

# MONTHLY *Business Review*

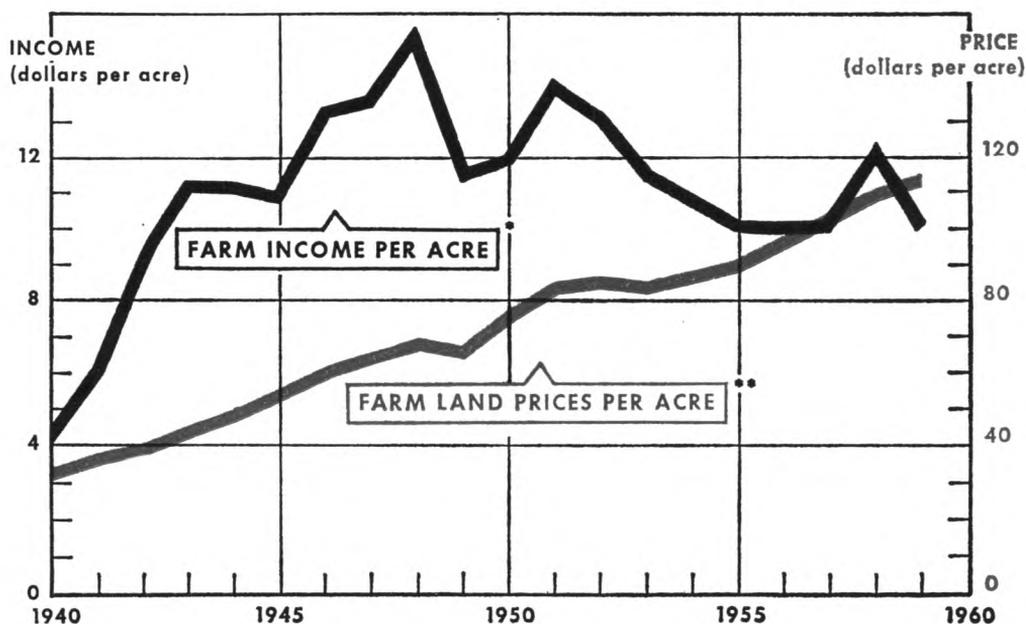
FEDERAL RESERVE BANK OF CLEVELAND

*June, 1960*

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**Although the advance of farm land prices has slowed, the average price per acre is now more than ten times the net income per acre, a ratio that has been without precedent for more than twenty years.**



\* Annual Net Farm Income, including inventory change.  
 \*\* Farm land and buildings on March 1 of the following year.

**Additional copies of the MONTHLY BUSINESS REVIEW may be obtained from the Research Department, Federal Reserve Bank of Cleveland Cleveland 1, Ohio.**

# The Price of Farm Land

THE LONG continued rise in prices of farm land has moderated considerably in recent months. A 3 percent increase from a year ago in the average price of farm land in the nation was indicated by the March 1 survey of market values conducted by the Department of Agriculture.<sup>(1)</sup> That increase was in contrast to advances of 6 percent to 8 percent a year for the previous three years. Even though the latest advance was small—one percent in each of the three consecutive four-month periods—it lifted land prices to a new high of 173 percent of the 1947-49 average. The present level is 68 percent higher than ten years ago and 253 percent above that of twenty years ago.

## Twenty-Year Advance in Market Values

During the decade of the 'forties, both land prices and farm income rose, but the advance in farm income was much sharper, as will be noted in the chart on the cover. The relatively moderate rate of advance of farm real estate prices during this period reflected the influence of a number of factors. Probably the most important factor was the war-induced scarcity of labor and machinery which restrained farm operators from adding to the size of their farms. Another factor which presumably exerted a restraining influence on market values was the conservative attitude of many farmers, born of their post-World War I experiences, toward the incurring of long-term debt.

Much of the 'fifties was characterized by

(1) Farm land price surveys are conducted regularly three times a year by the U. S. Department of Agriculture and reported in that agency's publication, *Current Developments in the Farm Real Estate Market*. The May 1960 issue contains the findings of the March 1960 survey.

a downward trend of farm income. Nevertheless, market values of farm real estate continued to advance as farmers sought to enlarge existing holdings in order to obtain the benefits of an increased scale of operations, and as the demand for industrial sites and rapidly growing suburban communities brought competitive bidding for land adjacent to rapidly growing centers of population. The high level of economic activity and inflationary advance in the general price level provided still another broad source of demand for farm land. A traditional view that has been widely held is that ownership of farm land affords protection of capital against loss of purchasing power. The influence of this view on the demand for farm real estate was operative in the late 'forties, but has probably been of greater significance during the past decade.

The upsweep in market prices of farm real estate over the past twenty years has been interrupted on two occasions. Market values actually declined in 1950 and again in 1954, but in each instance resumed an upward trend in the following year.

## Relation of Price to Income

In 1940, the beginning of the period under consideration, the average price of farm real estate in the nation was \$31.94 per acre and the net income per acre averaged \$4.31, as shown by the cover chart. The ratio of average price to income at that time was 7.4. Thereafter, the ratio narrowed to 3.9 in 1943, then widened to 6.2 by 1950. During the period of the last ten years the ratio has continued to widen. With market prices aver-

aging \$111.32 per acre and farm income \$10.19 in 1959, the ratio of price to income was 11.0, the highest ratio in more than twenty years.

Only twice before in the period for which records are available has the ratio of price to income exceeded 10; that was in 1921-22 and 1932-34. In both instances land prices eased before income ultimately recovered, re-establishing a price-income ratio of less than 10. What the outcome will be on this occasion is not clear at this time, but the persistent advance in prices of farm land without apparent support from gains in farm income has created a relationship between values and income that is without precedent in the past twenty years.

### Rate of Return on Market Value

Another way of stating the same development is to point out that the rate of return on the current market value of farm real estate is at the lowest level in two decades, as shown in the accompanying tabulation. It will be noted that the rate of return on current market values as computed by the Department of Agriculture dropped below the mortgage rate of interest after 1954.

**Computed Return on Current Market Value of Farm Real Estate and Farm Mortgage Interest Rates (Selected Years)**

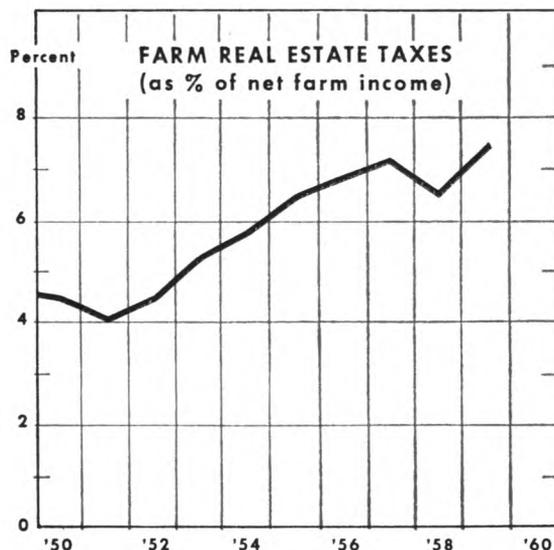
Year	Rate of Return on Real Estate Capital <sup>(1)</sup>	Farm Mortgage Interest Rate <sup>(2)</sup>
1940	5.2	4.6
1942	14.2	4.4
1944	7.5	4.4
1946	11.4	4.6
1948	13.4	4.5
1950	8.3	4.5
1952	7.4	4.6
1954	5.4	4.6
1956	4.0	4.7
1958	6.0	4.8
1959	3.0 est.	N.A.

(1) Residual return on market value of land and buildings.

(2) Rate charged by all lenders combined.

Source: U. S. Department of Agriculture: *Current Developments in the Farm Real Estate Market*, February 1960, and *Agricultural Finance Review*, July 1957.

The percent of net farm income required for farm real estate taxes has nearly doubled in the past ten years.



NOTE—Net farm income is taken before real estate taxes and rent to nonfarm landlords.

Owners whose farms are debt-free and others who have accumulated substantial equities in their holdings may not be greatly concerned by the present low return on market values. Owners with limited equities, however, as well as prospective purchasers and lenders, do have reason to be concerned as mortgages and land contracts are becoming more difficult to repay than in much of the past twenty years, since the current rate of return is equal to about one-half of the prevailing interest rate on newly-written farm mortgages.

### Mounting Real Estate Taxes

Another factor of increasing importance, aside from the current low rate of return on market values, is the steady upward trend of farm real-estate taxes. Taxes on farm real estate have absorbed an increasing percentage

of pretax farm income, as shown by an accompanying chart. The increase in the percentage of net income required to pay farm realty taxes has been particularly significant during the past nine years. Moreover, the growing need in many communities for more schools and other public buildings as well as for public services constitutes a strong influence toward further increases in the taxes assessed against farm real estate.

### Fewer Inquiries to Buy

In view of the record level of market values of farm real estate and the unprecedentedly low return on those values, it is not surprising that the inquiries about buying land this spring have been reported to be below a year ago. The number of people seeking farm land is reported by the March 1960 land market survey to have shown clear indications of weaker demand, particularly in the Corn Belt and the Lake States. Elsewhere in the nation, the opinions of reporters were said to be more evenly divided between those who thought

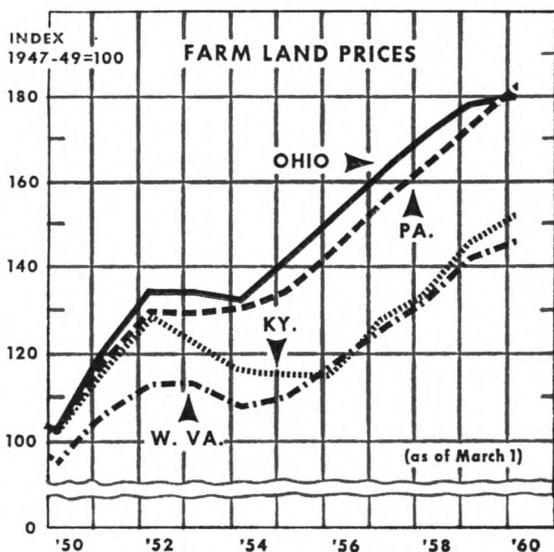
that the demand for land had increased and those who said that the demand was weaker.

### Offerings and Transfers Remain Low

The number of farms available for purchase continues low. The survey respondents indicate that the number of farms offered for sale has not changed perceptibly over the past three years. The limited number of farms offered for sale has, in fact, tended to sustain the upward trend of market values.

With limited interest on the part of prospective buyers and sellers, ownership transfers have remained comparatively low. About 190,000 tracts of land and farms are reported to have changed ownership during the year ended March 1, 1960. That number of transfers is equal to a rate of 47.1 transfers per 1,000 farms, or only moderately above the all-time low of 44.1 per 1,000 for the twelve months ended March 1954. Under present market conditions a small increase in offerings (or bids) could conceivably have a significant influence on market values.

*The advance in farm land prices during the 'fifties was greater in Ohio and Pennsylvania than it was in Kentucky and West Virginia.*



### Farm Land Prices in the Fourth District

The market price of farm land registered further gains in the four states wholly or partially in the Fourth Federal Reserve District during the twelve months ended March 1, 1960, as shown in an accompanying chart. As also may be noted from the chart, farm land prices are currently at a new high in all four states. The magnitude of the change in market values during the recent twelve-month period varied appreciably in the four states as it has on several occasions over the past twenty years. The largest year-to-year gain was reported in Kentucky where market values per acre are indicated to have advanced 6 percent. The increase in market values was nearly as great in Pennsylvania where the average price per acre is reported to have risen 5 percent during the recent twelve months. Market prices of farm real estate in Ohio and West Virginia, however, rose only 1 percent and 2 percent, respectively, during the period.

# Automated Check Processing

**T**HE STRANGE looking characters which appear at the bottom of this page are the key to the solution of the biggest paper handling problem in the banking industry. Briefly stated, the problem is the handling of checks from the time they are deposited or cashed by the payees until the time they are finally charged to the drawers' accounts. Even today such characters may be seen along the bottom edge of many checks, and in a relatively short period of time will appear as routine and standard procedure on a very large percentage of all checks issued. The banking industry is confident that in the not too distant future the checks on which these characters do not appear will be rare exceptions to the general rule.

The new characters along the bottom edge of the checks are associated with other technical developments which will make possible complete automation in the handling of checks. Following is a brief summary of how this plan evolved and how it will work in actual practice.

## The Problem

Since checks were first used in this country in Boston about in the year 1680, there has been a steady growth in their volume. Growth in use of checks was accelerated by the increase in the money supply during the Second

World War to the point where the banks in this country have now been virtually snowed under by huge drifts of paper. Last year an enormous total of 12 billion checks were issued by Americans and it is estimated that the total this year will be 14 billion. That will represent an increase of about 60 percent from a year as recent as 1952 and will be double the total at the end of World War II and three times as many as were issued annually prior to the war.

Checks represent about \$9 of every \$10 spent in the United States. With the increasing realization on the part of the public of the desirability of checking accounts as the best medium for the payment of bills, coupled with the mushrooming growth of the population, it is estimated that by the year 1970 the number of checks issued annually will reach the staggering total of 28 billion.

When it is considered that each check is handled approximately ten times from the time of issuance until it is charged to the drawer's account, it can be seen that by 1970 approximately 280 billion check handlings annually will be involved. During this process each check will have been handled by an average of two and one-half banks, and not less than 50 percent of all the checks issued will have been handled at least once in the Federal Reserve System's check collection



operation. At the present time the three offices of Federal Reserve Bank of Cleveland handle daily an average of approximately 1,200,000 checks; this is by far the largest operation of the bank.

Several years ago the banking industry realized that something had to be done to cope with the relentless, ever-increasing volume of checks. It was becoming more difficult to recruit and maintain the armies of clerical workers for the tedious operations which had over the years made only slight progress from hand work to the present semi-mechanized proof machines. It was felt that some form of complete automation was the only answer and the American Bankers' Association turned the problem over to its Bank Management Commission for study and recommendations.

### The Solution

The Bank Management Commission of the American Bankers Association met with representatives of the check printing industry and the equipment manufacturers and, after almost four years of working together, came up with the solution. Basically it was that checks would have imprinted thereon a common machine language and the equipment manufacturers would develop machines that could read, sort, and list the checks by character recognition of such language.

The common machine language decided upon is in the type font (as illustrated by the characters in the illustration) which was chosen after exhaustive tests and evaluation by the group of bankers, printers and manufacturers. It is known as Type E13B. The characters are to be printed on the check in magnetic ink which contains iron oxide. As the checks pass through the common machine language equipment, which will operate at very high speeds, the characters will receive an electrical charge which will magnetize them. Signals, which differ for each character, are then transmitted to a reading head which, in turn, activates a computer that performs the designated sorting, listing and posting tasks.

The imprinting of the common machine language is in a band extending 6 inches from the right edge of the check and  $\frac{5}{8}$  of an inch from the bottom edge. This band consists of three areas; the right-hand area is for the amount, the middle area is for the account number or other information desired by the drawee bank, and the left-hand area is for the routing symbol-transit number. The latter item will consist of the present routing symbol number but only the suffix of the present transit number; that is the one in which the Federal Reserve System is the most interested since it is the area or field which will be used for sorting to drawee banks. On checks  $7\frac{3}{8}$  inches or more in length, an optional fourth area to the left of the third area is also available for imprinting the check serial number or any other information which the drawee bank or customer desires.

The check routing symbol in fractional form, consisting of the full transit number as the numerator and the routing symbol number as the denominator, will be shown as at present in the upper right-hand corner of the check in conventional type.

Information contained in all but the extreme right area of the band is expected to be printed in the common machine language at the time the check itself is printed. The dollar amount of the check will be imprinted in the common machine language in the right-hand area at a later stage. It is to be done as a by-product of the proofing operation by the use of amount encoders built in or attached to adding machines or proof machines, and it is contemplated that ordinarily this would be done by the first bank handling the item. It is of course possible and indeed preferable for large issuers of checks to supply encoding of amounts at the time the checks are issued. Once the encoding in the common machine language is in place for all four areas, it is obvious that from that time on the check can be handled by automation throughout the entire collection and on-us posting processes.<sup>(1)</sup>

(1) "On us" posting refers to the posting of checks to individual accounts by the drawee bank.

ABC CORPORATION  
123 ANY STREET  
SOMEWHERE, OHIO

April 15, 1960 NO. 282

56-150  
412

PAY TO THE  
ORDER OF

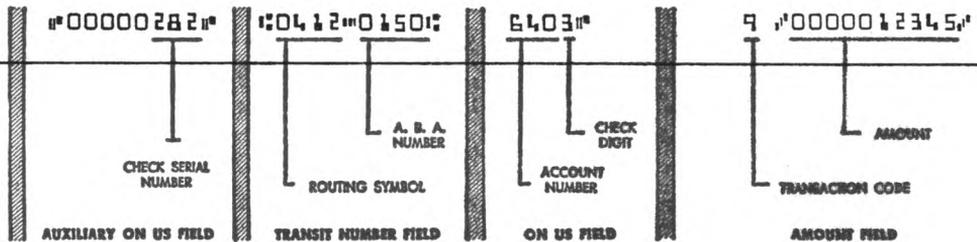
Ohio Manufacturing \$ 123.45

One hundred twenty-three and 45/100

DOLLARS

FIRST NATIONAL BANK  
SOMEWHERE, OHIO

John Doe  
OFFICIAL SIGNATURE



(Actual size of specimen check is larger than illustration.)

The specifications with respect to the common machine language encompass certain conditions as to size and design of checks and also certain dimensional and tolerance requirements. Full details regarding these specifications are available in Bank Management Publications Nos. 147 and 149 of the American Bankers Association.<sup>(2)</sup> Check printers and equipment manufacturers are completely familiar with these specifications.

An accompanying illustration shows a check properly encoded in all four areas in the common machine language.

### The Present Situation

The enthusiastic reception of the general program for the automation of check handling has been noteworthy. Banks generally are moving rapidly to have their new check

(2) These can be secured from the American Bankers Association office located at 12 East 36th Street, New York 16, New York, at a cost of \$1.00 each.

orders provide for the encoding of the necessary standard information in the common machine language according to the specifications of the A.B.A. Even those banks which do not intend to have automated on-us check posting are cooperating with respect to the routing symbol-transit number which, as stated previously, is the encoding which is essential in the transit operations of the Federal Reserve System and the large commercial banks. Of the one hundred largest banks in the United States, it is understood that well over half of them have placed orders for the new equipment.

Insofar as the Federal Reserve System is concerned, it has arranged for pilot installations of the new equipment produced by five different manufacturers. These installations will be at the Federal Reserve banks of Boston, New York, Philadelphia, Chicago, and San Francisco; the major components of the equipment at the various installations will be products of different manufacturers. The first

of the installations is scheduled for July of this year and the remaining four are expected to be installed at various times within the next eight months. It is contemplated that such automatic handling of checks will be standard operating practice in at least some of the Federal Reserve offices not later than the beginning of 1962.

### **Need of Participation by Commercial Banks and Their Customers**

It is hoped that every commercial bank, regardless of size and regardless of whether or not it intends to go into automatic on-us bookkeeping, will cooperate in the program, at least to the extent of having the routing symbol-transit number preprinted on its checks according to the A.B.A. specifications.

The cost of checks preprinted in magnetic ink will be very slightly higher than present costs. There may also be an additional cost in cases where check forms must be redesigned, but this will be a nonrecurring expense which, when spread over a period of time, can be considered as negligible.

Checks drawn on any bank in the United States will, to a certain degree, be deposited or cashed in localities outside of that of the drawee bank and, as a consequence, these checks will appear in the collection stream. In the not too distant future, checks not encoded in the common machine language will be exceptions rather than the rule. Consequently the time will come when these items will require special handling and will, no doubt, be subject to special rules in the collection process.

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## **NOTES ON FEDERAL RESERVE PUBLICATIONS**

Among the articles recently published in the monthly business reviews of other Federal Reserve banks are:

“The Federal Funds Market”, Federal Reserve Bank of St. Louis, April 1960.

“\$52 Billion on the Cuff: How Burdensome is Consumer Credit?”, Federal Reserve Bank of Philadelphia, April 1960.

“The Seaway — Year One in Review”, Federal Reserve Bank of Chicago, May 1960.

“The Importance of Recent Inventory Changes”, Federal Reserve Bank of Dallas, May 1960.

“The Business Situation: the Long-Run Unemployment Picture”, Federal Reserve Bank of New York, May 1960.

*Copies may be obtained without charge by writing to the Federal Reserve Bank named in each case.*

# Employment and Unemployment in Cleveland\*

A PIECE of good news was recently made public when the President of the U. S. announced that employment in the nation during April reached a new record for the month of over 66 million. That was nearly 2 million more than in the preceding month, March, and over 1 million more than in the year-ago month of April. Simultaneously, there was a sharp drop-off in national unemployment. From mid-March to mid-April the count of jobless persons declined by about half a million, or 13%, to 3,660,000. At this level, unemployment was only about 1% higher than it was a year earlier.

The figures cited by the President, which were compiled by the U. S. Department of Labor, described the national picture as a whole, but they do not fully and accurately portray recent trends in Cleveland. There have been sizeable employment gains in Cleveland also, during the past twelve months, but at the same time a significant and persistently high level of joblessness has been built up that is well above the year-ago level.

The record shows that the number of persons registered for unemployment compensation in Cleveland has never returned to pre-recession levels. Last July, when continued claims were at a post-recession low of 9,300, they were still 16% above July of 1957. Unemployment has been generally increasing ever since then except for temporary fluctuations associated with the steel strike.

By January and February of this year, continued claims had expanded—and only in part for seasonal reasons—to approximately 20,000 in Cleveland; the number was still below the year-ago level, but only by about 2,000. Subsequently,

in March, the rising number of unemployment claims reached 22,000 and overtook the year-ago level. By mid-April, the number of continued claims filed for unemployment compensation had edged higher to 22,800, which exceeded the year-ago level by 7,000, or more than one-third, and was roughly twice as high as in the corresponding months of the pre-recession years 1956 and 1957. The most recent data for May show a strong seasonal decline but there was still a substantial excess of about one-third above the year-ago level, and the number was still double that of two years ago.

## Employment Gains

Although as a general rule trends in unemployment can be traced to the ups and downs of business activity, this explanation does not suffice at present. In March and April, most Cleveland business indicators were at or above their year-earlier levels and, despite the increase in unemployment, there were actually more people working in the Cleveland area in March 1960 than in March 1959. Total nonagricultural employment was estimated by the Ohio Bureau of Unemployment Compensation, in cooperation with the U. S. Bureau of Labor Statistics, to have numbered 693,000 in March 1960, or 15,000 more than in March last year. Furthermore, when the subdivisions of employment according to industry classifications are examined, it is seen that year-to-year expansion permeated virtually the entire list.

Manufacturing employment in Cleveland showed the largest increase both proportionately and in actual numbers. There were 295,000 employees on the March manufacturing payrolls, up 4%, or nearly 12,000, from a year earlier. Most of the increase occurred in durable goods manufacturing industries. Major increases were as

\* A reprint of a broadcast, in the weekly "Business Trends" series, by the Research Department, Federal Reserve Bank of Cleveland, over Station WGAR, Cleveland, May 22, 1960.

follows: nonelectrical machinery employment, up 3,700; fabricated metal products, up 3,500; electrical machinery, up 1,600; transportation equipment and primary metals, up 1,000 in each case. There was no major industry in the durable manufacturing group that reported an employment decline.

Employment changes in the nondurable group of manufacturing industries were smaller, but still on the upside during the 12-month period. Employment in nonmanufacturing industries showed less change. The March 1960 total was 398,000, up only 3,300, or less than 1%, from the same month a year earlier. Employment by government, both Federal and local, including schools, rose by about 2,000 to show the largest nonmanufacturing employment increase.

### **But Unemployment Remains a Problem**

The positive and sizeable year-to-year rise in total employment—up 15,000 as stated above—indicates that the simultaneous unemployment increase—up 2,000 in March—has not been due simply to a general cutback in employment. Instead, the figures imply that during the 12-month period new jobs have opened in considerable numbers, *but these jobs have not been filled primarily from the ranks of the unemployed*. In addition to the insured unemployed, employees can be recruited from among the youngsters reaching working age, i.e., the natural increase in population, from persons who come to Cleveland from other areas, and from voluntary entrants into the labor force, e.g., married women or others who take jobs, but were not previously “unemployed”.

The question arises, why weren't more of the new job openings filled by persons who have been laid off and are collecting unemployment compensation? For lack of complete and detailed in-

formation, this question can't be answered with certainty, but it appears that changing job requirements may provide a considerable part of the explanation.

In the current May issue of the *Monthly Business Review* of the Federal Reserve Bank of Cleveland, a study of long-term trends in national employment reveals that opportunities for employment have been increasing for professional and technical factory workers who can carry on research and development programs, and for clerical workers and sales personnel, or in other words the so-called “white-collar” employees. On the other hand, the employment of “blue-collar” workers on production lines, in maintenance jobs, etc., has been slowly waning and requirements for the jobs that remain call for fewer but more skilled productive personnel than was the case in the past.

In contrast, a large proportion of the insured unemployed have little or no training. A recent study by the U. S. Department of Labor based on February 1960 data classifies fully half of the insured unemployed in the nation and in Ohio as unskilled or semi-skilled. Only one-fourth were classified as skilled workers. Furthermore, as the report indicates, of the persons who experienced long-term unemployment and exhausted their unemployment insurance benefits in February of this year, more than half were unskilled or semi-skilled.

Cleveland has long been a sizeable manufacturing labor-market area and it has, by the nature of its industries, attracted a substantial pool of labor both skilled and unskilled. In view of the large numerical size of the unskilled group of workers, even a relatively small shift away from the use of unskilled labor may be expected to have a measurable effect on unemployment in this area.



FOURTH FEDERAL RESERVE DISTRICT