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BUSINESS FORECASTING

by

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I come before you today to uphold the very gracious introduction by Colonel Miles. He calls me a dynamician. The term has been largely thrust upon me because of my own chance remark. I indicated to Colonel Miles a year ago, after his introduction of me as a statistician, that I preferred to be known as a dynamician for the reason that I treat with the dynamics of the economy rather than with the statics.

During the initial week of what many have already come to call the second World War, I happened to be in Washington. On this occasion I talked to Colonel Lewis. He suggested that now with the outbreak of hostilities I would doubtless have to make sundry important changes in my scheduled talk before the College on Business Forecasting.

Well, I answered Colonel Lewis, my answer really was unimportant and I only indicate this conversation with the Colonel because it brings to mind an interesting and what I think a most timely story. Go back with me, if you will, to the days prior to the Civil War, when Charles Sumner, the famous abolitionist, was going all over the country delivering talks on abolition. He was invited, so the story goes, to give a talk at Springfield, Illinois. In accepting that invitation he wrote, or is reported to have written, as follows "I am more than happy to accept your kind invitation to speak to you. If I speak on abolition my honorarium shall be $50.00, if I speak on any other subject my honorarium shall be $100.00, but I warn you well in advance that quite regardless of the title of my talk you will get the same talk".

Now, gentlemen, that is the position in which I find myself today. Regardless of my subject and the outbreak of war you may expect to get the same talk. That is why I went to such pains to tell you the little conversation that I had with Colonel Lewis.

I know, and you know, that under these trying conditions many men are wondering what effect the war will have on the precarious job of business forecasting. As I shall proceed from here I hope to be able to indicate to you that it is possible to forecast business quite apart from the element of war. Business men generally, I am quite convinced, are likely to come to a rude awakening in the not too distant future. They are likely to find that their belief in the continuation and sustaining force of industrial recovery will suffer a reversal. War or no war, as I see the picture, industrial activity, which has been recently in a very important ascending phase, will, in the early months of 1940 show a reversal. That is point No. 1 which I hope to be able to demonstrate before I am through.

Already evidences are accumulating to indicate that the rather rapid rise in industrial activity since May, and more especially since the outbreak of hostilities, will witness a reversal before the snow flies. Now that is a phrase I used last year. To those of you who were here last year I indicated from this platform, that the then rising curve of industrial activity would see a reversal, probably before the "snow flies". Precisely that happened.

Our economy is a complex one. We have all manner of industries and all manner of businesses, all manner of services. In my attempt to appraise first the conditions and then the outlook, I always try to evaluate the impacts of each of the important segments of our economy and their more important interactions. We have, on the one hand, the consumer goods industries which embrace everything from woolen goods, cotton textiles, boots and shoes, to rubber tires, even tobacco. On the other side of the fence we have the durable goods industries which embrace such things as construction, railroad equipment, and the moot question of automobiles. It is no news to you men who are studying these things from day to day that we have seen a very striking recovery in industrial activities since last May. That is what I would call the statics of this picture.

But what of the dynamics? How long will these improving conditions in the respective industries continue? It is there that the business forecaster must dare to tread. We are witnessing in many phases of consumer or non-durable goods industries today, levels reminiscent of the best levels in our history, and in some isolated instances, even exceeding previous tops. Let us leave that for a moment and go to the durable goods industries. The capstone of that industrial segment is construction. The construction industry has experienced this year the sixth year of continued annual rise from the depression. And yet with all that continued improvement over a six year period we are today producing construction items at a level only about half of the level of the previous peak period and that, you will recall, was long before 192 . Of all construction perhaps the most important single arm is residential building and what has that done? This year we will build some 30% more residential units than were constructed last year. Yet after the record for 1939 will have been completed, we will have produced less than half the number of residential dwelling units of the peak year, 1925. More important even than that is the fact that residential building units produced this year will just about equal the volume of residential building in the depression year, 1921. Now in 1921 the volume of residential building likewise represented the sixth year of the rising cycle which started in 1915. True it is, that rise was interrupted because of the war and the demand for war materials which diverted activity away from the residential field.

Now there are other phases of the durable goods industries that are important. There are, of course, the railroad equipment, machine tool, and sundry other industries that you men are familiar with as representing the durable goods industries. We have seen in those cases spectacular production and spectacular orders which presumably will be translated into production, and yet there are many instances of durable goods industries that are far removed from their previous peak levels.

Now get the picture, consumer or non-durable goods on the one side, in practically every instance either at striking distance or better, of previous high levels and the durable goods industries on the other side, quite far removed from 1929 levels. It is important that you get that picture clearly for what follows is a presentation of maladjustments between the light and heavy industries. This is what Colonel Miles has affectionately referred to as my "contraption".

Now there are on this chart, two curves, as you see. There is a motive in leaving these unlabeled as I never know but what sometime I might lose this chart in transit. But seriously, this upper curve, this broken curve, you men are thoroughly conversant with, is the curve of the Federal Reserve Board Index of Industrial Production, adjusted for seasonal, with the years 1923-1925 representing 100.

This lower curve, in heavy outline, is my "Contraption". I ask you to look at that picture a bit, you will find certain broad similarities in the major swings of those two curves, except for the element of time, and it is in that element of time, if my contraption has any value at all, that that value lies. Major movements in the industrial production curve are foreshadowed months in advance by similar directional movements in my contraption. Cast your eye over here, if you will, to this period, 1926-1927. Taking it by and large the trend in my curve was upward. I might call it by a better name, a name used frequently, viz., my maladjustment curve This curve moved upward through the middle of 1928 and then like a bolt out of the clear started to reverse itself. Now you will say, it reversed itself here. (Pointing to 1926-1927). Each of these reversals, for the most part, had their counter part months later in the Industrial Production index and this is as good a time as any to emphasize that this contraption attempts to measure only one thing, and that is directional change, not magnitudes of change. I might also indicate at this time, as you will see, if you will look from this peak in 1928 to the peak a year later on the F.R.B. Index of Industrial Production, that the time element is roughly a year. As a matter of fact it varies between eleven and thirteen months.

In mid-1928 I began to sense that this industrial picture of ours at that time might conceivably go into reverse. When I saw this long decline which extended throughout the balance of 1928 I was convinced that before 1929 would become history, we would be in the beginning phases of a major decline, and why? This hundred line in reference to the maladjustment curve means no more nor less than balance or adjustment. It represents balance between those two great segments of industrial life that I stressed at the outset of this talk, balance, or unbalance, if you like between the consumer goods or non-durable goods industries and the production goods or durable goods industries. When I found that we were some 20% above true adjustment in 1928 and that it was rapidly falling to a true adjustment, I was convinced, as I have just indicated, that we were in for trouble about a year hence. There was your counterpart in 1929. (Indicates production curve).

Now you will say I indicated earlier that each of these small ripples had counterparts, for the most part, in the Industrial Production Index. Where do you find a counterpart of that I didn't The rise in the Federal Reserve Index at the tail-end of 1929 was entirely artificial and was induced by President Hoover's business survey conference for which manufacturers and public utility executives were called to Washington to stem the tide of recession and spend for capital outlay. Without an indication of that in my curve I continued to be of the opinion that any improvement in Industrial Production Index could not hold and it didn't hold. Here at the end of 1929 there were ample indications in this maladjustment curve that but for the frantic efforts of Government and business to do something heroic to stem the tide of industrial decline, we could have been ready for a true resumption in industrial activity.

Now look at 1932. The maladjustment curve beginning at 1932 again indicated a reversal upward and on my office chart which I have on my desk at all times, in April, 1932, I put a projection line projecting the possible performance of industrial production a year hence. The production curve in 1933 moved sharply upward. This was foreshadowed by the movement of the maladjustment curve in 1932. Now mind you, I had no knowledge any more than you men had that there would be a change of administration in Washington in 1933, least of all did I have knowledge that we would have the N.R.A. Yet that small reversal upward in April, 1932 in the maladjustment curve was a direct forerunner of this spectacular abortive rise in industrial production due largely to the advent of the N.R.A. and all that it connoted.

From that time on, of course, the Industrial Production Index showed great irregularity. This irregularity, some historians will later say (Indicates production curve) I believe, was induced by artificial manipulation of fundamental economic forces. There is nothing in here (indicates maladjustment curve) that indicated the need of that sort of irregularity and had these fundamental forces been kept in proper balance this turn in 1933, instead of simply indicating this small rise, would have been a true turn.

It was not until May of 1935 (pointing to maladjustment curve) when we had a return to more normal play of economic forces that this contraption again began to feel like doing right by me, and what happened in May, 1935? The Supreme Court outlawed the N.R.A. and the AAA. From this time forward I was able to say with some positiveness and conviction that the trend of industrial activity, I meant the directional movement of industrial activity, would be upward, and we had the longest period of sustained rise of any of the years in the current decade, from mid-1935 until mid-1937; then something happened. Forces making for maladjustment started to creep in back here at the end of 1936, and so it was three years ago from this platform that I indicated to the student body of the College that industrial activity, as measured by the F.R.B. Index, would probably suffer a reversal shortly after mid-1937. That was predicated largely upon this little single dip and when I had confirmatory evidence at the end of 1936 I was convinced that it would happen. It did happen and we had the most devastating decline in industrial activity in our entire history compressed within so short a period. Now I warned you. (Pointing to production curve).

This contraption I repeat measures directional change and not magnitudes so that the position of this curve on the chart is to be read only with reference to direction and not magnitude. (Indicates maladjustment curve).

Now for a part of 1937 a rise (Indicating maladjustment curve) occurred in the maladjustment curve which should have had its counterpart in 1938 in industrial production. It did, but it did not last. From this platform a year ago I said, and in order to be entirely accurate I'd like to read, "This recovery movement could be the most enduring and the most regular recovery of any that has been witnessed in this country since the fits and starts that were ushered in, in 1932. Now I said it could be the most enduring and most regular recovery. Whether it will be, in my judgment, depends entirely upon the combined vision of management, of labor, and of Government." In attempting to interpolate the meaning of any curve in terms of the Federal Reserve Index for the first half of 1939 I indicated as follows "The Federal Reserve

Board Index as I see it for the first half of the coming year will work out to an average of roughly 100". Actually it averaged 97. About the rise that was noticeable at the tail-end of 1938 I had this to say, "I say for the record that the current improvement in the Federal Reserve Board Index of Industrial Production is just about due for an interruption. Now you men are going to be able to check that statement, or rather that prediction, pretty soon. I have every reason to believe that you will be able to check it before the snow flies." Now we had that interruption, (Points to production curve, 1939) and that interruption, gentlemen, in my mind was largely induced by manipulations both within the government, within management, and within labor, the very things that I thought might bring it on. We had a very disastrous coal strike, as you know, and yet with all of that, it was merely an interruption of this continuous rise of industrial activity. A rise that was foreshadowed by this curve. (Maladjustment curve, 193.).

Now from this platform a year ago, I indicated the likelihood of a possible reversal in industrial activity after September of 1939 on the strength of only one preliminary indication of a reversal in this curve. Final figures did not support that reversal and so after I left this platform I was able to say to those of my friends and clients who were interested, that the final half of the year 1939 would be a banner period. No, gentlemen, I had no knowledge about the coming war. I knew, of course, as you knew, that we could expect and probably would get sundry crises, but that fundamental forces would still motivate the economy. The things I try to evaluate were indicating one of the most dynamic recoveries in industrial activity a year hence, namely in the latter half of 1939.

Now I know you men would like to know what is under that little sheet of paper because that is the dynamic part of this chart, the dynamic part of this talk. (Removes paper). I will let you in on this little secret. When I started off this talk by indicating that business men were likely to receive a rude awakening sometime in the not too distant future, I also indicated that the reversal in industrial activity, evidences of which are now gathering, would be noticeable during the early months of 1940. How do I get that way? (Points to maladjustment curve). After this most dynamic rise (1937) which brought the maladjustment curve back to the highest point since 1930, as a matter of fact brought it back to the highest point since mid-1929, I get a sharp trend reversal. The fact that it lasts for a period of five or six months affords conviction as to its forecast value. If it were only sort of a jigger, like that of 1933, it would have meaning, but not as convincing as this reversal. I suppose I really should have had two little fly-leaves, one to have covered this point and the other the new reversal, this time the upward one. You will note that although I am looking for a decline in the Federal Reserve Board Index in 1940 to carry for perhaps four to six months, I likewise am compelled, if this contraption has any meaning at all, to indicate to you that this rise in the maladjustment curve indicated a counterpart of rising activity sometime in the latter half of 1940.

Now I had occasion to show this chart to a group of industrialists only a short time back. It was last week in fact, and one man asked me "Do you think, Mr. Schnitman, that that reversal portends a change of administration?" Well, I parried the question. I said I'd rather not say. This chart has an uncanny way of forecasting almost everything it seems. It forecasted this war situation at least the dynamic phase of the productivity improvement, some observers tie in to war influences. If this chart has any meaning at all it indicates just that which I have shown, namely, a probable decline of industrial activity for 1940, for the first half, and a reversal upward, probably extending at least through the final half of the year. I am not asking you to accept the premise that the rise and fall of industrial activity depends on adjustment between the major segments of economy, but on sheer logic alone it seems to me fundamental logic that this rapid upsurge in industrial activity can't last. Here we have seen since May in the Industrial Production Index, a rise of some 25%. It is not alone that manufacturers and merchants, and even ultimate consumers were caught short, as it were, of goods and of merchandise, and that now the rush to replenish inventories has given a striking fillip to industrial activity that sooner or later would require correction. It is more, for in the rise there are serious distortions, dislocations, and maladjustments, that have to be corrected and this contraption, some how or other, seems to measure their impacts a year or so in advance.

Now I know how easy it is to be carried away with exuberance over spectacular rises in industrial activity and growing and ever-mounting orders such as our industrial organizations are receiving, and how it is to feel that there is no end in sight and that sort of thing. That is why I don't hesitate to remind you of what is written in the Talmud, 'Unhappy is he who mistakes the branch for the tree, the shadow for the substance'. In this picture there is much shadow. I find a large number of men who seemingly believe the economic rainbow has been found. The majority is always wrong. We are, today, faced with a lot of elements to be sure, elements that make it ever so much more difficult for the business forecaster, or the dynamician, if you like, to ply his profession. Time was when it was difficult enough to attempt to fathom the vagaries of the business cycle itself The elements of war, to be sure, make the lot of the forecaster that much more difficult and yet there are certain fundamental things that go in the economy that can be evaluated without regard to the elements of war.

If there is anything that I have left with you at all today, I hope it is the thought that by a careful study of the interactions between the durable and the non-durable goods industries, you will find some means of gaging the true position of industry and its probable outlook. Before closing, it might be well to indicate one further thought. Although it may be in the realm of presumption, I, for one, have an abiding conviction that [illegible] intervened the prices of American stocks would have been much higher than they are today. Somehow or other, I believe investors are now beginning to realize that there must be a [illegible] reason why the disparity between the level of stock market prices and the level of industrial activity exists. Here we have an Industrial Production index that has advanced spectacularly some 25% since last May and yet the stock market has [illegible] considerably down. A study of the interactions and inter-relationships, would indicate that but for war, stock market prices would probably be on an average at least 10% and perhaps [illegible] higher than they are today.

Now gentlemen, if I may I would like to close with the paraphrase of an old truism – you can lead a business man to statistics but you cannot make him think.

DISCUSSION

following

Lecture "Business Forecasting"

by Mr. L. Seth, Schnitman,
Dynamician

October 16, 1939

Q. I'd like to ask, Mr. Schnitman, if there could be any catching up in the data you are using on your adjustment curve there, so that it is more or less beginning to fit in with the same data the Federal Reserve is using. I ask that because your curve apparently is ahead up to 1937, the beginning of 1938, and from then on it begins to parallel this other curve. Do you suppose there could be any fundamental changes that would be changing or having effect on your data that you are putting in the curve?

A. Yes, there have been some noticeable changes, as a matter of fact I too from time to time have to check the validity of each of the items included in my curve. I might say that this curve does not represent monetary factors, it is a quantiative appraisal of either adjustment of maladjustment between the items included, but your point is well made and this is just a tool. I wouldn't want any man in this room to think that I rely 100% on this curve alone because it is so easy for one to become enslaved to it and at the very moment you think the curve has got to work, that may be the very moment the curve will act up on you.

Q. Last year you indicated that the Federal Reserve Index would be about 100,--

A. That is right.

Q. In view of the fact that you have at this time, two definite reversals would you care to forecast as to the probable Federal Reserve Index for the first half of 1940?

A. Now, I can see you fellows want to get me out on a limb. Those of you who saw this chart last year probably recall that I did something last year which I have never done before and which I have since vowed I will never do again; that was to actually indicate the magnitude by months of the Federal Reserve Index. Now that photo~~graph~~ stat you have taken of this chart probably shows that. Although the average that I had for the first half of the year was approximately 100, for the first half of 1939, it was within 3%. The movement by months was quite a little different from the actual pattern. (Indicates production curve) The decline I had expected to come just a little sooner. If you were to come up to the wall you can see where it has been erased. Now that upsurge was entirely an unfounded ~~upsurge~~ one. I have another contraption that does attempt to measure magnitude. My clients are interested in the balance sheet — how can we interpolate this thing in terms of physical magnitude— and I have it to do. Well now with that introduction I will say this, and that it has been based entirely upon assumption. I have projected here the September figure of the F.R.B. Index at 115, the reported figure of the Federal Reserve Board for August was 110. The Federal Reserve people told me a week ago that they were looking for the Index to be 120 for October. I have even heard among men, whose business it is to study these things as I do, that for December they are expecting an Index of 140. Well now, I am not going to argue or labor that point, but that obviously must have its effect on what will happen in the first half of the year. I mean it is one thing to have an Index at 115, another at 120, and <u>another</u> to have it 140. Now this upper curve last year moved too fast, it should have gone up but not as fast, using this contraption in terms of another contraption I have for magnitude, but it went too fast, so I had only a small correction.

Now in specific answer to your question, ~~the final quarter of the current year will probably show an average, that is for the three months average, of about 110 in the Federal Reserve Board Index. Now~~ if you will permit one assumption, namely that that average for the final quarter on the Federal Reserve Index will be 110, I will say that the average for the ~~next~~ first half of next year will be in the neighborhood of 95. ~~In other words a 10% drop. Now~~ If the average should happen to get ~~down~~ up to ~~15 or 20~~ 115 or 120, ~~which it would have to get to if we have a single month like 140,~~ ~~your~~ the readjustment ~~would be~~ on a percentage basis could be much more drastic.

Q. In your talk, I don't know whether I understood correctly, but I rather gathered that you feel that the economic forces at play are basically inexorable and not susceptible to rectification by Government action.

A. Precisely.

Q. Will you elaborate that theory?

A. I would almost have to say I am an industrial anarchist. I was quite meticulous in my talk; maybe I didn't get it across, in indicating the need first for studying the consumer or the non-durable goods industries and then the durable or producer goods industries, and then to study their interactions. Now we use money as a medium of exchange but in the final analysis, a bale of cotton must be exchanged, or a number of bales of cotton, ~~a~~ or any consumer or non-durable goods item, must be exchanged for, let us say, a dwelling, or a railroad locomotive. That is why it is that I say ~~if I am at all logical, that~~ these forces are inexorable, ~~and itxxx~~ when these things back up against each other and the exchange can't be made, there is trouble ahead. The exchange is always made, of course, in terms of dollars. Friend Hitler, of course, has found other means of making exchange; but exchange is always made in our economy in terms of dollars, and when physically these items can't be exchanged you get that type of maladjustment. Have I answered your question? Now I know you'd like to have me go just one step farther and ~~say~~ tell you just what elements are ~~is there~~ in that curve. Some years back I had occasion to tell the Army Industrial College I hoped some day to dedicate this curve to the public and I believe it was Colonel Jordan, who was then Commandant, who said "I'd hoped you would dedicate it to the College". to which I said, "I probably will when it goes wrong".

It is very simple, just as simple as a safety pin, ~~and it has history.~~ It was not built yesterday ~~with an attempt to get it back into history and see how it worked in the world today~~; it was built ~~back~~ almost twenty years ago, ~~although this chart only shows from 1926.~~ It has attained grandeur and maturity with the passage of years, but it is very simple. When it was first started, although the logic has not changed, it was much more complex. It had many more ingredients, many of which have since been discarded because of impacts which were felt elsewhere. I can keep this curve up to date in the course of I think a minute or two each month. That is how simple the calculations are. Nothing so complex as even the Federal Reserve Board Index