

A review by the **Federal Reserve Bank of Chicago**

1961 January

Business Conditions



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The Trend of Business

During the closing months of 1960 the gradual decline in output and employment which began about midyear continued. At year end, however, there was a strong consensus of opinion in the business and financial community that the 1960-61 adjustment would be no more severe and quite possibly would be considerably milder than earlier postwar downturns.

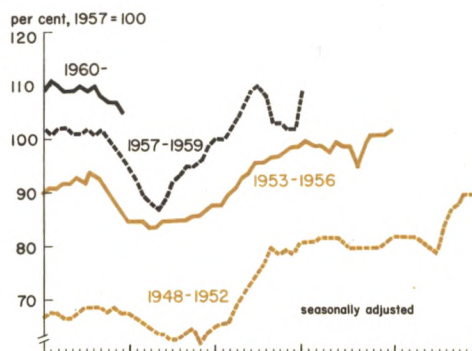
The downward phase of postwar business declines has been limited to a year or less. If the forecasts for 1961 publicized in recent weeks prove to be correct, the present movement will not be an exception. Most of the forecasts point to an upturn beginning sometime in the first half of the year. However, some are less optimistic in the sense that no upturn is foreseen until after midyear and a few expect no upturn at all during 1961.

In retrospect, it is apparent that the 1958-60 uptrend was neither so long nor as large as the 1954-57 rise. Demand did not press so closely upon resources of men and materials, and there was less increase in prices. In part, this explains why output, employment, income and sales in the second half of 1960 showed less change from the levels in the first half of the year than was the case in the corresponding periods of 1957.

Although forecasts for 1961 vary in evaluating the timing and strength of the eventual uptrend in activity, there is general agreement as to the segments of the

economy which probably will be supporting or depressing over-all activity. It is the relative strengths of these forces which will largely determine which forecasts come closest to the mark.

Business plant and equipment expenditures which were just under 36 billion dollars in 1960—10 per cent above 1959—are regarded as almost certain to decline in the current year. Surveys of business plans indicate that this drop will be moderate, but previous experience suggests that when a downturn in this sector develops, initial estimates usually understate the extent of the decline. Capital outlays hit a peak in the second quarter of 1960 and have declined since that time. Midwest manufacturers of industrial ma-



Postwar declines in industrial production have been limited in amount and duration

chinery and railroad equipment experienced a downtrend in orders during the second half of 1960, and there were no indications at year end that this trend would be reversed soon. The picture is not all unfavorable, however, electric and gas utilities and automobile manufacturers are expected to increase capital spending next year.

Business inventories are generally expected to average lower in 1961 than in 1960. However, as the year moves on, inventory liquidation is expected to give way to accumulation. The change from large inventory accumulation at an 11 billion dollar annual rate in the first quarter of 1960 to liquidation at a rate of about five billion was the dominant element in the slowing pace of economic activity in the year just ended. Inventories of materials purchased for further processing by manufacturers were reduced more than inventories of finished goods during the second half of 1960 and are believed to be at relatively low levels. For this reason producers of these materials, particularly steel, are expecting a larger volume of business in the first half of 1961 than was done in the second half of 1960.

Total construction activity is expected to be *higher* in 1961 than in 1960—4 per cent higher according to estimates of Government officials. Virtually all types of construction are expected to rise, including housing which was the only segment of the industry to decline significantly in 1960. Public works, including highways, probably will rise more than private construction. The volume of large projects contracted for in recent months has been impressive, particularly in the Midwest. Producers of construction machinery, important in this area, expect some improve-



Employment has eased down from midsummer peak, but not so sharply as in earlier postwar declines

ment in orders from domestic purchasers.

Government spending for goods and services has been rising throughout the past year and doubtless will rise further in 1961. Most of the increase during the past year was by state and local governments, but Federal purchases rose after midyear.

Consumer spending comprises about two-thirds of all spending in the economy and determines, in considerable degree, business inventory and capital expenditure policies. Consumer outlays on goods and services totaled about 328 billion dollars during 1960—a rise of almost 5 per cent over 1959. But spendable income was up even more. The decline in retail buying during the third quarter was the signal for further attempts at inventory reduction on the part of manufacturers and trade firms. Consumer buying is expected to rise moderately in 1961, according to most forecasts, at least in the case of nondurable goods and services. For the hard goods sector, important in the Midwest, the picture is mixed.

New automobile sales totaled about 6.7 million during 1960, including about 500,000 imported models. This was second only to the record 7.4 million in 1955. Deliveries of new cars were about 15 per cent higher in 1960 than in the previous year. The dollar volume of auto sales showed little change because of more compact cars, less auxiliary equipment on standard size cars and lower prices for used cars. Auto producers expect that unit sales in 1961 will be about the same as in 1960. However, production may be lower because the inventory of new cars was increased by about 400,000 in 1960.

Household appliance and television production was lower in 1960 than in 1959. Manufacturers had anticipated a substantial increase at the beginning of the year. Consumer purchases of these items lagged behind output with the result that dealer inventories rose sharply. In the second half of 1960 production of appliances and TV sets was reduced.

Nonfarm employment, seasonally ad-

justed, has been declining at a rate of about 100,000 per month since last July. During this period unemployment has risen substantially and was estimated to be 6.3 per cent of the labor force in November. In November of 1957 the proportion of the labor force unemployed was 5.2 per cent.

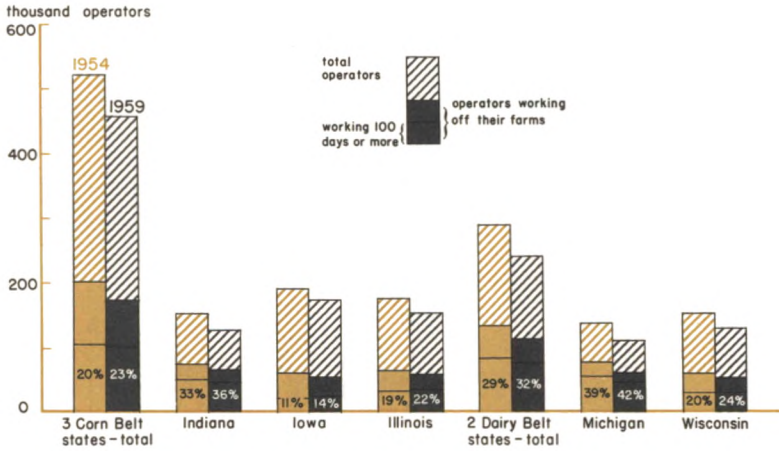
During November the number of industrial centers classified by the Government as having "substantial labor surplus" (more than 6 per cent unemployed) was increased from 42 to 51. The additions included Fort Wayne, Gary and South Bend in the Seventh Federal Reserve District. New claims for unemployment compensation have continued to run well above last year in most states.

The current tenor of forecasts for 1961 do not indicate a large enough rise in activity to bring about a significant reduction in unemployment. Growth of the labor force and continued progress in mechanization and technology make possible increased production without corresponding decreases in unemployment.

Trends on farms in District states

Two major aspects of the technological revolution in agriculture have been a steady decline in the number of farms and an increase in the average farm size. Continuation of these long-time trends has been confirmed recently for District states by preliminary data from the 1959 Census of Agriculture.

Between 1954 and 1959 the number of farms in three Corn Belt states—Illinois, Indiana and Iowa—has fallen 12 per cent to 458,000 while the average size has shown a corresponding increase to 181 acres. In two dairy states—Michigan and Wisconsin—the number of farms declined 15 per cent to 243,000, and average size



Number of farm operators declines but proportion working 100 days or more off the farm increases

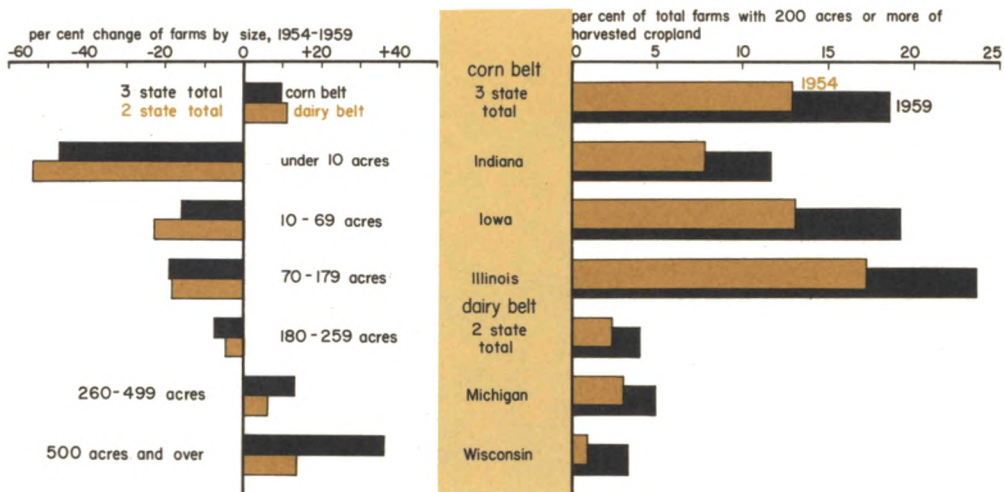
has risen to 148 acres. However, the decline in the number of farms has been limited to the smaller units. In the District the dividing line in the past five years has been around 260 acres; the number below 260 acres declined while the number above that size increased.

As farmers acquire better machinery and greater knowledge and skill in handling their soil, plants and animals, they are able to produce more than formerly in each hour of work. Thus, many farmers with small acreages have actively sought additional land to fully utilize their labor and increase the efficiency of their over-all operations. Farm land prices rose 33 per cent from 1954 to 1959.

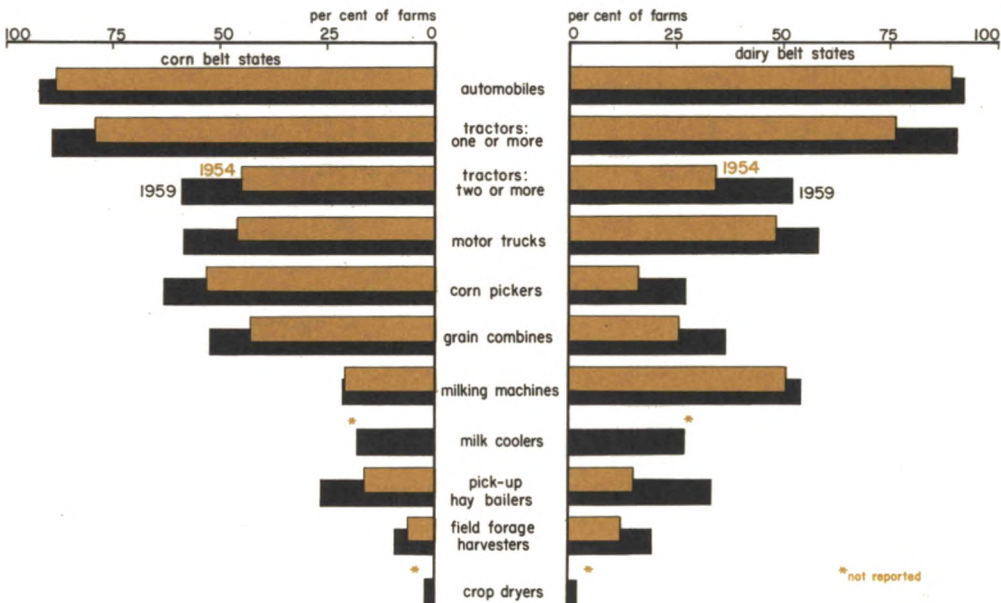
The economic incentive to farmers to increase the size of their farms comes from the possibilities of reducing operating costs and increasing output, hence leading to higher profit. A recent study in the cash grain area of Iowa, for example, indicates that the investment in machinery and the

operating costs for machinery, power and labor per \$100 of farm products produced was about one-fourth less for farms of 320 acres than farms of 160 acres. Costs for farms of 500 acres and 1,000 acres averaged about the same as for the 320 acre farms. With the existing management, kinds of machinery and methods of farming utilized on Corn Belt farms, it appears that most of the economy in machinery costs, arising from the addition of more land to small farms, is achieved when size reaches 300 to 400 acres. However, the average farm in the cash grain area of Iowa in 1959 was about 200 acres, and less than 30 per cent of the farms were larger than 260 acres.

Many farms, therefore, still appear to be in need of additional land if they are to be operated with maximum efficiency. This is indicated also by the proportion of farmers who work part time in other jobs. Nearly two-fifths of the farmers in Illinois, Indiana, Iowa and Wisconsin did some



Number of small farms declines but number of large farms increases



... reflecting increasing levels of farm mechanization

work in addition to operating a farm in 1959, and more than one-fifth worked at such jobs 100 days or more during the

year. In Michigan the proportions were higher, one-half and two-fifths, respectively. The enlargement of farms can be

achieved, of course, only as the total number of farms declines further.

The economic pressures encouraging enlargement of farms may become even stronger as farmers acquire more machinery and the manufacturers of agricultural machinery make further headway in developing new types. The proportion of farms having tractors, trucks and other important machines continues to increase, and most of the newer machines have much greater capacity than the earlier models.

Reflecting the advances in technology and mechanization, farmers' purchases of many items have increased even though the total number of farms has declined. Commercial fertilizer, for example, was applied to 6 per cent more cropland in Corn Belt states in 1959 than in 1954, and to 4 per cent more cropland in the dairy states. In addition, purchases of feed

had risen 21 per cent and petroleum products 14 per cent in the Corn Belt, and 14 and 9 per cent, respectively, in the dairy states.

These trends toward larger, highly mechanized farms often specializing in the production of one commodity have sometimes been interpreted as indicating that the family-size units are likely to disappear. While the eventual effects of technological and other changes cannot be foreseen clearly, it is evident that the family-size farm still holds a commanding position in the District. If there was a trend away from the family-size farm, the proportion of farms operated by tenant farmers and the number of hired workers would rise. This has not been evident. In fact, the number of hired farm workers and the proportion of tenant-operated farms have both declined.

Electric power consumption— a measure of industrial activity in the Indianapolis area

A new series on electric power consumed by manufacturing firms has been developed for the Indianapolis metropolitan area and is published here for the first time. A similar series for the Detroit area was first presented in our issue of April 1959. The electric power series reflect changes in activity in the manufacturing sectors of the two metropolitan areas. As interpretive experience with these data is acquired, it is believed that they will be-

come reliable indicators of changes in economic activity.

Indianapolis manufacturing activity, as measured by the index of electric power consumption, rose 2 per cent in November and was above the year-earlier figure. Electric power consumption, adjusted for seasonal variation, increased between October and November in the food, primary metal and the electrical and nonelectrical equipment manufacturing industries but

declined slightly in the transportation equipment and chemical sectors. In contrast, manufacturing activity in the United States, as measured by the index of industrial production, declined between October and November.

Indianapolis output

The consumption of electricity closely parallels the cyclical changes in the output of individual industries. However, the relationship between industrial power input and manufactured product varies greatly among individual industries, and the aggregate of electric power consumed by all industries in a metropolitan area would be misleading as an indicator of industrial production without some adjustment. For each dollar of output the primary metal industry, for example, uses over nine times as much electricity as the machinery industry and over seven times as much as the transportation equipment industry. The

index of electric power consumption in Indianapolis was developed by weighting the power consumption data for each industry with a measure of "value added per kilowatt hour" so that differences in the relative amounts of power consumed by individual industries would not cloud the indications of cyclical changes in output.

A comparison of the weighted total of electric power consumption by manufacturing firms in Indianapolis with the manufacturing portion of the United States industrial production index reveals some interesting differences. Since 1950 the average annual increase in Indianapolis power consumption has been about 6 per cent while national manufacturing output has increased about 4 per cent per year. Indianapolis electric power consumption may overstate somewhat the growth in output in that metropolitan area over this longer period of time. The higher rate of growth in industrial power use reflects, in part,

The electric power data used in this article were supplied by the Detroit Edison and Indianapolis Power and Light Companies—two of six electric utilities in the Seventh Federal Reserve District now reporting or soon to begin reporting monthly electric power sales by industry. These utilities are also cooperating in a national program to develop current monthly data on electric power consumption by industry.

The electric power statistics program was first announced in *Industrial Production: 1959 Revision* published by the Board of Governors of the Federal Reserve System in July 1960. Studies of annual and monthly data indicate that the industrial consumption of electric power closely parallels production in many industries. But the national monthly figures currently available include power consumed by a number of firms other than manufacturing establishments, are not subdivided by kind of industry and are available only

after a time lag of several months.

The data, collected from electric utilities and industrial establishments generating power for their own use, will be used to improve the accuracy of current production indexes. Monthly statistics on physical volume of output are not available for all sectors of our complex manufacturing economy, and currently about 49 per cent of the monthly industrial production index is estimated from man-hours data. The estimation of production based upon man-hours requires adjustment for productivity changes, and the results are not always satisfactory. Electric power, as an important input in some industries, may provide a basis for better estimates of physical output. The electric power data now being collected should improve the accuracy of the existing national output indexes as well as provide reliable indications of changes in output in individual areas.

the increased use of electricity for air conditioning and lighting. It also reflects the continued substitution of electricity for other inputs such as labor, coal and gas.

But it is the cyclical and not the long-run correspondence between electric power consumption and industrial production that is of major importance. The more rapid growth of electric power consumption accounts for some of the apparent differences in cyclical changes; however, even after taking this into consideration important differences remain. The most significant was the greater cyclical stability of the manufacturing sector of the Indianapolis economy. In 1954 the decline in manufacturing activity in Indianapolis was little more than a pause in growth; in 1958 the falling off in manufacturing activity was less than in the nation.

In terms of the duration and timing of cyclical changes, the national and Indianapolis patterns were much the same in the earlier period. In 1958 the Indianapolis cycle was about three months shorter than the national cycle and lagged the changes in manufacturing output nationally both in terms of the peak and trough.

Industrial differences

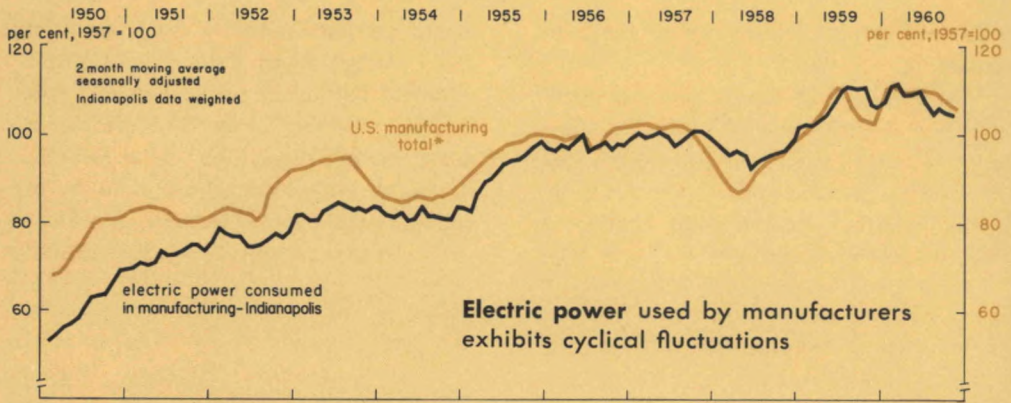
The comparison of electric power use in Indianapolis' transportation equipment industry, heavily weighted by aircraft parts production, with the similar series for Detroit illustrates significant differences between the two transportation equipment sectors from 1950 to 1957. However, since 1957 the production of passenger car and truck parts has increased in the Indianapolis area, and activity in the transportation equipment industry has shown wider swings, similar to those in Detroit.

In other major industrial categories,

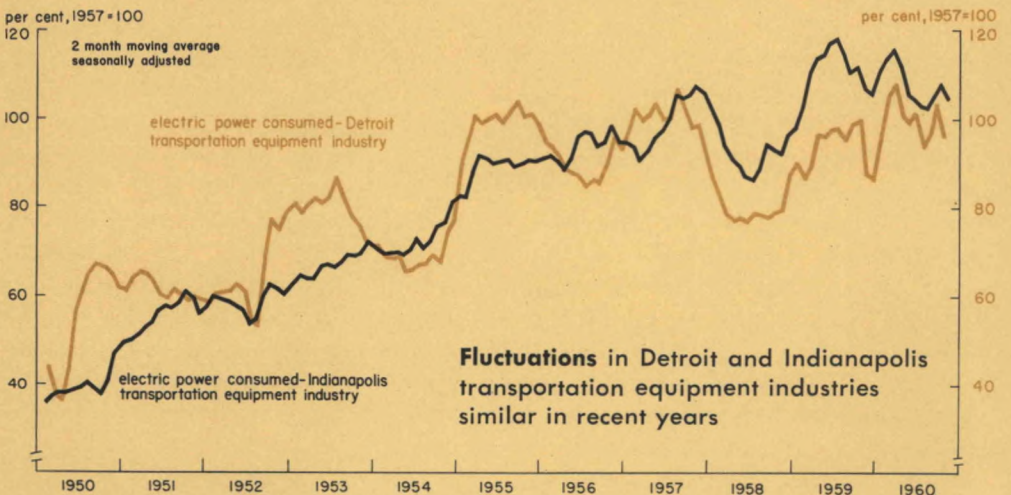
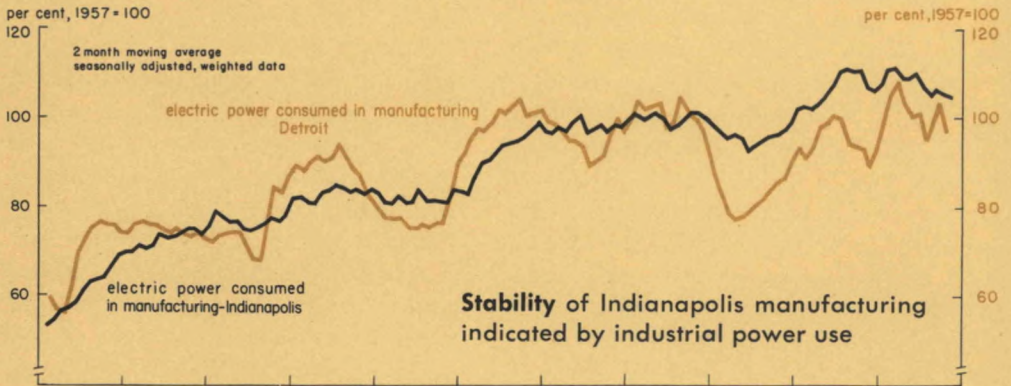
such as chemicals, machinery and electrical equipment, production in Indianapolis parallels only in broad outline the output changes in Detroit and the United States. The reason for this is that the composition of Indianapolis output within each of these sectors differs from that of other areas. The chemical industry in Indianapolis is oriented to pharmaceuticals; the machinery industry, to equipment for moving materials or transmitting power mechanically and to construction equipment; and the electrical machinery industry, to communications equipment. The differences in the severity of the 1954 and 1958 recessions in Indianapolis, as compared with the nation's experience, are reflected in the structure of Indianapolis manufacturing as well as in the timing of technological and other changes. The 1954 leveling in activity in Indianapolis, for example, would have been even less noticeable had it not been for a structural shift in the pharmaceutical industry in the area that resulted in a marked decline in electric power consumption by that industry.

The greater stability of manufacturing in Indianapolis, as compared to the nation, reflects the greater importance of nondurable goods manufacturing in that area. Activity in the chemical and food industries, in particular, both nationally and in Indianapolis did not decline as much as did durable goods manufacturing. But the food and chemical industries in 1957 accounted for about 16 per cent of total national output while in Indianapolis these two industries made up over 25 per cent of manufacturing output. Similarly, the shortness of the decline in Indianapolis activity in 1958 resulted in part from the

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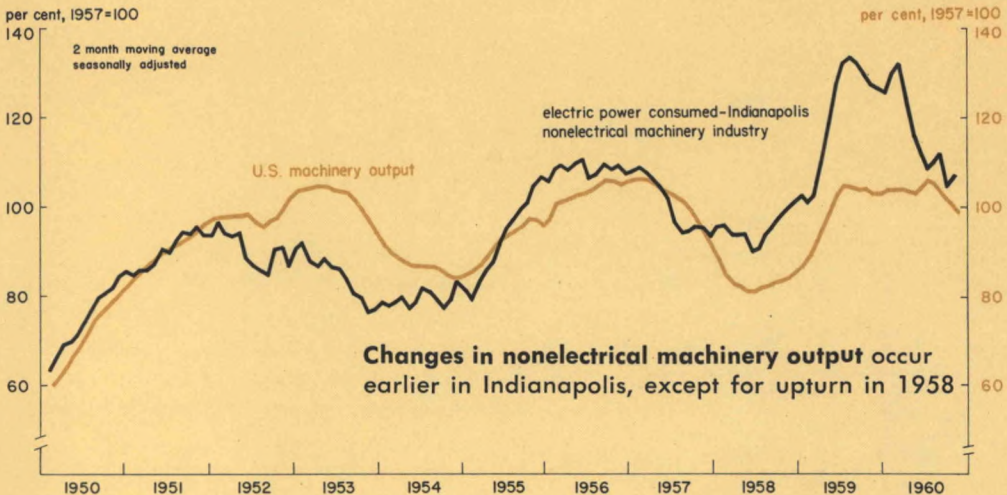
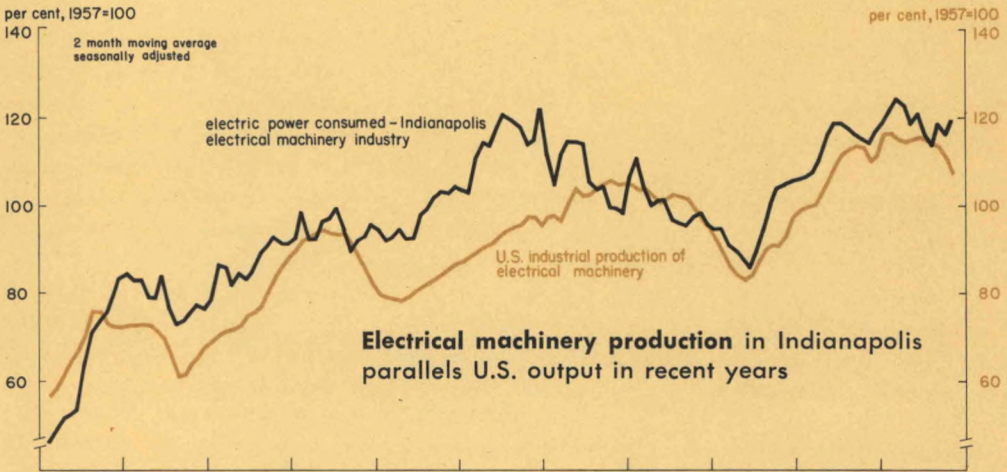
*Manufacturing component of F.R.B. Index of Industrial Production



relatively better performance of the non-durable goods sector.

The make up of the Indianapolis economy was also the cause of the later bottoming of total manufacturing activity in 1958. Production of nonelectrical machinery nationally reached its low point in May, a month later than the low point for total

manufacturing. In Indianapolis, according to the electric power series, output of non-electrical machinery reached its low point in June reflecting in part the greater importance of specialized industrial machinery in the Indianapolis than in the national economy. Electrical machinery output in Indianapolis, consisting primarily



of electrical equipment, radio parts and television components reached a low in May 1958, one month later than electrical machinery manufacturers generally but probably closely paralleling the low point of national output in the particular types of products most important to Indianapolis.

Value of the electric power series

When the structural differences among the Indianapolis, Detroit and national economies are considered, it appears that the electric power series is a useful indicator of current changes in the output of manufactured products. The electric power series is not a substitute for other regional series, such as bank debits, employment or department store sales. Each of these has its own uses in identifying changes in particular sectors of the local economy. The electric power series provides information, not previously available, on changes in production in manufacturing, the key "breadwinner" in Indianapolis as

in most metropolitan centers.

The manufacturing sector of any diversified local economy usually purchases many of its raw materials from sources outside the area and sells most of its output to firms and individuals outside the area. It is sensitive, therefore, to changes in the national economy and in turn transmits the effects of these changes through income and spending throughout the local economy. If the interactions between local and national cyclical behavior are known, a more informed interpretation of probable local repercussions of national business changes is possible.

Moreover, the study of cyclical behavior in the manufacturing sector of local economies may provide evidence of geographical differences in rates of technological advance or obsolescence in manufacturing. It leads also to a better understanding of the structure of business cycles and the impact of business and government policies on a given community.

The reverse yield gap

Traditionally, common stocks have yielded more than high-grade bonds such as Government securities.¹ Investor assessment of the comparative risk factor is the key to this relationship: investors naturally

expect a higher return for the assumption of greater risk. Under ordinary circumstances equities are regarded as riskier investments than bonds. Their prices and yields are dependent on earnings per share which in turn are subject to many variables that cannot readily be predicted—ups and downs in business activity, changes in tax rates and Government regulatory policies,

¹For purposes of comparison, the yield on common stocks is determined by the dividend/price ratio while the yield on bonds represents yield to maturity.

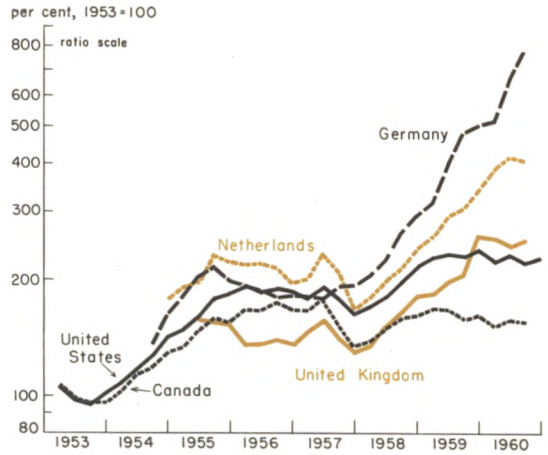
technological developments and competition from other firms both domestic and foreign. The owner of a high-quality bond, on the other hand, feels assured of a definite yield over the life of the issue and payment in full at maturity. The chief risk is default and, for obligations issued by established governments, this is considered minimal.

The gap emerges

In 1958 the spread between equity and bond yields began to narrow. By the end of 1959 long-term government bonds in most Western countries generally yielded more than common stocks. The new relationship was described as the reverse yield gap.

Emergence of the reverse yield gap stemmed from a world-wide boom in common stock prices that pulled equity yields down, and a general rise in interest rates on bonds. The stock market boom reflected a basic improvement in international conditions: production and trade had picked up briskly and the reserve position of most European countries had strengthened materially, facilitating freer currency convertibility and a general relaxation of trade restrictions. The rise in interest rates, for the most part, resulted from the increased credit demands associated with the high level of business activity in most western industrial countries and, to a lesser extent, from steps taken in those countries to restrain inflationary pressures.

In the United States the reverse yield gap appeared in August 1958 as the economy seemed well on the road to recovery from the 1957-58 recession. The stock market continued to rise, reflecting the strength of the business recovery as well as growing investor concern about inflation, touched off by the large anti-



German stock market boom has paced worldwide advance in equity prices

Prices are monthly averages for March, June, September and December. **United States**, Standard & Poor's Composite; **Canada**, Dominion Bureau of Statistics; **United Kingdom**, and **Netherlands**, International Monetary Fund; **Germany**, Federal Statistical Office.

ipated deficit in the Federal Budget. Meanwhile, bond prices drifted downward and interest rates tightened in response to mounting credit demands. By the end of 1959 long-term Government bonds yielded a full percentage point more than equities.

In the United Kingdom the yield lines crossed in August 1959 as the stock market bounded ahead in response to a continued rise of business activity and prospects of a Conservative victory at the polls in the fall. At year end the reverse gap had widened to a full point in favor of bonds. The *Economist* of London said the situation marked "... a big break with tradition and caution."

In Canada and West Germany, reverse yield gaps had widened to approximately 1 per cent and 4 per cent, respectively. Only

in the Netherlands was the traditional relationship between common stock and long-term bond yields maintained but by a very slim margin.

A new era of investment?

Emergence of the reverse yield gap raised many perplexing questions for investors. Did it herald a new era in investment or could it still be regarded as a traditional danger signal? How would investment decisions be affected? Did it have significance for monetary and fiscal policy?

Some investors on both sides of the Atlantic were of the opinion that reverse yield gaps might continue for some time in view of the immense popularity of equities. Investors increasingly had come to favor the holding of equities as a means of sharing in the benefits of economic growth, as well as hedging against possible inflation. Investors also felt that equities had less cyclical risk, now that national governments had come to assume greater responsibility for maintaining high levels of employment and minimizing the impact of business recessions. In these circumstances investors were willing to capitalize common stock earnings at higher multiples and accept lower yields. Price-earnings ratios in the United States increased nearly three-fold during the last decade—from the low level of seven times earnings at the end of 1949 to 19 times earnings at the end of 1959—while dividend yields fell from 7 per cent to just over 3 per cent.

Market analysts talked of a possible world-wide shortage of equities relative to demand. Few new equity issues came onto markets as corporations for tax and other reasons preferred to meet their cash needs with retained earnings and debt financing.

Meanwhile, stock buying by large institu-

tional investors—mutual funds, insurance companies and pension funds—increased steadily.

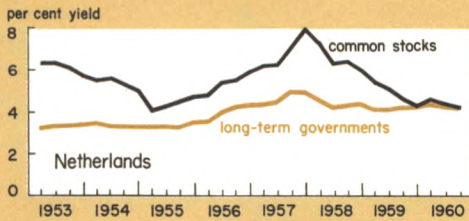
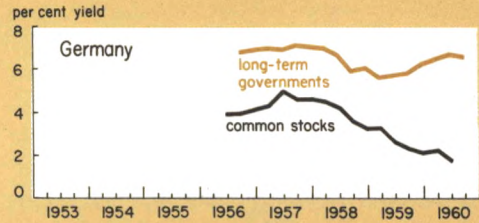
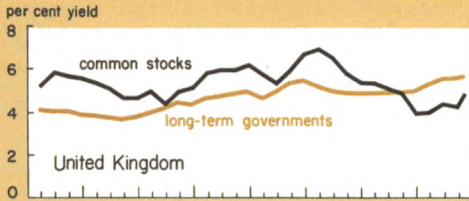
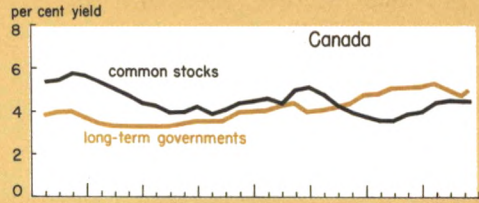
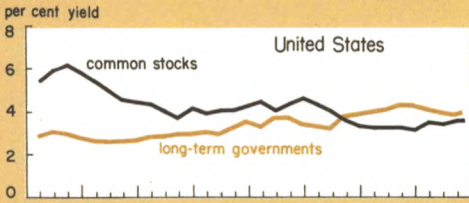
During this period, investors showed increasing interest in investment opportunities in foreign stock markets. As share prices rose and yields declined in the United States during the second half of 1958, many American investors focused their attention upon Europe. American buying became an important factor in the run-up in German and Dutch share prices in the latter part of 1958 and early months of 1959. German chemical and electrical equipment firms and the Dutch international companies—Unilever, Royal Dutch Petroleum and Philips Lamp—were bought heavily. By the summer of 1959 American and German investors, the London press reported, were active buyers of British equities.

Investor reassessment of equities

By the end of 1959 it was apparent the reverse yield gap had begun to exercise a decided influence in major international financial centers. There were reports of switching from stocks to bonds by large investors in both London and New York.

In the United States in October, investors rushed to subscribe to the Treasury's 2 billion dollar cash offering of 5 per cent notes maturing August 1964. The issue was popularly known as the "Magic Fives."

The pull of high interest rates continued strong through the first half of 1960 as investors became less sure about the economic outlook. A substantial sell-off in the stock market ensued as investors sought safety and possible capital gains in bonds. This shift in expectations coupled with an easing of interest rates had reduced the reverse yield gap in this country to less than



Yields represent monthly averages—unless otherwise noted—for March, June, September and December. Common Stock yields: **United States**, Standard & Poor's; **Canada**, Moss, Lawson & Co., Ltd. (beginning of month); **United Kingdom**, Financial Times; **Germany**, Federal Statistical Office; **Netherlands**, Rotterdamsche Bank (end of month).

Reverse yield gaps emerge in leading Western countries as the spread between common stock and bond yields narrows

half a percentage point by December 1960. Parallel developments had reduced the Canadian reverse yield gap to less than a quarter point by the third quarter of 1960.

The Netherlands presented an interesting contrast to developments in the United States and Canada. Despite a steady rise in business activity in the Netherlands during 1959, long-term interest rates in the Dutch economy remained fairly stable at slightly more than 4 per cent. At the end of 1959

the Netherlands was about the only place where long-term Government bonds still yielded less than common stocks.

As share prices rose and yields declined during 1959, in response to heavy foreign buying, Dutch institutional investors who have a traditionally cautious attitude toward equities lightened their common stock portfolios and bought bonds. This flow of funds into the bond market was all-important in enabling the Government and

other agencies to borrow substantial sums at relatively low rates.

In Germany the reverse yield gap stood at nearly 4 percentage points in favor of bonds at the end of 1959. Attractive yields on bonds, the central bank observed in its 1959 annual report, had helped to moderate the advance of equity prices since the second half of 1959. In the second quarter of 1960, however, the German stock market surged ahead reflecting, in large measure, investor anticipation of higher corporate profits and dividend payouts under proposed revisions to the German Company Act. Meanwhile, interest rates continued to rise as the German economic boom gained momentum, and by September the reverse yield gap had widened to 4.7 percentage points.

Once again; however, the gap appears to be exerting a noticeable influence in the German market. Foreign demand for German equities has dropped off considerably and German investors, it is reported, are showing increased interest in higher-yielding debt securities. Perhaps of greater significance, German industrial corporations are finding it more attractive to raise new capital through issuance of new shares instead of bonds. (The volume of bond financing has virtually dried up.) These new equity offerings should help to ease the thinness of the German stock market which has been such an important factor in the postwar rise in German share prices.

Significance of reverse yield gap

What conclusions may be drawn from the foregoing? The emergence of reverse yield gaps in major international financial centers has helped to check the world-wide advance in common stock prices during most of 1960. High interest rates, reflect-

ing in part the efforts of monetary authorities to halt inflation, reduced the attractiveness of equities as an inflation hedge and attracted many investors to high-yielding debt securities. The capital gain appeal of equities was further dampened and that of bonds augmented, by growing uncertainty about the business outlook in the United States, Canada and, more recently, the United Kingdom.

One result has been a considerable narrowing in recent months of the spread between yields on equities and bonds in the United States, Canada and Britain. Reverse yield gaps in these markets may widen again if investors' expectations shift in the direction of renewed inflation or vigorous economic growth. On the other hand, the reverse yield gap may disappear and be succeeded by yield patterns which have long been held to be "normal." The experience of the past year indicates anew that relative yields can go through large swings in response to changes in investors' expectations and the impact of fiscal, debt management and monetary policies of governments.

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