

ECONOMIC INDICATORS

4 September 1953

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INDUSTRIAL COLLEGE OF THE ARMED FORCES

Washington, D. C.

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4 September 1953

DR. KRESS: Admiral Hague, General Greeley, and gentlemen: The subject of "Economic Indicators," the topic of our lecture today, has been part of our orientation period for four years.

I am going to tell you a little story that fits in nicely with this. It seems that a businessman, a friend of mine, went back after 15 years to an annual reunion of his Alma Mater. Going up to the economics hall, he noticed the door was open, went in, and saw the same old professor that he had had before. So he sat down and began to talk over old times.

A little later he said: "Professor, I still remember those questions you asked us on the economics examination." The professor said, "I just happen to have the last set of questions here" and handed them to the alumnus. He looked at them awhile and said: "Professor, these are the same questions we had 15 years ago." The professor said, "Yes, but we have different answers now." Our speaker this morning is going to show you how to read the indicators so that you can arrive at your own answers.

As his biography shows, our speaker has had a great deal of experience in this field. It is a great pleasure to introduce to you the Assistant Director and Chief Statistician, Office of Business Economics, Department of Commerce--Dr. Louis J. Paradiso.

DR. PARADISO: Today I want to go through the types of indicators which are used in economic analysis, but without making too much reference to the basic indicators in the national income data, because on that Dr. Kress is going to make a presentation early next week.

At the present time practically every analyst, every businessman, and every government official is vitally interested in looking at various types of economic indicators; and the reason for it is rather simple. Our economy has been operating at a full production and employment rate for quite some time. The question is naturally raised, Just how long can we go on at this very high rate? Will there be a time when the economy will have to slow down? What are the signs which we can look at which indicate to us the beginning of a possible downtrend in our economy?

So businessmen are extremely anxious to see whether by looking at various indicators, they can get some idea as to whether they point to a decline, and in what areas the declines are occurring. Thus, I think it is extremely important to get some knowledge of the types of indicators which are available, and which we can look at to see whether we are going into a period of recession or whether the economy will continue to have the buoyancy that it has today.

Let me go through and indicate for you the four major uses of economic indicators. The first use is that these indicators provide an understanding of the current economic situation and the dynamic forces in the economy. In other words we want to look at these indicators from the point of view of seeing what are the forces which are making for continuing growth in production and in employment, and what are the forces which are pulling activity down.

Second, these indicators serve as guides in appraising the outlook for general business. By looking at certain of these indicators, we can get some indication of the various trends which are developing. And by analyzing those trends, we gain some idea as to whether business is pointing up or is showing other tendencies.

The Third major use of these indicators is in analyzing sales and profits, by companies, by products, and by industries. This is a very important use from the point of view of the businessman. Usually a businessman finds that there is some definite correlation between the sales of his product and one or more of these economic indicators. The economic indicator for a particular company might be, let us say, the trend of construction activity. The Johns Manville Company, for example, has found a very good correlation between its sales curve and construction activity in the United States. Various department stores around the country have developed correlations between their sales and the purchasing power of individuals. Many business concerns are forward-looking. Either through the employment of their own economists and statisticians and marketing people, or by using outside consultants, they have developed some tie-in between their own business and the indication given by the relevant economic indicators. That is an extremely important and practical use for these economic indicators.

Finally, there is a tie-in with the former uses. These indicators are used by business as guides to inventory policies, in making investment decisions, particularly on plant and equipment, and in budgeting. That goes for their allocation of advertising expenditures for the next year, the determination of how much materials to buy, and the determination of the size of the manpower that is required for the anticipated production.

You will notice that in conjunction with these four major uses the underlying basic use is essentially: What can we see in these indicators that will give us some idea as to where business is going?

There isn't one indicator that will do this job. Unfortunately, we don't yet have a set of indicators, or one indicator, to which we can point and say: "By looking at this we can tell whether the economy is going up or going down." It is a much more complicated matter than that.

There are groups of indicators which are extremely convenient for use as a frame of reference in analyzing the economic situation. The first group is encompassed in the national income and gross national product accounts. Those accounts will be described later; so I will just let it go by saying that they provide a general economic background and a valuable analytical tool. They provide a measure of total economic activity, with significant breakdowns, so as to be able to evaluate the various aspects of the economy.

These are overall general indicators which measure a consistent and related set of activities. They have been developed only a relatively short time ago. It is only in the last 20 years that these accounts have been developed in the full scope in which they are now published.

There are other systems which many economists and businessmen use. For example, they will take a look at a dozen or so indicators which have been selected as typical or representative of economic activities; they will conclude that if a large number of them are showing declining trends, the economy is weakening.

In other words you can take a selected number of the various available indicators and proceed to make an analysis on the basis of the way the indicators point at the particular time. The National Bureau of Economic Research has recently published a study in which they have listed a number of indicators some of which point to the direction of economic activity in the period ahead.

However, this approach is an extremely complicated one, because of the fact that not all recessions are alike. In other words in one period, such as from 1937 to 1938, there were X number of indicators which pointed down. They would point to the particular kind of recession in that period. But if the same number of indicators and the same types of indicators were to go down, let us assume, in the next six months, it may not necessarily indicate that a recession would be under way. Recessions are different in types because of different kinds of forces operating at any particular time.

Consequently, it is not a question of taking a fixed number of indicators and analyzing that fixed number. You have to utilize all of the indicators that are available, and analyze those concretely with regard to the differentiations between them. I want to stress this, because it is a difficult problem to try to determine from economic indicators what business conditions are likely to be. It is one of the most difficult problems we have in economic analysis. And yet, by careful scrutiny of certain basic indicators, which I shall talk more about later, you can get a pretty good idea as to the basic underlying forces making for changes in our economy.

Now let me say a word about the types of these economic indicators that are available.

In general, there are two broad categories of indicators. First, there are those that give a measure, directly or indirectly, of broad aspects of our economy, the general economic picture. There is an index of total production, an index of total employment, an index of general prices, and of business loans. In other words these are indicators that reflect the total economic activity in the United States in its broad aspect.

A second type is called specific indicators. These cover areas of activity, which are important in the total economy but do not cover all phases of the economy. I will give you examples of this type. They are also important. They are the ones business looks at, because of the light they throw on specific questions.

For instance, retail sales is a specific indicator, but, nevertheless, an important one; and there are manufacturers' orders, steel production, farm prices. Also, the sensitive commodity price index which includes about 28 items, but is significant in its implication. Other examples of specific indicators are: machine tool orders, paper production, electric power production, and car loadings.

I will indicate the form in which these indicators appear, so that you will have a better guide in using a particular indicator.

Generally, there are two types of forms in which indicators are expressed. One group consists of indicators which represent the dollar value or physical volume of an activity. For example, national income or retail sales are expressed in dollar values. Steel production is expressed in terms of tons of ingots. Automobile production is shown in number of cars.

Keep in mind in using an indicator which is expressed in dollars that it contains the effect of price changes. Therefore, you may have an indicator of that type which moves down not necessarily because total physical activity has changed but rather because of a price change. So I think it is important to bear in mind, when you are using an indicator involving dollars, that there is the price factor which can contribute to the fluctuations in addition to the contribution made by physical volume changes.

This is the first type--dollars and physical volume. Most indicators, however, are expressed in index numbers. This is a much more complicated idea, because an index, as those of you recall who have gone through a statistical course, attempts to measure in combination a number of different items. For example, it combines the production

of apples with the production of wheat and the production of steel into one single indicator of their total production; they combine the price of beans with the price of copper and so on into one single indicator reflecting the prices of all these commodities.

Such indicators represented by an index number reflect changes only. You can't make comparisons in terms of levels. You can make comparisons with respect to trends and with respect to the changes which occur between one series and another.

I am going through these considerations because I think it is important to keep in mind that it is necessary to scrutinize the indicator in the form in which it appears.

The next point is this: An indicator which is reflected by an index must be thoroughly understood in terms of what it is and how it is made up, before we can really use it intelligently. Let me give you a simple example. Let us say we have an index of automobile production. One way to construct such an index is to take the total number of cars produced, add up all the Fords, all the Chevrolets, and all the Cadillacs, and so on; and in that way you get the total number of cars produced. It is not an index in the sense that you have combined different types of things, but it is an indicator of automobile production in the aggregate.

However, you can also construct a different index of automobile production tailored to a particular use. For instance, let us say that you are interested in determining the effect of changes in automobile production on the demand for steel. Then you may construct an automobile production index by this method: Take the Fords, get the average tonnage of steel that goes into the Fords; and then weight the total production of Fords by that average tonnage of steel. Take the Cadillacs, get the average amount of steel involved in each, and weight the Cadillacs by that average, and so on. This method combines different units by different weights to give them their relative importance as to the amount of steel utilized in the particular groups of cars.

Such an index may not necessarily be the same as the one which is derived by adding the units of the makes of cars. This is a different kind of index and is used for a special purpose.

Let us go on now to the major economic indicators, exclusive of the ones that relate to the national income and gross national product. I shall start with the broadest of the overall indicators—covering physical production. These are the gross national product and the national income indicators. These are the broadest overall indicators of the production of goods and services.

These measures of our total economic activity are the ones used to observe the trends of business from one period to another.

When the gross national product is adjusted for price changes it results in an extremely useful indicator of total production. Over the long term it shows that national production in the American economy has increased at an average rate of 3 percent per year. That has been the long-term growth and such growth has persisted over the last 50 years or more.

Over this period we have had recessions and depressions, however, aside from these interruptions the growth has been persistent. Such growth has reflected two factors:

First, is the persistent increase in the productivity of our workers--the production per manhour. This increase has been 2 percent per year, on the average. The rising productivity is really what has made our economy outstanding among the nations of the world. It has been responsible for the steady and substantial increase in the standard of living in this country--the production per manhour, the increase in efficiency, and our know-how in industrial production.

Second, the index of production also reflects the fact that our labor force has grown on the average of about 1 percent per year. Thus, the 2-percent increase in total production per manhour, and the 1-percent increase per year in our labor force in combination has resulted in a long-term growth in our production of 3 percent per year on the average. That is a very striking and important figure.

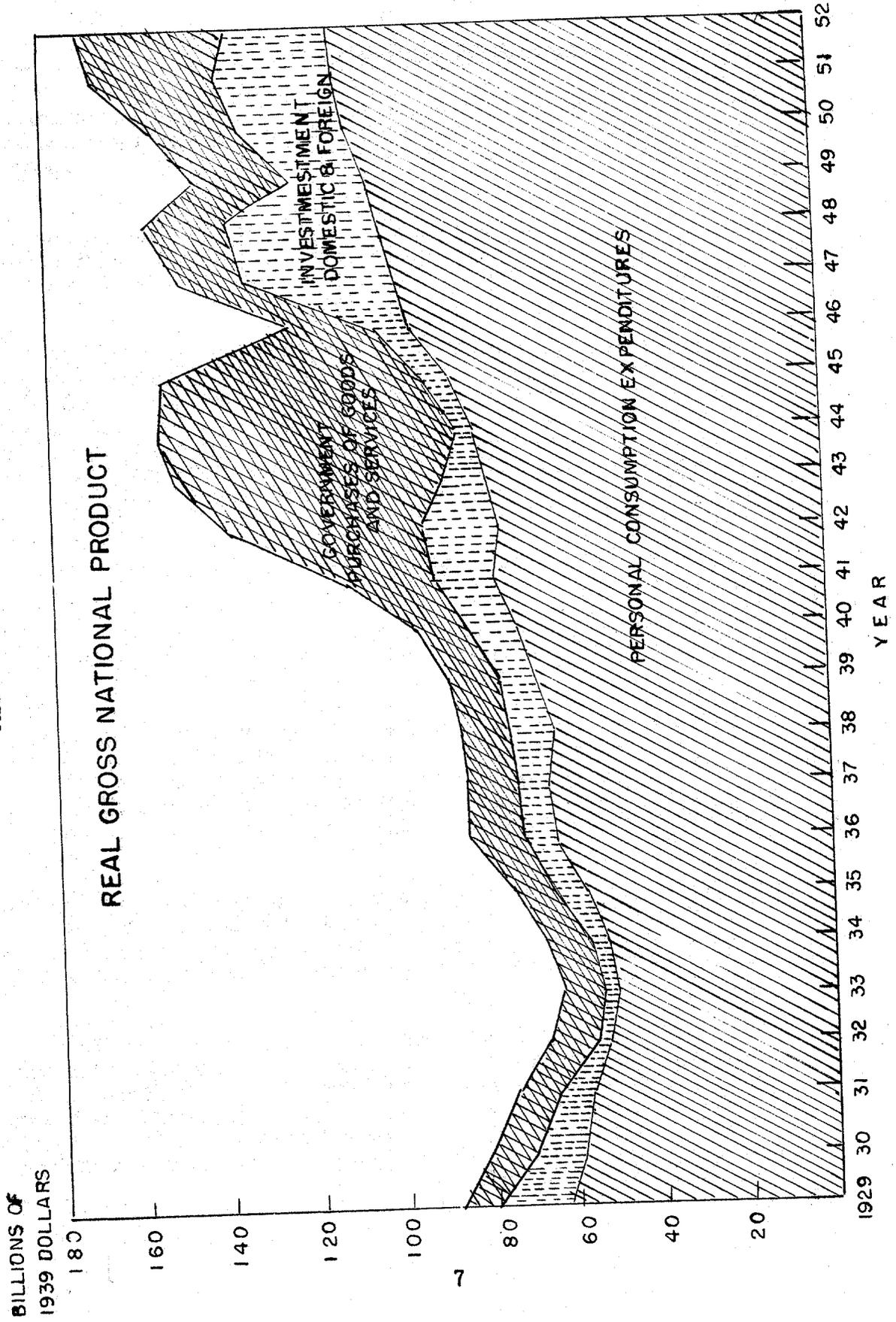
You can see the trend on chart 1, page 7. This chart represents the real gross national product; this is an area chart. You will notice that the top represents the changes in our physical production of goods and services from 1929 through 1953.

Also notice changes in the depression period and then the wide swings through the recovery period, followed by some decline over the period of 1937 to 1938; and the rise in World War II. You notice that at the present time our total physical production is at the highest level that we have ever reached.

As a matter of fact, the current rate is somewhat above the long-term trend. In other words, due to the defense effort, we have been producing goods and services, both for private and for government account, at a rate which is somewhat above the long-term growth trend of 3 percent per year.

These areas on the chart indicate the dynamic factors involved in our total production. Notice this area representing investment by business. It indicates the purchases of plant and equipment, of inventories, residential housing, and net foreign investment, that is, exports less imports of goods and services.

CHART 1



This is the segment to watch for signs of whether or not we are going to maintain a full employment level in the near future. If businessmen curtail their plant and equipment expenditures significantly, then trouble may lie ahead. This is the area where high wages are paid and where there is a substantial multiplier factor in terms of income and employment.

You will notice the sharp declines which have occurred in this sector of investment. In the war period most of the capital formation was on government account. More recently, the level has been at a record high and was mostly on private account.

The upper section represents the total purchases of goods and services by the Federal, State, and local governments, including pay for the military forces, pay for civilian personnel, purchases of munitions items, and all other kinds of purchases. You will notice that, except for the big bulge during World War II, these expenditures have shown a rather slow upward trend, which was accelerated since the outbreak of the war in Korea. This part here (indicating) reflects the rising defense expenditures since June 1950.

Finally, the middle section shows the relative stability of consumer purchases of goods and services.

Now let us get on to the other indicators. The next one of major importance is industrial production as measured by the Federal Reserve Board.

This index is a measure of manufacturing and mining production. It goes back to 1919 and is available monthly. There are many breakdowns of this particular indicator--into over a hundred industries. Separate indexes are available for each industry and combinations of various industries and industrial groups can be derived for use in special analyses.

This index is used quite extensively by businessmen because of the close correlation that can be obtained between its fluctuations and various changes in various lines of business activity. For example, the paper industry uses this index by relating the nondurable goods part of the index.

There are all kinds of combinations which can be made of the various components of the index. It is broken down generally into two major groups of industries. There is the durable goods segment which includes iron and steel, machinery, transportation equipment, furniture, and glass production, that is, hard goods industries. These are combined into one single index. This is a very dynamic group and production in this sector fluctuates most widely.

The other sector comprises the nondurable goods group of industries. This covers food, textiles, gasoline, leather, rubber, and so on.

It should be noted that the industrial production index fluctuates a great deal more than the more general index of total production. This is shown in the second chart. It is necessary to keep this relation in mind in utilizing the industrial production index of the Federal Reserve Board. It displays wide fluctuations because it contains many industries which respond sharply to changes in total business fluctuations. It does not include the production of important segments such as government services, construction, and agriculture.

Chart 2, page 10, shows the industrial production index from 1929 through 1952. It is compared with the real gross national product--that is the same indicator which I described before with the exception of the fact that I have eliminated the services group from the total. In other words government services and consumer services are deducted so as to get just the goods part of the total. You will notice that the fluctuations in the industrial production are much more dynamic than those in the total output of goods.

Let us go on to a third basic economic indicator--total employment and unemployment in our economy.

The Bureau of the Census publishes each month an estimate of the total civilian labor force, employed and unemployed.

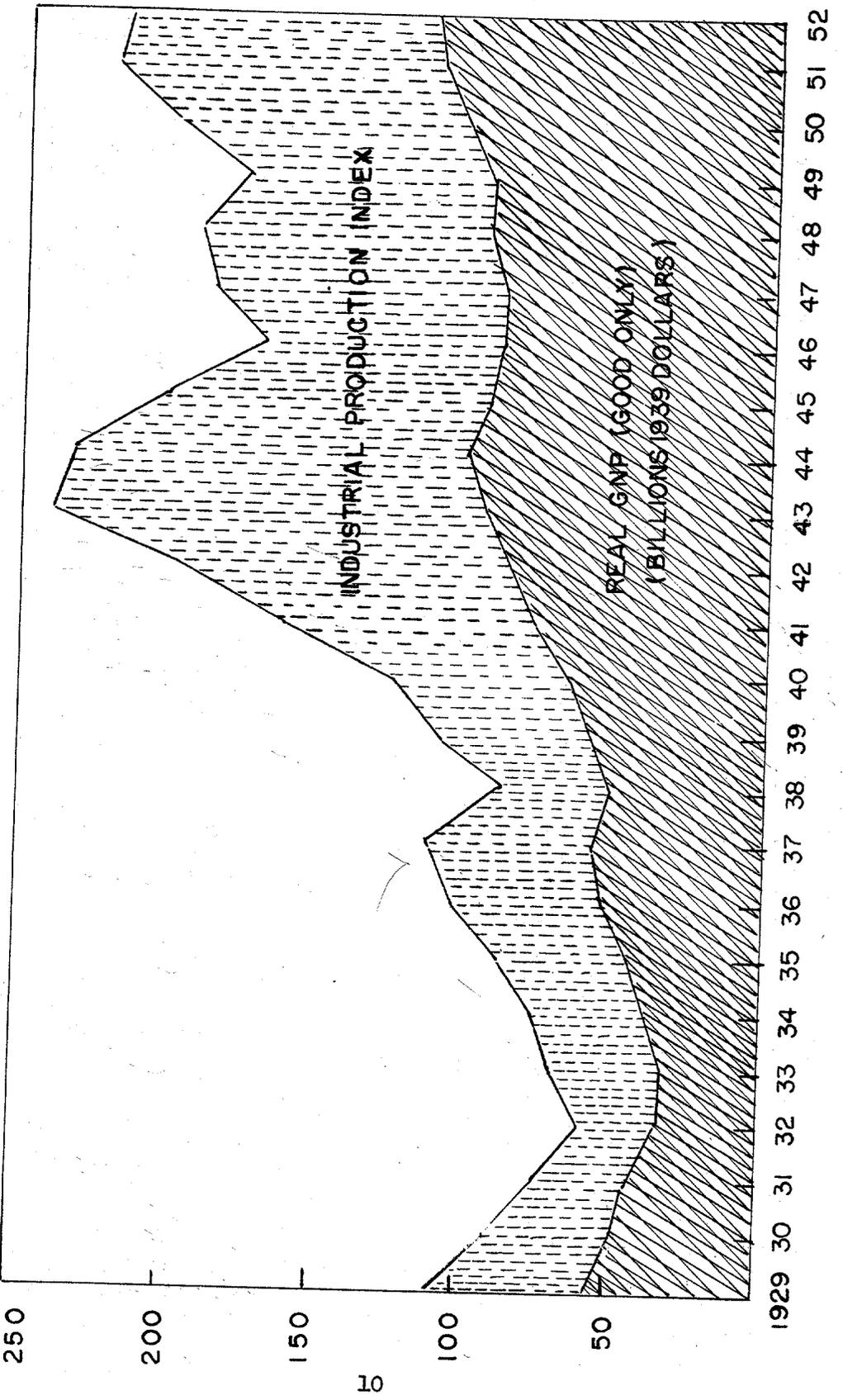
The total unemployed is one of the best indicators we have as to the general economic health of our country. At the present time (September 1953) the number of unemployed is only 1.2 million. This actually represents a postwar low, reflecting a full employment economy. Most anybody who wants a job today can get one. Our economy is an extremely prosperous one, as measured by the high number of employed and the low rate of unemployed.

In order to maintain a full employment condition, we have to employ all the youngsters who are entering into the labor force (chart 3, page 11). In other words we must have an ever-increasing level of employment to maintain a full employment situation. So, whenever we talk about stabilization at a high employment level, we actually mean that we have to maintain the current rate of employment and continue to absorb the additions to the labor force.

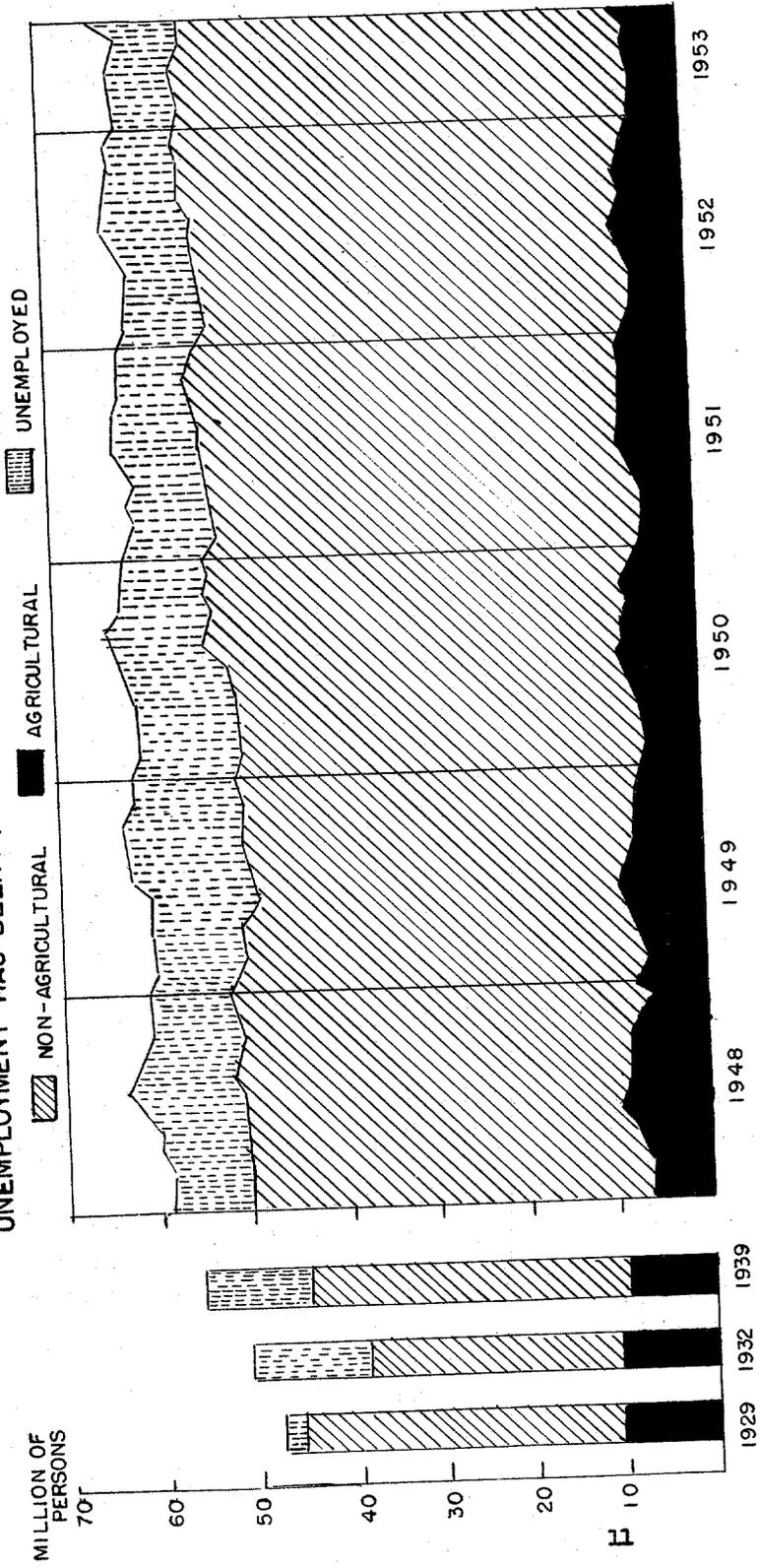
We have been able to do that, with some interruptions, in the past. Every time we have passed through a recession or a depression, the economy has bounced back to a point where it was able not only to reemploy those who were unemployed, but also to absorb the new people who came into the labor force. That to me is what makes the American economy a great and dynamic economy, as against other economies, which are static.

CHART 2
INDUSTRIAL PRODUCTION FLUCTUATES MORE SHARPLY THAN THE REAL GNP
COVERING GOODS ONLY (TOTAL GNP EXCLUDING GOVERNMENT COMPENSATION
OF EMPLOYEES AND CONSUMER SERVICES)

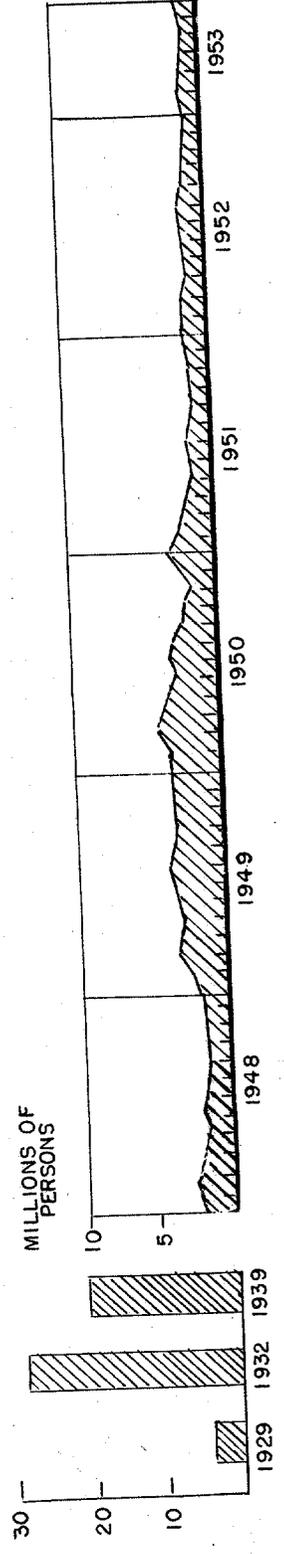
RATIO SCALE
1935-39 = 100
250



UNEMPLOYMENT HAS BEEN AT MINIMUM RATES IN RECENT MONTHS



PERCENT OF UNEMPLOYED TO LABOR FORCE



The data on employment are also broken down by farm and nonfarm. So in utilizing this economic indicator also observe what happens in the nonfarm sector, because the nonfarm sector is where the industrial jobs are generated.

I should like to point out that this index is used first, by observing the trend of total unemployment, and then following the trend of the breakdown of the employment between the farm sector and the nonfarm. The course of nonfarm employment is an important guide because if nonfarm employment is showing a declining trend and unemployment rises, then it is time for some concern and may require action by all groups of the economy to prevent a further deterioration.

There is another breakdown of employment which is available from the Bureau of Labor Statistics--employment in manufacturing--broken down by various industries. These figures are useful for specific purposes. If you want to find out, for example, whether employment, say, in the transportation equipment industry is rising, you use the Bureau of Labor Statistics' data for this industry. This is a basic source of information by industry.

By the way, I want to make one further remark with regard to the marked difference between agricultural and nonagricultural employment. You will notice the sizable rise in nonagricultural employment over the past 20 years. In contrast the agricultural sector has shown a continual decline. In fact the average decline over the long term has been about 200,000 per year. And yet, despite that declining trend of agricultural employment, we have had a rising production of agricultural products, due primarily to the substantial increase in the efficiency of the farm workers resulting from various new types of farm equipment, soil improvement, methods, and so on. Thus, while the economy as a whole has shown a 2-percent increase in production per man-hour, on the average, in agriculture the average increase per year has been 3 percent.

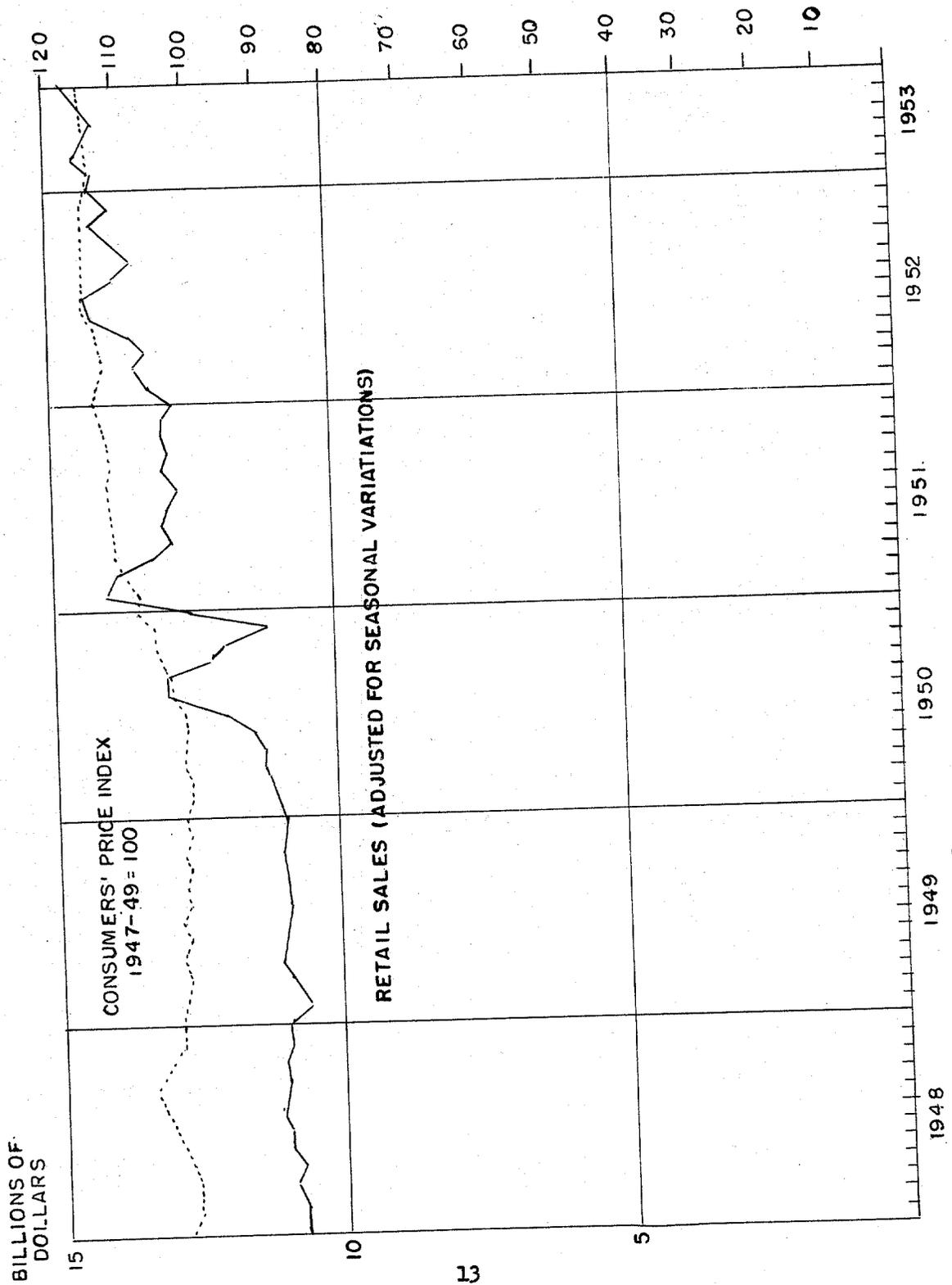
Another basic set of indicators are the price indexes (chart 4, page 13). Essentially, price indicators reflect the effects of supply and demand.

Now it is true that many prices are inflexible. In other words many prices in our economy don't change very often. They are determined basically by cost considerations. Thus, many prices are less sensitive to economic changes than others. For instance, agricultural equipment prices are based essentially on cost factors--raw materials costs, labor cost, overhead cost, and so forth. Hence, they change in the main in line with cost changes. Eventually even such prices respond to supply and demand considerations.

Generally, however, when prices are fairly stable, a condition of rough balance between supply and demand may be assumed to exist. That

CHART 4

RETAIL SALES HAVE BEEN STABLE; CONSUMERS' PRICES HAVE
RISEN VERY SLOWLY IN PAST YEAR



is what we have been having in over a year in the industrial area. Our economy has stepped up its production of goods, until we have finally caught up on practically all of the major items in relation to demand.

You will recall that not too long ago we were short of steel, copper, and aluminum. The Controlled Materials Plan was in operation for these metals. Most of these items now are being produced in adequate quantity, due to the fact that industry has been spending billions of dollars on new plant and equipment resulting in a greatly expanded capacity to produce the basic materials. We are producing enough now to meet both the needs of the armed forces and the very high demand from the civilian economy.

There are two types of price indexes. First, there is the wholesale commodity price index of the Bureau of Labor Statistics. This is broken down into three major groups--industrial prices, farm prices, and farm and processed foods.

Industrial prices have been very stable in over a year. In contrast, farm prices have dipped about 13 percent since the middle of last year.

Here is a situation in the economy which is rather interesting, where in the farm sector prices are declining, while in the industrial sector prices are stable. Thus, in the farm sector incomes have dropped, both the gross and the net income; and that decline has had repercussions on the purchases of farm equipment and other products bought by farmers.

In the industrial sector incomes have been rising with the result that the total personal income, which Dr. Kress will speak about next week, today is at a peak rate, amounting to an annual rate of 288 billion dollars. Personal income is a basic indicator which, when used in conjunction with the total employment and unemployment, indicates that the economy today continues strong.

On the other hand other indicators show some easing off from their recent high levels. Steel production is at 95 percent of capacity operation, down a little from earlier this year. It looks like the automobile industry might be somewhat lower in the second half. Investment by business may decline somewhat.

I gave that as an illustration to indicate how these indicators are used by individuals to appraise the economic situation. The basic principle is to look at all groups in order to get a proper appraisal as to what might lie ahead.

The other type of price index is the Consumers' Price Index of the Bureau of Labor Statistics. This index is one which doesn't

fluctuate as much as the wholesale price index, because it contains certain components which are not very volatile. For example, in the Consumers' Price Index there are certain services included, such as prices at barber shops, at beauty parlors, doctors' fees, dentists' fees, and rents. These are not included in the wholesale price index which covers only prices of goods.

The consumers' Price Index is extremely important from the point of view of wage contracts. Among its uses is the fact that companies through the escalator clause tie their wage scales to the movements of this particular index.

Let me put it this way: If you want to see the direct effect of inflation or deflation in terms of supply and demand factors, use the price indexes. If most prices are moving up, there is an inflationary trend developing. Obviously, certain specific prices may go up and down and such adjustments don't necessarily affect the total price trend. But if general prices are moving ahead, then you know that there is an imbalance, that the purchasing power is greater than the goods available to buy.

The Consumers' Price Index is broken down into major categories such as food, clothing, rent, and housefurnishings.

The recent small rise in the index has been due to the services continuing to increase, particularly rents. The total index, however, has been remarkably stable in the past year (see chart 4).

Another index is retail sales. I will just say a word about that. Retail sales are used as a measure of consumer demand. In general, it goes back to what the consumer has received in money incomes.

The sales index is also affected by price changes since it is reported in dollar receipts by retail stores.

This index is broken down into about 23 kinds of stores. It is published monthly by the Department of Commerce. It is necessary to be careful in using the sales index and in analyzing it because at times certain components may be rising while others are declining.

What I am getting at is that first, you observe the trend of the total and you scrutinize the changes in the components. Don't rely on one sector. Don't rely on just the trend of automobile sales, for example. Automobile sales may fall off in the second half of this year as a result of a seasonal decline. Hence, this would not be a good indicator of the trend of consumer demand in this period unless allowance is made for the seasonal factor.

There is an art in analyzing these figures that goes beyond just looking at numbers. These economic indicators, it is true, are indexes expressed in numbers; but in using them we have to take a look at the numbers in relation to reality, not just in terms of abstract figures divorced from the activities they represent.

Now, let me indicate the nature of two types of basic indicators which are extremely important from the point of view of forecasting business activity.

The first comprises the data on new and unfilled orders which the Department of Commerce publishes monthly. These are basic key indicators so far as businessmen are concerned. New and unfilled orders, particularly in the durable goods area, reflect the amount of business which is coming in and how much the manufacturers have on their books to work on. Therefore, these indicators are called anticipatory indicators. They indicate what business is likely to do in the next three to six months on the basis of the orders which firms have on their books and of the rate at which new orders are coming in.

The way you use these indicators is to take the unfilled orders and calculate their ratio to sales. That tells you how many months of sales a producer has in the backlogs he holds. Those months of sales will vary from one company to another and from one industry to another. But the average can be compared to what is considered to be a normal ratio.

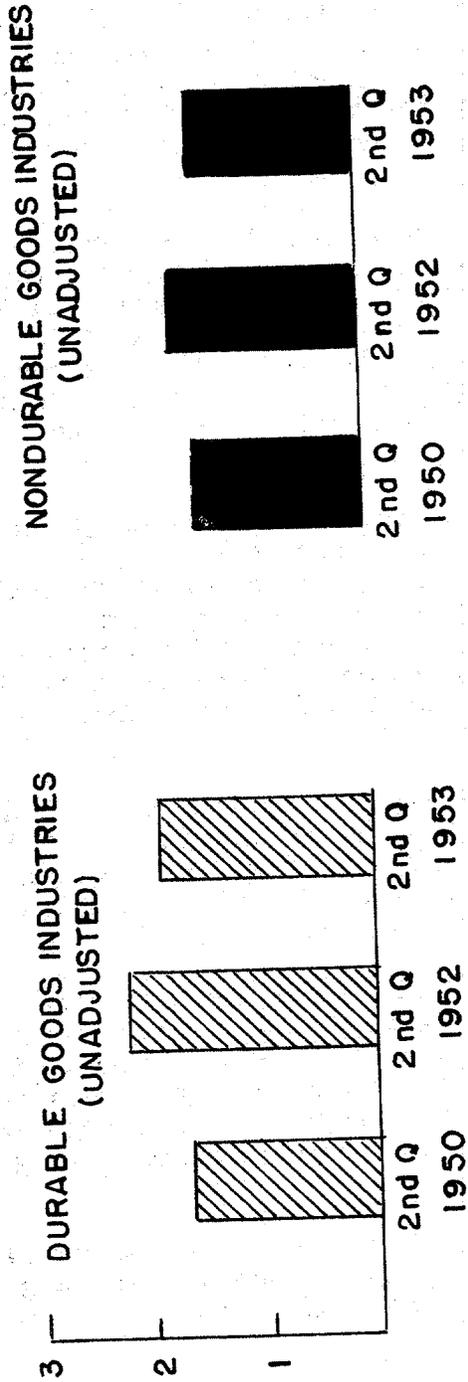
Let us consider the lower part of chart 5, page 17--durable goods manufacturers. The chart shows the ratio of unfilled orders to sales of the durable manufacturing industries--those producing steel, nonferrous metals, automobiles, all kinds of machinery and so on. That combination at the present time, the second quarter of 1953, has 70 billion dollars worth of orders on their books. Now the sum of 70 billion dollars, if translated into sales--in other words the number of months of current sales--is around five months. The ratio was roughly about the same a year ago--about 5.2.

But notice the difference between the volume of unfilled orders that business now has on its books--five months--as compared with pre-Korea of only a little more than two months' rate of sales at that time. In other words business now has 2.5 times as many unfilled orders on its books in relation to sales as in the more normal period prior to our defense program. Thus, this particular indicator shows a very favorable position with respect to the amount of backlogs held by business.

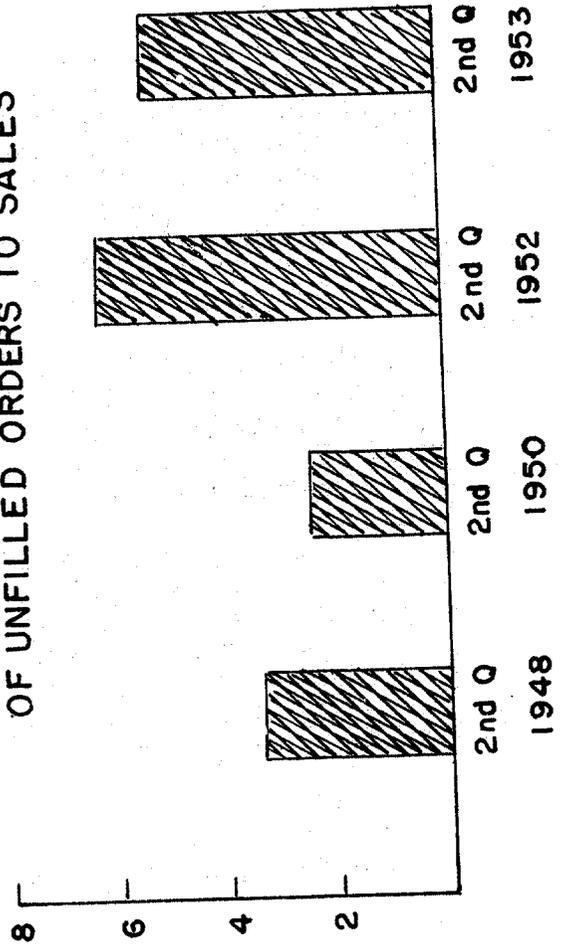
Now, it is true that orders can be quickly cut if business gets bad. It is absurd not to note that possibility of cancellation. It is a fact, I will admit, that if things turn sour, it doesn't take very long for businessmen to cancel these orders. But, given the high rate

CHART 5

MANUFACTURING: RATIO OF INVENTORIES TO SALES (UNADJUSTED)



DURABLE GOODS MFG. INDUSTRIES: RATIO OF UNFILLED ORDERS TO SALES



of the current income flow and given the high rate of employment, the order position supports a continued favorable situation.

These order indicators point to the condition that will likely be true for three to six months. That is a fairly short period. They don't necessarily tell you what is going to happen over the longer term. They are essentially short-term indicators of the business outlook. They are an important group of indicators, and businessmen watch them very closely. Also, they are broken down into different industries--machinery, transportation equipment, and so on, so that developments in these areas can be watched by lines.

The other type of anticipatory statistics, which we look at very closely, is associated with the intentions of businessmen to invest in plant and equipment. This is an important indicator because of the dynamic character of this sector of our economy. This is the area which often causes trouble in our economy. So, if we can obtain directly from the businessman himself what he is planning to do six months from now with respect to purchasing plant and equipment, it provides an indication of how this phase of business is likely to go.

The Department of Commerce and the Security and Exchange Commission sample about three thousand business firms quarter after quarter and get their anticipations six months ahead. These anticipations indicate what their programs are with respect to buying plant and equipment. For example, we just analyzed the businessmen's anticipation through the fourth quarter of this year. The most recent survey shows a fairly small decline in the outlays anticipated in the fourth quarter from the peak third quarter rate of this year.

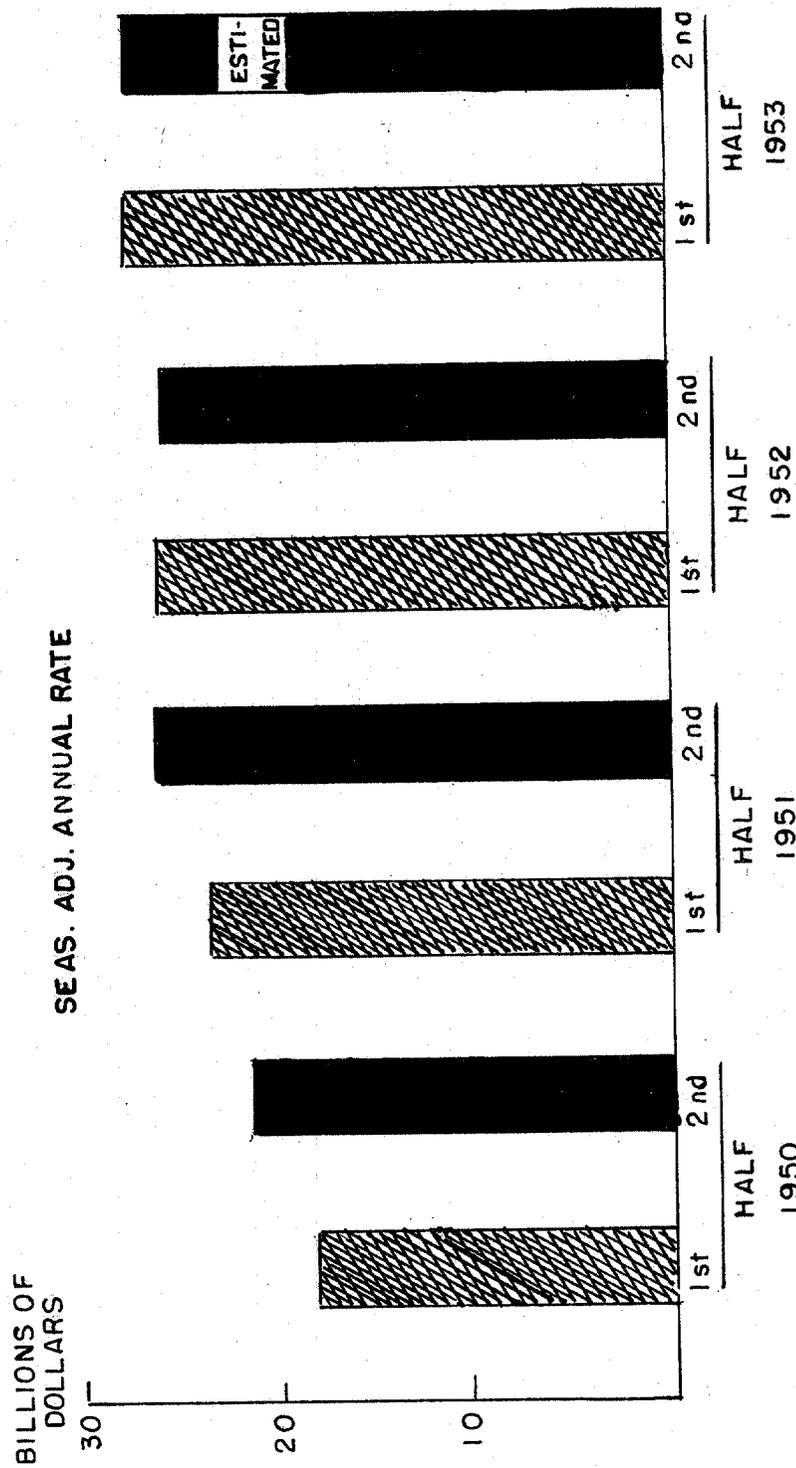
Chart 6, page 19, illustrates the amounts involved in business expectations on plant and equipment. You notice that the second half of 1953 is a little bit above the first half. If we had a breakdown into quarters, it would show a small decline in the fourth quarter, with the third quarter rate higher than the first quarter.

You can see the tremendous amounts of money which are being spent by business on modernization of plant and on putting in new capacity. In the first quarter of this year the annual rate was 27 billion dollars on new plant and equipment alone. In the second quarter it went up to 27.5 billion dollars. In the third quarter business anticipates spending over 28 billion dollars, and in the fourth quarter the amount is going down to a little over 27 billion dollars.

These are very high rates of expenditures, which add to our capacity to produce. They have been a very substantial factor in our being able to eliminate price and other controls in the early part of this year

CHART 6

**BUSINESS EXPECTS TO MAINTAIN PLANT AND EQUIPMENT
EXPENDITURES AT A HIGH RATE IN 2nd HALF OF 1953**



without having much effect on the price structure. We have eliminated most controls and yet the index of industrial wholesale prices has been fairly stable.

There are other indicators used by various individuals but I do not have the time to discuss them fully. There is the series on bank loans. Consumer credit is important. It was especially important last year because of the fact that we eliminated Regulation W. Expenditures on residential housing is a very important index. That has shown a decline recently. People are worried because we may not be able to maintain the recent rate of one million nonfarm housing starts per year. But the current is still very high by any standard.

Automobiles--this is used as an indicator in the consumer durable goods sector. The rate of output continues to be high--the annual rate of production is 6 million cars. Can the industry maintain that rate? Up to now it has been doing very well. There is no indication of auto sales running into serious trouble. Again the question is; Will consumers buy at the rate of 6 million passenger cars per year?

Steel production--for many, many months the steel industry was operating at 100 percent capacity. Now it is down to 95 percent. Will the rate go back to 100, or will it drop below 95 percent?

Let me briefly summarize the use made of the basic indicators. The general indicators are used by government agencies to obtain information as a guide to fiscal policy and various programs relating to domestic and foreign affairs.

Businessmen use these indicators as guides in their short-term and long-term programs. By looking at these indicators they see what the basic changes are and thus have a better guide in making their plans for the purchase of materials and equipment and the employment of workers they will need.

Labor uses these indicators for getting some idea of the labor market and as to what is happening to the real purchasing power of the workers. Many groups base their policy with regard to wage rates on the basis of some of these indicators. As you know, one of these basic indicators--Consumers' Price Index--is the key factor in many wage-contract negotiations.

National groups in foreign countries follow these indicators closely because they recognize the impact of a change in American business activity on foreign economies. For example, the analysis of these indicators is extremely important to businessmen in Canada, France, and Great Britain because of the impact of changes in our economic picture on these economies.

There are many other interesting things that I would like to cover, but I just don't have the time.

MR. NIKLASON: Dr. Paradiso is ready to answer questions.

QUESTION: I was wondering about the reliability of the sources of data on which you base all these signs.

DR. PARADISO: That is another lecture. There are many sources used for any of these indicators. Just to give you an example, the sources for compiling the industrial production index are pretty much data collected by trade associations, by other business groups, and census data, both on an enumeration basis or by sampling. Some data are collected directly by the Bureau of Internal Revenue and the Social Security Board. A good deal of it comes from government agencies' activities.

I might say this: the Department of Commerce just published its 1953 biennial compilation of economic data called "Business Statistics." This book contains all of the economic indicators I have discussed and more. In fact there are 2,600 business indicators, including the general indicators as well as specific ones relating to practically all major industries.

The publication "Business Statistics" carries these indicators by months from 1949 to date and by years back to 1935. The monthly figures can also be obtained for earlier periods in prior issues of this publication.

So, if you want the primary and secondary sources of data, here is a good place to go. You can use "Business Statistics" for data through 1952; and the monthly issues of the "Survey of Current Business" of the Department of Commerce will bring these up to date. The Federal Reserve Bulletin has monthly monetary statistics, department store activity data, and the industrial production index.

The original sources are so numerous that it would take a long time to mention them. Literally there are thousands of such sources. Business provides much of the information, either through sampling or full coverage. Then the regulatory agencies of the Federal Government, the Electric Power Commission, the Interstate Commerce Commission, the Social Security Board, and the Bureau of Internal Revenue, collect a great deal of information in conjunction with their regular work. That information is utilized to obtain much of the data and much of the basic background material used in these indexes.

QUESTION: What I was wondering about is whether this information is voluntary or paid for.

DR. PARADISO: For the government collections practically all of it is of a voluntary nature, with the exception of the censuses which are mandatory--they have to be collected by law, although this year Congress failed to appropriate the funds.

The Securities and Exchange Commission also does have some mandatory provisions about collecting certain information. But generally we try to collect the data from the businessmen themselves on a voluntary basis. They usually are extremely cooperative. Much of the data, for instance, the price of commodities, is obtained from trade journals and from reports which businessmen themselves make to various newspapers on price quotations. So that the information is really a combination of voluntary reports, as well as reports gathered from various trade and published sources.

QUESTION: On chart 6 do the increases shown from 1950 up to 1953 represent increases to our industrial plant or the inflated cost of maintaining them?

DR. PARADISO: In chart 6 the increases actually represent the total value of the additions to plant and equipment. In other words it is the value of the new factories, the new machinery, tools, the new generators, the new electric power plants, the new commercial buildings, stores--the actual value of these new capital expenditures made by business during those periods.

They are affected, however, by whatever price changes occur over that period. So that if we allow for the price changes, we still would have a very high level of physical additions, higher than anything we have had prior to this postwar period.

QUESTION: I should like to direct your attention to chart 1 and then to chart 2. In regard to chart 1, I would like to specifically refer to the line indicating investments, domestic and foreign. You indicated that this investment is going down. It was my understanding from your explanation that it was practically the same as the investment in plant and equipment. Why is one going down and the other going up?

DR. PARADISO: There is one major difference. The total investment line includes two components which are not in the plant and equipment line; that is, changes in business inventories and net foreign investment.

"Total investment" is a broad term. It includes expenditures for plant, expenditures for equipment, and expenditures by businessmen for adding to inventories. It is that combination that results in this divergence.

QUESTION: One further question--does chart 6 include the foreign investment in plant or is that merely the domestic?

DR. PARADISO: Chart 6 does not include the net foreign investment. It represents expenditures made by business in this country on plant and equipment.

MR. NIKLASON: Thank you very much, Dr. Paradiso, for a very interesting and instructive discussion of a complex subject.

(17 Nov 1953--250)S/en