived. This will constitute a bit of laboratory work in the field of forecast itself.

First let us start with a forecast for the remainder of 1932. Barring major unfavorable developments which cannot be now foreseen, we predict that it will later be discovered that business activity in the United States reached its lowest point in the summer of the current year, and that these recent low levels will not again be violated.

For 1933 we forecast moderate but very spotty business recovery. We have no justification for expressing this expectancy for 1933 in mathematical terms at the present time-- that is, no justification, now, for trying to say how much better business is likely to be next year.

Following, in broad outline, are the chief bases for the prognostication of at least some further improvement in 1933:

1. Application of the principle of cyclical fluctuation. I could readily consume a full hour in the description and documentation of the cyclical theory. But this is neither necessary nor practical. With all due modesty, your speaker claims to be the inventor of the world's shortest definition of the theory of cyclical fluctuation, viz: it is the theory that the majority (that is, more that 50%) of business situations tend to move in the same direction at the same time--upward, downward, or horizontally. Business decline or business expansion therefore tend to become general phenomena. This theory opens the way to the assumption that the United States is now on the threshold of a long term rising cyclical trend. But please do not think that I propose to dismiss the matter so lightly. We shall return to this subject again in a few moments.

2. Application of the principle that every people develops a sustenance level of living standards, and that continuance for an extended period of time on a plane materially below this level automatically forecasts a future correction of major significance.

It can be demonstrated by statistics that this country has been skidding along below its normal sustenance level for many months past--using up consumer stocks of goods which must sometime in the proximate future seek large scale replacement.

3. Application of the principle that cheap and abundant money has never yet, so far as the annals of economy go, failed to ultimately encourage increasing courageousness in business enterprise. Surplus bank reserves are probably at an all time peak at the moment. Possibilities of further credit expansion from the current low level are enormous.

These are three basic principles of outstanding significance in general business forecast at the moment. A dozen other ones of lesser importance could be cited, but that will not be necessary. The purpose is to illustrate, rather than to detail.

This brings us face to face, however, with a crucial question, to wit: why is it valid, or even assumed to be valid, to cite these particular principles, <u>at this particular time</u>, as bulwarks of a forecast of moderately accelarating business activity next year? It may be said that money was cheap and plentiful a year ago, that consumption then was below long term normal, and that the expectation of cyclical influences working in an upward direction could have been equally secure. Yet it is thoroughly obvious that, to have drawn forth these three major principles a year ago and to have used them as the basis for prognosticating business revival would have resulted in a 100 per cent erronious forecast.

The rebuttal is very simple. A year ago there were still many obstacles to bar the working of the economic laws which customarily stimulate business recovery. Today, most of these hinderances have been either reduced in size or rendered temporarily impotent. So in further justification of our forecast, we must pass from broad principles to facts and assumptions, and in these facts and assumptions find the justification for the application, at this particular time, of the principles. What are the most important of the <u>facts</u> that are pertinent to the present case?

The most imposing barriers to normal business recovery from a grossly subnormal plane have been leveled downward, I firmly believe, by the intelligent and far reaching emergency economic activities of the Executive and Legislative branches of our Federal Government. I refer especially to the formation of the Reconstruction Finance Corporation and kindred organizations, to the enabling legislation which brought these effective bodies into being, and to supplementary legislation which enabled our banking system to adequately cope with the drastic drain on our gold supplies which was occurring a few months ago.

By these heroic measures, the panic of April-May, 1932, was stopped; bank failures were greatly lessened; drains on the reserves of insurance companies and other financial institutions were stopped; widespread railroad insolvencies were arrested; pressure on the security markets, occasioned by unremitting necessity for liquidation, was lifted; our Federal Reserve System--the heart of our credit structure--was allowed to add new functions; many thousands of our citizens, face to face with sheer starvation, have been fed and given a new viewpoint toward life.

Is it any wonder, then, that what is so often referred to as "public psychology" has undergone an appreciable change during the past few months? Is it any wonder that today literally millions of people who no less than six months ago were afraid to spend one unnecessary nickel are today beginning to buy just a wee bit more freely? Is it any wonder why hoarding of currency, which was placing such an unendurable strain upon our banks, insurance companies and security markets, has been arrested?

A cyclical revival in business activity must be the accompaniment of a cyclical revival in public confidence. There can be no such thing as an up-swing in business from a downward trend in public confidence. That is the main reason why it would have been so erronious to have forecast reviving business a year ago, or even six months ago. At either of these earlier points, either the things necessary to strengthen public confidence had not yet been done, or had not been under way long enough to disclose their benevolent influences.

There are numerous other facts which make the application of the underlying principles of business revival valid at this time. It is known, for example, that consumer inventories are almost as low as current consumption itself. It is known that in many commodity markets goods are still selling below the cost of production--an almost inevitable precursor of later correction. It is known that much necessitous liquidation has already been accomplished. But most important of all is the faint revival in business courage, for the reasons previously outlined.

The hope--and indeed, the normal expectancy on the basis of all known economic facts and principles -- is that, having at last been given a fair chance to start, business revival will ultimately gather enough momentum in its own right to carry its own weight, so that the artificial props which have been placed under the shakiest portions of the structure can be gradually withdrawn. Lacking proof of the contrary, or until proof to the contrary becomes available, I see no justification

50

for dissenting to this logical premise. Reforecast may later disclose an adequate basis of dissent; it is primarily the function of business forecast to be continuously on the alert for the appearance of any new situations, either major or minor, which may throw the train off the track.

But make no mistake about either the rapidity, the degree or the character of the expected business improvement. It is going to be slow, painful, dreadfully discouraging at times spotty, whimsical, baffling. The winter of 1932-33 is going to be one of the most distressing that any of us here have ever seen. The wound ripped open by this great depression is not only deep, but long and broad. It is humanely impossible that it can be healed quickly or easily.

But if economic principles mean anything at all, they mean that it is a wound which somehow can and will be healed. The greatest obstacles in the pathway of recovery have been removed or reduced in size for the time being at least. Naturally, the throwing of public credit into the breach cannot continue forever; the patient would kill himself with his own medicine. What has happened is that a great volume of public credit has been made available at the crucial moment-- that is, during the panic stage of the depression. As previously pointed out, the basic premise, which must be regarded as logical lacking evidence to the contrary, is that business given the chance for initial stimulous, will generate enough steam to carry its own weight.

This, then, is the forecast. Any one who has the temerity to utter a longer term forecast, as this one is, has a certain advantage on his own side. It will be at least a year before his audience will know whether they have wasted their time listening to a bad forecast, or improved their intellectual equipment by hearing a valid forecast. In this case, I am sure you all join me in the hope that it is the latter rather than the former.