Two Tests of Easter-Season Trade

At this time of year, business observers who follow the news of department store sales as a gauge of consumer buying must take into account the date on which Easter falls. This year Easter Sunday falls on April 5, or one week earlier than last year. If sales during a particular week near Easter are expressed merely in terms of a percentage change from the year-ago calendar week (as is the case in most news releases), the careful observer will make some discount or allowance for the fact that this year’s Easter is earlier, and store sales are expected to rise with Easter’s approach.

To make such a correction for calendar complications, various devices have been employed in the past. A convenient short-cut can be found, at least for Fourth District trade, by using the seasonally adjusted weekly index of Fourth District department store sales. The latter index, which is computed and released regularly by this bank, is based on a special study of the records of weekly seasonal variations in store trade in this District.[1]

It is possible, for example, to set up two tests, or measuring rods, for the sales performance of Fourth District department stores during the approaching four pre-Easter weeks and two post-Easter weeks. The interested observer should be able to apply these tests for himself as the weekly news reports become available during the second half of March and early April.

The tests are as follows:

Test I: weekly sales position needed to equal last year’s Easter trade. This means that, assuming a typical Easter pattern, a sales gain by a specified percentage over the year-ago week is needed during certain weeks which precede Easter, while a sales loss from the year-ago week may be expected just after Easter, if the entire season this year is to equal that of last year. This test is a very conservative one, and would certainly not indicate any great briskness of retail trade, insofar as last year’s sales performance during the Easter season was a relatively weak one. Hence the need for the second test, which is probably more realistic under present circumstances:

Test II: weekly sales position needed to continue the pace of Nov.—Dec.—Jan. just past. This means that, assuming a typical Easter pattern, each week’s sales comparisons with the year-ago week would be sufficiently favorable for the entire Easter season to average out at the same seasonally adjusted level as that of the three most recent months for which complete data are now available. Such a level (which is 115% of the 1947-49 average) is one which has

[1] See also “Note on New Weekly Index,” Monthly Business Review, November 1949, p. 5. The weekly index was substantially revised in July 1952. A description of the present methods of calculation, as well as back figures for the revised index from January 1950 to date, may be obtained on request to the Research Department, Federal Reserve Bank of Cleveland.
EASTER TRADING SEASON
TYPICAL PATTERN OF WEEKLY SALES, 1947-51
Fourth District Department Stores

... during the four weeks before Easter, department store sales usually rise gradually; a drop of about 17 percent during the week after Easter is followed by a return to a position close to the year's average.

generally been regarded as favorable to business, and one which is appreciably higher than that of early 1952 or most of 1951, after all seasonal adjustments have been made.

Specific figures for the two tests are shown in Table 1. Before examination of the figures in detail, however, a further look at the nature of the tests and the means by which they have been derived may be useful.

Typical Easter Pattern

The typical postwar pattern of sales during the Easter season by Fourth District department stores is shown in an accompanying bar chart. The influence of the Easter date is ordinarily felt in department store trade for a period of approximately six weeks, namely the four weeks prior to Easter and the two subsequent weeks. A gain of nearly 8 percent appears to occur between the fourth and third weeks prior to Easter, with another rise of about 7 percent in the next week,

... the unadjusted index shows the high Christmas peaks of the past two seasons, as well as last year's moderate Easter bulge ... the dotted red line shows the more conservative of the two tests to be applied to this year's Easter season, with the margins above or below the black line corresponding to the first column of Table 1 ... the higher standard of Test II is shown by the broken red line.
and a somewhat smaller rise in the final week before Easter. The cumulative rise from the fourth to the first week before Easter is typically about 17 percent.

An abrupt drop of 17 percent in sales in the week immediately following Easter is shown by the records of postwar experience. The typical pickup during the second week after Easter is 7 to 8 percent. From that point on, the seasonal pattern of department store trade follows a fairly standard course without further influence ascribable to the date on which Easter has fallen in any particular year.

What the Indexes Show

In order to visualize the tests for this year’s season against the background of last year’s actual performance (taking into account both the normal Easter pattern and the shift in Easter date as indicated above), attention may be given to the two charts portraying the weekly index of Fourth District department store sales. The left-hand chart shows the

<table>
<thead>
<tr>
<th>Table 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>SALES INCREASES OR DECREASES OVER YEAR-AGO WEEK</td>
</tr>
<tr>
<td>(Fourth District Department Store Sales)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1953 Week Ending</th>
<th>I Needed to Equal Last Year’s Easter Trade</th>
<th>II Needed to Continue Pace of Nov.-Dec.-Jan. Just Past</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 14</td>
<td>+ 3%</td>
<td>+13%</td>
</tr>
<tr>
<td>21</td>
<td>+ 3</td>
<td>+12</td>
</tr>
<tr>
<td>28</td>
<td>+ 6</td>
<td>+16</td>
</tr>
<tr>
<td>April 11</td>
<td>−13</td>
<td>−5</td>
</tr>
<tr>
<td>18</td>
<td>+ 7</td>
<td>+17</td>
</tr>
<tr>
<td>25</td>
<td>− 8</td>
<td>+ 1</td>
</tr>
</tbody>
</table>

SEASONALLY ADJUSTED INDEX OF WEEKLY SALES

Fourth District Department Stores

... the adjusted index shows that sales have been relatively strong since mid-November, after allowing for seasonal expectations. To maintain this pace during the coming Easter season (Test II) would mean a sales level shown by the broken red line... the dotted red line indicates a level which would correspond merely to last year’s performance (averaging the relatively low four weeks before Easter with the more-than-seasonally strong two weeks immediately after Easter).
index without adjustment for seasonal variation, with the black line standing for last year's performance and the red line for the performance of the most recent months. The high Christmas peaks of the past two seasons, as well as last year's moderate Easter bulge, are at once apparent. The dotted red line shows Test I for this year's Easter season, with the margins above or below the black line corresponding to the first column of Table 1.

For example, the week ended April 5 last year, which was the second week before Easter, scored an unadjusted sales index of 109 (based on the 1947-49 average as 100). The week ending April 4 this year, which is the week immediately prior to this year's Easter, should score an index of 112, or about 3 percent above the year-ago week, if the pace of last year's Easter season is to be matched. During the following week, however, an index of 95, or 13 percent below the year-ago week, can be tolerated without falling behind the standard. The higher standard of Test II is shown by the broken red line. (See also the second column of Table 1.) Here the shape of the curve follows the usual pattern as previously, but the level is determined by what would be required for sales to be as strong for this time of year as they were during the recent months of November, December and January. This implies an average level of 115, seasonally adjusted, for the entire Easter season (see right-hand chart), but is plotted in terms of the fluctuating unadjusted indexes which would be needed to achieve such a level. According to this test the week ending April 4 this year, for example, should score a 12 percent gain over the year-ago week if the recent pace of sales is to be maintained in the light of seasonal and Easter expectations.

The right-hand chart portrays the same course of events and the same tests as just described, with the difference that all seasonal expectations, including those of Easter, have been allowed for. The tests or targets therefore, take the form of straight lines, and are measured in terms of relative levels—105 for Test I, and 115 for Test II, expressed in terms of the 1947-49 base. (The bulge in last year's adjusted index, which is observable near the end of April, occurred during the second week after Easter. Sales were more than seasonally strong, due partly to unusual post-Easter promotions.)

**Conclusion** If this year's Easter trade should fail to measure up to the first or more conservative test (last year's Easter), the outcome could be considered a definitely pessimistic indication of the state of department store trade in this District. If the outcome should exceed the level indicated by the second and stiffer test (maintenance of recent pace), a distinctly bullish note (possibly with inflationary implications) would be sounded. If, as may well happen, the outcome is between the levels indicated by the two tests, the signals may be said to be mixed or the omens inconclusive; the business observer would then follow his usual temperamental inclinations, of whichever type these might be.

Any interpretation of the outcome of Easter season trade, however, should be tempered by recognition of the fact that erratic forces, as well as broad trends, are always at work in influencing the volume of consumer buying.

(The accompanying Table 2 gives continuous figures for the adjusted weekly index of Fourth District department store sales from January 1952 to the latest available, as of February 1953. This table, which covers a period overlapping that covered in the charts, is not necessary for following the main argument presented above.)

**Table 2**

<table>
<thead>
<tr>
<th>JANUARY 1953</th>
<th>JANUARY 1952</th>
</tr>
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<tbody>
<tr>
<td>Week ending</td>
<td>Week ending</td>
</tr>
<tr>
<td>January 5</td>
<td>January 3</td>
</tr>
<tr>
<td>112</td>
<td>114</td>
</tr>
<tr>
<td>February 2</td>
<td>February 7</td>
</tr>
<tr>
<td>115</td>
<td>109</td>
</tr>
<tr>
<td>March 1</td>
<td>March 7</td>
</tr>
<tr>
<td>106</td>
<td>108</td>
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<tr>
<td>April 5</td>
<td>April 4</td>
</tr>
<tr>
<td>103</td>
<td>101</td>
</tr>
<tr>
<td>May 3</td>
<td>May 2</td>
</tr>
<tr>
<td>107</td>
<td>109</td>
</tr>
<tr>
<td>June 7</td>
<td>June 6</td>
</tr>
<tr>
<td>105</td>
<td>110</td>
</tr>
</tbody>
</table>
Ohio's New Atomic Plant

On August 12th of last year, the Atomic Energy Commission announced that it would build its largest uranium processing plant along the Scioto River in southern Ohio's rural Pike County. The A.E.C.'s decision changed the orderly tempo of living in the area almost over night. By January 1953 roughly 50,000 men, women, and children are expected to have entered the area. Four years from now, most of them will have left. To Portsmouth residents, it may appear as a repetition of the "flood of '37". This time, however, it will be people instead of water and two years' advance notice of the deluge gives adequate time to prepare the floodwalls.

The new plant, estimated to cost more than $1.2 billion, becomes the largest unit in the Fourth District's growing list of atomic production, research, and development facilities. The District's only other production facility is a feed materials plant at Fernald, Ohio (above Cincinnati) which will process uranium ores for use at the Paducah, Oak Ridge, and Portsmouth gaseous diffusion plants. That plant is now about completed. Atomic research and development has been carried on for some time in the District, however, by leading institutional and corporate research organizations.

The plant will be operated for the Atomic Energy Commission by a newly formed subsidiary of one of the nation's largest rubber companies.

New Plant to be Nation's Largest The huge gaseous diffusion plant near Portsmouth will be larger than either the Oak Ridge or Paducah installations. The plant site will cover approximately 3,700 acres and the floor area of the permanent buildings will cover 9,680,000 square feet, or about 222 acres. An additional million square feet will be included in temporary structures. Actual building and plumbing costs will take roughly 10 percent of the estimated $1,219 million total project cost. Putting this new plant on the state's tax-exempt list will just about double the total value of all public and tax-exempt property in Ohio, according to the Ohio Department of Taxation.

The permanent buildings will require 650,000 cubic yards of concrete, 25,000 tons of reinforcing steel, 565 miles of pipe, 1,065 miles of copper tubing, and 4,600 miles of electric wiring. The materials and equipment to be utilized in the new buildings are valued at approximately $690,000,000 and include 87,000 various instruments. About 14,000 engineering drawings will be required, or enough to blanket 2 1/2 acres of land.

The foregoing figures apply only to the gaseous diffusion plant. Accompanying projects, such as access roads, railroad spurs, new homes, and community facilities, plus the two huge electric generating plants needed to supply the project's power requirements, may add as much as another billion dollars to the capital investment necessary to support the new facility.

How the Plant Will Work The new plant will process gaseous uranium hexafluoride, recovering nearly pure uranium 235 at the end of the process. Uranium 235, or U 235, is the fissionable atom in natural uranium, which contains one atom of U 235 for every 140 atoms of non-fissionable U 238. The U 235 and U 238 atoms are identical chemically, but the U 235 atom is slightly smaller (about 1 percent) in mass or weight. This small physical difference is utilized in the gaseous diffusion process to extract the wanted U 235 atoms.
Gaseous uranium hexafluoride ($\text{UF}_6$) is put under pressure in a chamber containing a porous barrier with billions of holes per square inch. The lighter U 235 atom moves faster than the heavier U 238 atom, strikes this barrier more often, and “diffuses” through it more frequently. The gas on the far side of barrier, the “diffusate”, if removed quickly to a higher stage in the process, contains a few more U 235 atoms than the gas on the near side. It is necessary to pass the diffusate through a large number of successive stages in order to get it sufficiently enriched in U 235 atoms. The residual gas is also recycled many times, further depleting it of U 235 atoms.

Essentially, the whole process consists of thousands of barriers through which gas is cycled and recycled until it contains the required proportion of U 235 atoms. These porous barriers are very thin, yet they are able to withstand enormous pressures. The total surface area of the barriers to be used at the Portsmouth plant will be measured literally in hundreds of acres.

The whole complex process will be controlled by intricate electrical and electronic controls. Thousands of pumps and electric motors will be utilized. Vast quantities of water will be used to cool the motors, since it will be a continuous, 24-hour-a-day, 7-day-a-week process. The entire system—the thousands of miles of pipes and the pumps—must be leak-proof and corrosion-proof, since uranium hexafluoride is so corrosive that it will eat through glass. A new plastic compound, fluorothene, had to be developed to contain it.

In spite of the fact that the end product of the new plant will be fissionable material, presumably there is no danger—beyond normal industrial hazards—in its production.

Peak construction requirements at the A.E.C. installation call for some 26,500 on-site workers about January, 1955, approximately three-fifths of whom are expected to migrate into the Portsmouth-Chillicothe area. When the new plant is in full production, scheduled for mid-1956, it will require nearly 4,000 permanent operating employees. This work force will be built up gradually while the plant is being built. Production workers will be pre-trained so that parts of the plant can be put into operation as they are completed. About half of production workers are expected to be in-migrants.

The Portsmouth-Chillicothe Area If a circle having a radius of 25 miles were drawn around the A.E.C. plant site, it would just about circumscribe the four counties that will bear the brunt of this worker in-migration. These four counties, in order of their 1950 population, are: Scioto, Ross, Jackson, and, of course, Pike. They compose the central Portsmouth-Chillicothe labor market area. All are near enough to the plant site to be preferred for residence by in-migrant construction workers and permanent operations personnel.

In spite of the numerous problems they will bring, this worker influx will give the area a much needed industrial stimulus. The expansion of economic activity associated with World War II and the postwar period largely by-passed the area. As a result, there was a considerable out-migration of workers, particularly of younger, unskilled workers seeking better employment opportunities in larger industrial centers.

Pike and Scioto counties actually lost population during the 1940’s, while the gains in Jackson and Ross counties were less than one-third the natural increase (births less deaths) experienced in Ohio during the decade. Portsmouth, which never fully recovered from the combined effects of the depression of the early 1930’s and the disastrous flood of 1937, has lost residents during the past two decades.

Nearly 180,000 persons resided in the four-county Portsmouth-Chillicothe area in 1950. The area’s labor force consisted of about 61,000 men and women at that time, roughly 4,000, or 7 percent, of whom were unemployed. Manufacturing industries are the largest employers in the area, followed by the trade, service, agriculture, and transportation-utility industry groups, in that order.

Scioto was the most densely populated of the four counties in 1950 although its average of 136 persons to each square mile was well below the Ohio average of 194 persons per square mile. One-half of the county’s 1950 population of 82,900 lived in Portsmouth and New Boston.

Scioto is also the leading manufacturing county in the four-county area. Over three-fifths of the value added by manufacture in the county in 1947 was added by Scioto’s manufacturers, who employed nearly 70 percent of the area’s production workers in that year. On the basis of the 1950 Census of Population, which reports the industry group of employed workers by county of residence rather than by county of employment, more than half of the four counties’ manufacturing workers lived in Scioto County. Two shoe companies, a steel mill (currently expanding its plant), and a railroad yard are the leading employers in the county. About one-third of the county’s employed workers in 1950 were engaged in the trade and service industries, while only 8 percent were agricultural workers—the smallest proportion in the four-county area.

Ross is the largest of the four A-plant counties in terms of land area and its land is better suited to farming. Consequently, the county’s farms produced more than half of the farm products sold by the four-county area’s farmers in 1949. Nevertheless, in terms of resident employed workers in 1950, manufacturing is the county’s leading industry, followed by the service, trade, and agricultural industries, in that order. Two paper mills, a shoe factory, and a veter-
ans' hospital are the county's leading employers. Chillicothe, the only city in the county, had 20,100 residents in 1950, or two-fifths of the county's total.

Jackson County had about 27,800 residents in 1950—over two-fifths of them residing in the cities of Jackson and Wellston. Of the 8,200 employed workers residing in the county in 1950, about one-fourth were engaged in manufacturing and roughly one-sixth each in trade, service, and agriculture. Mining and quarrying were relatively more important in the county, accounting for 6 percent of all resident employed workers as against one percent in the state as a whole. An apparel manufacturer, a railroad, and several ironworks are the county's leading employers.

Agriculture is the major industry in rural Pike County. In 1950, roughly two-thirds of the county's 443 square miles of hilly woodland were in farms, about one-half of its 14,600 residents lived on farms, and nearly two-fifths of its employed residents were engaged in agriculture. Waverly, the largest village, had a 1950 population of 1,700 inhabitants. Live-
stock and livestock products are the major agricultural income producers in the county as they are in the other three counties and in the state.

Manufacturing in Pike County was chiefly confined to the output of small sawmills and woodworking shops. Many workers were employed outside the county, commuting to jobs in Portsmouth and Chillicothe.

Family income in the Portsmouth-Chillicothe area during 1949 was below the state and U.S. averages. The average family in the area received only about three-fourths as much money income in 1949 as did the average Ohio family and only four-fifths as much as the average U.S. family. In that year, median family income in the area was $2,440 as compared with $3,363 in the state and $3,068 for the nation as a whole. Below-average income in the area was due mainly to local economic characteristics but may also be traced to the “inventory recession” of 1949, which hit non-durable goods manufacturers the hardest, particularly affecting the area’s leather and paper industries.

The two major local factors affecting family income in the Portsmouth-Chillicothe area are wage rates and farm income. Average hourly earnings run about 10 percent below the state average and median cash receipts of the average commercial farm were only 40 percent below the state median in 1949. Partially offsetting lower farm cash receipts (and contributing to below-average family income) were about twofifths of the area’s farm operators working off their farms 100 days or more in 1949. The proportion was only about one-third in Ohio and one-fourth in the nation as a whole. Furthermore, less than half the area’s farms are commercial farms—34 percent are residential or part-time farms. Roughly two-thirds of Ohio’s, and the nation’s, farms are commercial farms. The larger proportion of part-time farming in the area serves to supplement lower family incomes, but is not fully reflected in reported dollar income.

The area’s wage scales should improve and family incomes climb during the next few years. Plant operations and construction requirements will be competing with local employers for workers. Somewhat higher pay scales and family incomes may thus be marked up to the new installation’s credit. Mixed with this blessing, however, will be all the complexities attending an increasing labor force which is expected to expand over 50 percent in the next two years.

By April 1953, labor demand is expected to total 63,900 workers, to rise to about 78,000 workers by the end of this year, and to approach 96,000 workers about January 1955. (See Table 1.)

Atomic Energy Commission construction and operational requirements will take about 28,800 men and women of the January 1955 total, or about three-quarters of the net demand of all industries expanding from July 1952 levels: 26,550 on-site construction workers and 2,250 for plant operations and training programs. Other industries expanding from July 1952 levels are expected to create an additional 9,150 jobs: 1,500 in off-site construction; 3,100 in...

**Labor Demand-Supply Relationships During Construction Phase**

Demand for workers in the Portsmouth-Chillicothe labor market area will rise rapidly during the next two years, reaching a peak early in 1955. Prior to the A. E. C. announcement (July 1952), an estimated 58,800 workers were employed in the four counties.

Anticipated net change in labor demand-supply relationships

Portsmouth-Chillicothe Labor Market Area
July 1952-April 1957

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**EDITORS NOTE:** The labor force projections for the Portsmouth-Chillicothe labor market area used herein were prepared by the Division of Research and Statistics of the Ohio Bureau of Unemployment Compensation in cooperation with the U.S. Bureau of Employment Security. (See **The Labor Market**, November 1952, p. 1). The estimates were made under the assumption that current levels of business activity would be approximated nationally throughout the period under consideration, but would increase locally. The estimates should be interpreted within this frame of reference since, aside from construction and operational timetables of the A. E. C., local employment is vulnerable to local and national fluctuations in business activity. The interpretation and extrapolation of these projections are entirely the responsibility of this bank’s Research Department.
trade and service establishments; 1,550 in transportation and public utilities; 800 in manufacturing industries other than the A-plant; 200 in government (including 180 A. E. C. personnel); 100 in financial institutions; and 1,900 self-employed, unpaid family, and domestic workers. Most of the unpaid family and self-employed workers are expected to be engaged in trade and service activities. Concurrently, declining industries are expected to release about 1,150 workers—mainly persons now employed on marginal farms—so that over-all labor demand at the construction peak will total about 95,600 workers.

It is anticipated that about 76,100 workers can be supplied locally to meet this peak demand: 70,000 from the central four-county area; 3,900 in-commuters from Adams, Highland, and Vinton counties; and, 2,200 in-commuters from other fringe counties. This figure represents maximum local supply in the seven-county commuting area and is dependent upon full utilization of the labor force within that area. It excludes only minimum unemployment, estimated at 1,250 workers for all seven counties at the construction peak. Therefore, to meet over-all labor demand, at least 19,500 workers will have to migrate into the area by January 1955. Almost all of the in-migrants will be men because of the heavy demand for construction.

Once the construction peak is passed, demand for construction workers will contract sharply. By April 1956, when all of the 3,990 permanent operating personnel are employed (the operations peak), demand for on-site construction workers will have dropped from peak needs of more than 26,000 to about 6,000. Over-all demand at this time will be about 70,900 workers.

Labor supply at the operations peak will be more than adequate to meet demand. In addition to the 67,700 men and women anticipated to be available locally in the central labor market area, 2,200 workers are expected to be still commuting into the area and 6,100 in-migrant workers to be still living and working within the area. This means that a labor surplus of some 5,100 workers (excluding minimum unemployment) is anticipated at this time. Unemployment will continue to grow and may temporarily approximate 10 percent of the labor force by mid-1957 when construction worker demand approaches zero. This picture could easily be altered, of course, if new industries are drawn into the area, or unusually good employment opportunities outside the area draw many local workers away.

The Permanent Phase

Construction workers will no longer be needed when the plant is completed in mid-1957. Permanent net labor demand, above July 1952 levels, will then total approximately 7,200 workers. The distribution of this increase would be about as follows: permanent operation of the gaseous diffusion plant will require a staff of 3,990; about 1,200 transportation and utility workers will be needed, chiefly by railroads as employment is expected to rise from the abnormal situation of last July; and another 2,000 workers will...
Table 1
ANTICIPATED LABOR DEMAND-SUPPLY RELATIONSHIPS
Portsmouth-Chillicothe Labor Market Area

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<th></th>
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</thead>
<tbody>
<tr>
<td>Anticipated employment</td>
<td>58,800</td>
<td>63,900</td>
<td>74,900</td>
<td>84,500</td>
<td>95,600</td>
<td>89,100</td>
<td>70,900</td>
<td>67,400</td>
</tr>
<tr>
<td>Anticipated labor supply from all sources</td>
<td>61,470</td>
<td>66,300</td>
<td>76,700</td>
<td>85,200</td>
<td>95,600</td>
<td>90,700</td>
<td>76,000</td>
<td>73,100</td>
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<td>Central labor market area</td>
<td>61,470</td>
<td>62,500</td>
<td>65,500</td>
<td>66,700</td>
<td>70,000</td>
<td>69,300</td>
<td>67,700</td>
<td>68,200</td>
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<td>In-commuters</td>
<td>1,000</td>
<td>3,200</td>
<td>4,500</td>
<td>5,100</td>
<td>6,100</td>
<td>4,900</td>
<td>2,200</td>
<td>1,400</td>
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<tr>
<td>In-migrants</td>
<td>2,800</td>
<td>8,000</td>
<td>14,000</td>
<td>19,500</td>
<td>16,500</td>
<td>6,100</td>
<td>3,500</td>
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<td>Available labor surplus</td>
<td>2,670</td>
<td>2,400</td>
<td>1,800</td>
<td>700</td>
<td>1,600</td>
<td>5,100</td>
<td>5,700</td>
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<tr>
<td>Estimated net labor demand in expanding industries, cumulative from July 1952</td>
<td>6,490</td>
<td>16,530</td>
<td>27,780</td>
<td>37,950</td>
<td>31,550</td>
<td>13,990</td>
<td>9,310</td>
<td></td>
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<tr>
<td>A.E.C. construction</td>
<td>3,750</td>
<td>10,180</td>
<td>19,150</td>
<td>26,550</td>
<td>21,420</td>
<td>6,010</td>
<td>1,940</td>
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<tr>
<td>A.E.C. plant operations</td>
<td>90</td>
<td>580</td>
<td>1,180</td>
<td>2,250</td>
<td>2,950</td>
<td>3,990</td>
<td>3,990</td>
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<tr>
<td>Off-site construction</td>
<td>400</td>
<td>1,600</td>
<td>1,400</td>
<td>1,500</td>
<td>900</td>
<td>410</td>
<td>200</td>
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<tr>
<td>Transportation and utilities</td>
<td>900</td>
<td>1,400</td>
<td>1,450</td>
<td>1,550</td>
<td>1,400</td>
<td>1,100</td>
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<tr>
<td>Trade and services</td>
<td>450</td>
<td>1,070</td>
<td>2,200</td>
<td>3,100</td>
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<td>Other</td>
<td>900</td>
<td>1,700</td>
<td>2,400</td>
<td>3,000</td>
<td>2,950</td>
<td>1,480</td>
<td>1,280</td>
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</tr>
</tbody>
</table>

Source: Division of Research and Statistics, Ohio Bureau of Unemployment Compensation
1 Jackson, Pike, Ross, and Scioto Counties.
2 Includes minimum unemployment estimated at 1.4% of the labor force.
3 Includes government, other manufacturing, finance, self-employed, unpaid family, and domestic workers.

NOTE TO TABLE 1:

During construction of the gaseous diffusion plant, labor demand and supply in Portsmouth-Chillicothe labor market area (Jackson, Pike, Ross, and Scioto Counties) is expected to be approximately as given in Table 1. The area's total labor force, not shown in the table, equals total supply plus 1.5 percent for minimum unemployment.

Construction and operational requirements of the A.E.C. constitute the largest segment of demand throughout the period under consideration. Over-all labor demand in all other expanding industries is expected to rise from July 1952 levels as shown. Total employment does not equal the sum of July 1952 employment and net labor demand because the latter figure does not reflect anticipated declines in demand, mainly for agricultural workers on marginal farms. Other reductions are foreseen in shoe and paper production and in logging activities.

It is anticipated that the labor supply in the four-county labor market area will be drawn from four sources during the construction phase: (1) employment and available unemployment on July 1952; (2) normal growth of the labor force after July 1952, estimated at 1 percent per year, and increased labor force participation, estimated at 4 or 5 percentage points increase at the construction peak; (3) persons presently out-commuting from the area, together with some that have left the area but still maintain local dwellings, who are expected to seek local jobs; and (4) declining industries.

The majority of the in-commuters are expected to come from Adams, Highland, and Vinton Counties in Ohio. Roughly one-third of the in-commuters at the construction peak are expected to be from other fringe areas such as Greenup and Lewis Counties in Kentucky and the Ohio counties of Gallia, Lawrence, and Pickaway.

Population: Population trends in the Portsmouth-Chillicothe area will closely follow employment trends during the next few years. About 98 percent of in-migrant workers at the construction peak are expected to be men—60 percent of them with families who will probably accompany the breadwinner to his new job. Also, the worker outflow that has prevailed for over a decade will be reversed and a normal natural increase (births less deaths) can be expected to occur in the existing permanent population. The number of inhabitants in the area is expected to rise from

1 Estimated at 12 per year per 1,000 inhabitants on basis of average 1940-51 natural increase in Ohio.
... some 45,000 men, women, and children are expected to move temporarily to the Portsmouth-Chillicothe area while the A.E.C. plant is being built. Permanent gains will accrue mainly from natural population increases with only about 5,800 expected to be in-migrants.


180,000 men, women, and children in 1952 to nearly 234,000 at the construction peak, then decline to about 210,000 at the operations peak and 199,000 in mid-1957 when construction is completed. Thereafter, the population should increase slowly, reaching about 206,000 inhabitants in 1960.

At the construction peak, the four counties are expected to have some 54,000 inhabitants in addition to their 180,000 residents in 1950; about 6,500 due to the normal, natural increase; some 3,200 permanent in-migrants; and about 44,600 temporary in-migrants who are expected to leave the area again as their jobs are completed. This population inflow and outflow of 45,000 persons in four short years is the main problem facing the area. It represents more inhabitants than the area gained in the thirty years between 1910 and 1940 and is about three times the 1950 population of Pike County. Housing them and providing them with community facilities and services during their brief stay without over-expanding existing facilities constitutes the nub of the problem.

Most of the temporary construction workers—particularly the manual workers—are expected to reside in trailer camps near the plant site. Some of the single construction workers will be housed in barracks to be provided on the plant site. Non-manual construction workers and permanent operations personnel, however, are expected to require permanent-type housing in or near Portsmouth, Chillicothe, and Jackson so as to be near existing schools, stores, and other urban facilities. Operating personnel desirous of living near the A-plant in Pike County will largely settle around Waverly, about nine miles north of the plant site. This is the only village in the county having corporate water works and sewerage disposal. Waverly's council recently extended the corporation limits, more than tripling the village's size, and plans are under way to expand the village's sewer system and water supply.

The Portsmouth-Chillicothe area has been designated a critical defense housing area. Rent controls have been imposed upon all four counties and 1,400 housing units programmed initially for the area. Four hundred will be temporary units, constructed with federal funds, and 1,000 will be permanent housing units by private construction. The permanent units qualify for liberalized financial aids under the Defense Housing and Community Facilities and Services Act of 1951, which provides chiefly for smaller downpayments, longer maturities, and eligibility for prior commitments or repurchase by the Federal National Mortgage Association.

Builders over-subscribed the initial program, submitting plans for 2,377 units to the Federal Housing Administration for approval. Consequently, all 1,400 defense housing units are expected to be under construction by early May. It is also anticipated that another 1,000 permanent units will be started in the area this year under other F.H.A. mortgage insurance plans. All of the F.H.A.-approved units will be located near cities and villages so that they can be connected to existing water and sewerage facilities. Many other privately financed subdivisions are in the planning stages.

Additional defense-housing units will be programmed as needed. However, as more units are built without this special financing aid, the smaller the need becomes.

Transportation

Transportation requirements arising from the A-plant construction appear to be the closest to fulfillment of any of the plant's many needs. All seven counties in the construction commuting area are fairly well linked by connecting highways and roads. Four railroads serve the area and commercial air travel should be available in the near future.

The two railroads located nearest the A.E.C. plant have already built spurs into the plant site. Most of the bulky construction materials can be shipped in by rail, freeing the highways of heavy truck traffic. Railway camp cars are also being used to provide on-site housing for labor gangs engaged in site-clearance activities.
Airliners cannot use the area's airports because they are not government approved. Private plane ports are crowded. However, Scioto County already had plans for building a C.A.A.-approved airport before Pike County was selected for the new A.E.C. plant. A $400,000 airport bond issue was approved by the county's voters at the November 4th elections. This sum will be matched by federal funds, giving the county an $800,000 building fund. The airport will be located about 10 miles north of Portsmouth near Minford. It is hoped that work can get under way on this project early in the spring.

Highway improvements will be the most expensive of all transport improvements in the area. Estimated cost of the atomic roads program is $24 million, with the federal government tentatively agreeing to pay $17 million and the state $7 million. The major road job is widening U.S. 23, which runs past the main entrance to the A-plant, into a four-lane highway between Portsmouth and Chillicothe. Work was already under way on this major north-south artery as part of the federal roads program when the A.E.C.'s announcement came last August. Construction has since been stepped up and should be completed in time to carry the peak load of construction workers to and from the site.

Mammoth Generating Units to Supply A-Plant

Two of the largest steam electric generating plants in the world are being built near Gallipolis, Ohio, and Madison, Indiana, to supply the full power requirements of the Portsmouth gaseous diffusion plant. The plants will have an aggregate generating capacity of 2,200,000 kilowatts and, together with their related facilities, will cost an estimated $400 million.

The Ohio, or Kyger Creek, plant is located in Gallia County on the Ohio River between Cheshire and Gallipolis. Five turbo-generating units of 200,000 kilowatts each will be installed at this location, or a total generating capacity of 1,000,000 kilowatts. The cost of the Kyger Creek plant is estimated at $145 million.

The Indiana plant will be the larger of the two, having six turbo-generating units or a total capacity of 1,200,000 kilowatts. It will cost $175 million. An additional $80 million will be spent on transmission and other facilities necessary to deliver the power to the A-plant.

Ultra-high voltage transmission lines will be used to carry the power. Two double-circuit, 330,000-volt transmission lines will link each generating plant with the Pike County installation. This is the highest voltage now planned or used for power transmission anywhere in the country. The two lines from the Indiana plant will pass through a switching station to be located in the general Cincinnati Area.

All eleven generating units are scheduled to be in operation by June 1956. Work has already begun at both the 800-acre Ohio site and at the Indiana plant. At the peak of construction, the Kyger Creek plant is expected to require 1,820 workers.

Fifteen electric utility companies joined forces to
supply what will amount to the biggest bloc of electric power ever to be delivered to a single customer. The two plants are privately financed and will be privately owned and operated. Since the generating facilities of these 15 companies are directly or indirectly connected with each other, the new power supply for the A-plant will be backed up by this integrated transmission system. It will also be used to make 400,000 kilowatts available to the A.E.C. for on-site construction needs while the gaseous diffusion plant is being built.

When the new uranium processing plant is in full operation, it will require 1,800,000 kilowatts of the 2,200,000-kilowatt total. The 400,000-kilowatt balance will provide for transmission losses and for the necessary reserve capacity for regular maintenance and overhaul. The A.E.C. is expected to contract for this huge bloc of power for 25 years when it receives the obligatory authority from Congress. The annual cost of this much electricity will be roughly $60 million and is expected to run about 70 percent of total operating costs at the completed A.E.C. installation.

Some idea of the size of the new power plants can be gathered from the following comparisons: the 15 billion kilowatt-hour annual power requirements of the A-plant are approximately three-fifths the 1951 consumption of all consumers in the state of Ohio; the estimated $400 million cost of the two plants is equal to about a year’s (1951) construction outlays of all investor-owned public utilities in the United States; completion of the Kyger Creek plant will increase by about 20 percent the total generating capacity located in Ohio; and supplying the Kyger Creek plant’s annual coal requirements of 3,100,000 tons will boost Ohio’s coal output nearly 10 percent above the postwar average.

Contracts have already been signed for a 15-year supply of coal to power the new generators. The 3,100,000 tons of coal needed annually for the Kyger Creek plant will come largely from southeastern Ohio’s coal beds. It will be dumped at tipples located near Powhatan Point, Ohio, and hauled by barge 150 miles down the Ohio River to the Kyger Creek plant. More than eight 1,000-ton barge loads of coal a day, every day of the year, will be required. Coal storage yards will be among the largest in the country and hold up to half a year’s supply of coal.

Delivery of the coal will begin in 1954. Mining the coal will require approximately 1,500 miners. Employment will be unusually stable due to the character of the demand. It is estimated that coal miners will earn over $6,000,000 a year in wages by providing the coal for the Kyger Creek plant. On the basis of current coal prices, the coal mined for delivery to the plant will have an annual value of more than $12,000,000 at the mine mouth.

### Table 2

#### BACKGROUND INFORMATION

<table>
<thead>
<tr>
<th>Portsmouth-Chillicothe Labor Market Area</th>
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</thead>
<tbody>
<tr>
<td><strong>Subject</strong></td>
<td><strong>Jackson County</strong></td>
</tr>
<tr>
<td>Population</td>
<td>179,708</td>
</tr>
<tr>
<td>Percentage increase from 1940 to 1950</td>
<td>23.0%</td>
</tr>
<tr>
<td>Employment Status and Class</td>
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<tr>
<td>Estimated Employment, July 1952, by industry group</td>
<td></td>
</tr>
<tr>
<td>Total employment</td>
<td>58,800</td>
</tr>
<tr>
<td>Wages and Salaries</td>
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<tr>
<td>Median hourly wage rate in manufacturing, 1950</td>
<td>$1.34</td>
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<tr>
<td>Average weekly earnings of all workers covered by Ohio Unemployment Compensation Law, 2nd Quarter, 1954</td>
<td>$57.98</td>
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<tr>
<td>Agriculture</td>
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<tr>
<td>Number of farms, 1950</td>
<td>7,702</td>
</tr>
<tr>
<td>Average value of farm land and buildings, per acre, 1950</td>
<td>$74.29</td>
</tr>
</tbody>
</table>

Source: U.S. Bureau of the Census; Ohio Bureau of Unemployment Compensation; Ohio Department of Industrial Relations.

Excludes domestic service workers in private households.
SUMMARY OF NATIONAL BUSINESS CONDITIONS

Released by the Board of Governors of the Federal Reserve System

Industrial production continued to rise in January and February and construction activity was maintained at advanced levels. Retail sales were down somewhat more than seasonally from the record year-end level. Wholesale prices continued to show little change, while consumer prices declined slightly further.

**Industrial production**

The Board's index of industrial production rose two points in January to 237 per cent of the 1935-39 average. A small further rise is indicated in February, reflecting mainly continued gains in output of consumer durable goods.

Production of passenger autos has increased sharply since December and in February reached an estimated annual rate of 6.2 million units. Seasonally adjusted output of major household goods, notably television sets, also expanded further in January and apparently continued at advanced levels in February. Activity in producers' and military equipment industries has been generally maintained. Among materials, lumber showed a large further gain in January after seasonal adjustment. Output of aluminum, up markedly in January, exceeded the year-ago level by almost one-sixth owing mainly to additions to capacity. Other nonferrous metals generally changed little in January. Steel ingot production in February held close to the record January rate.

In January output of nondurable goods largely recovered from the temporary December decline. Activity at cotton and rayon textile and paperboard mills continued somewhat below October-November rates but there were increases at plants making leather and rubber products. Output of chemicals and refined petroleum products continued at advanced levels.

A slight further decline in minerals output in January resulted from curtailment of coal and crude petroleum production. Bituminous coal mining decreased somewhat further in the first half of February.

**Construction**

Value of construction contract awards declined by more than one-fourth in January, reflecting largely a substantial drop in awards for nonresidential building. The total, however, remained almost one-fifth above a year ago. The number of housing units started totaled 71,000 as compared with 76,000 in December and 65,000 in January, 1952. Value of new work put in place in January, after allowance for seasonal influences, continued at the very high level of other recent months.

**Employment**

Seasonally adjusted employment in nonfarm establishments continued in January at the peak of 47.8 million, 1.3 million above a year ago. The work week in factories declined seasonally but, at 41.1 hours, was at a postwar high for the month; average hourly earnings remained at $1.73 and average weekly earnings declined about 2 per cent to $71.27. Unemployment increased to 1.9 million in January, owing mainly to the usual seasonal reduction in outdoor construction activity, but remained below the level of a year ago.

**Commodity prices**

The average level of wholesale prices continued to change little from mid-January through February. Beef prices declined substantially further as marketings continued in large volume, but pork advanced in large part seasonally. Grains decreased markedly early in February but subsequently recovered. Prices of some industrial materials such as zinc, rubber, and fats and oils declined, while certain other materials, some of which were decontrolled in February, advanced.

Consumer prices declined slightly further in January and February, reflecting chiefly decreases in prices of meats and some other foods.

**Bank credit**

Loans and investments at banks in leading cities continued to decline between mid-January and mid-February. Reduction in bank holdings of Government securities, largely Treasury bills, accounted for most of the contraction. Loans to food processors, commodity dealers, and sales finance companies declined seasonally while loans to metal manufacturers increased further. Consumer and real estate loans continued to rise.

Member bank reserve positions remained under pressure during late January and February despite a substantial decline in required reserves. Losses of reserves resulted largely from a gold outflow and from further reductions in System holdings of Government securities. Member bank discounts with the Federal Reserve averaged over $1 billion dollars.

**Security markets**

Yields on United States Government securities fluctuated within a narrow range during the first half of February, but moved higher in the following week. On January 20, the Secretary of the Treasury announced the terms of two new issues offered in exchange for 8.9 billion dollars of 1¼ per cent certificates of indebtedness maturing on February 15—a 2¼ per cent one-year certificate and a 2½ per cent five-year ten-month bond. The offering was exceptionally well received, with cash redemptions only 1.5 per cent of the maturing issue.

Yields on high-grade corporate bonds continued to rise, reaching a postwar high in the third week of February. Common stock prices declined in the first week of February but showed little change in the following two weeks. Margin requirements on credit for purchasing or carrying securities were reduced from 75 to 50 per cent, effective February 20.
Electric power output in the United States, reaching a record high of over 400 billion kwh. in 1952, has doubled nearly every ten years since 1900 . . .

Power installations in industry are now 93 per cent electrical, as compared to 31 per cent forty years ago . . .

At present, better than nine out of ten farms have electric service; before 1935, the ratio was about one out of seven.

The average cost of electricity to homes and farms in 1921 was 7.4 cents per kwh.; currently, it is around 2.8 cents per kwh. despite the severe inflation of recent years . . .

Within the brief period of a man's lifetime, such striking advances have made the $25 billion private and public power industry one key to the highest standard of living of any nation in the world. With less than 7 per cent of the world's total population, we are now producing close to 45 per cent of the world's total electric power output. However, as phenomenal as past progress has been, the end to expansion is by no means in sight.

According to the report of the President's Materials Policy Commission, the country will need 1400 billion kwh. of electrical energy by 1975, or more than three and one-half times 1950 output. Such increased requirements will result primarily from the nation's expected population and industrial growth. As in the past, the intangible force that will make the expansion possible will be the electric power generating industry's own vision and progressiveness.

Equipment and appliance manufacturers have continually devised new or improved products that depend on this most unusual form of energy. At the same time, an alert power industry has taken full advantage of research developments so that it could always provide more electricity at cheaper cost.

The delivery of electrical energy to man has been greatly aided by improvements in electrical convertors, transformers, and transmission lines. Generating systems have been made more powerful and more efficient by research developments in metals to withstand higher temperatures and pressures, by more effective methods for heat transfer, and by better methods of combustion to increase the efficiency of fuels.

The private power industry supplies over four-fifths of the nation's electricity. In this position of leadership, it is now going far beyond the job of developing the maximum potential for established uses of electrical energy. It is actually conducting studies to shorten the period of time between research on new uses and their practical application. By being closer to such developments, the industry is thus in a better position to plan more accurately for meeting future increases in demand resulting therefrom. An outstanding example of this foresight is its project, in cooperation with the coal industry, to determine the possibility of large-scale expansion in the present production of low-carbon steel in the basic arc furnace. Such an achievement would bring greater consumption of electricity. In turn, this would mean more use of coal, thus conserving oil for other purposes. Until recently, electric furnaces have produced mostly stainless and other high-alloy steels, the production of which, incidentally, rose from 2.9 million tons in 1941 to 7 million tons in 1951.

The extension of electric service to farms and homes has been largely completed. All but 8 per cent of the occupied dwellings in the country had such service in 1950. Population increases and greater needs for existing domestic consumers will be the dominant growth factors in the future. Certainly more electricity will be needed for such home uses as air conditioning, food freezers, ironeers, clothes driers, automatic washing machines, water heaters, electric ranges, electric blankets, television, health lamps, and radiant heaters. According to the P.M.P.C. report, the use of electrical energy per domestic customer may rise from 1,902 kwh. in 1950 to 5,000 kwh. in 1975.

The outlook is promising for commercial and industrial consumers, which together use about 70 per cent of the nation's electricity. Average consumption for consumers in these groups is expected to jump from 9,229 kwh. in 1950 to 20,000 kwh. in 1975.

Among commercial consumers, more air conditioning, widening use of lighting for display and advertising, and better methods of heating, especially by use of the heat pump, will contribute to expanded demand. Further electrification of railroads will require increasing amounts of electrical energy.

Noteworthy growth trends are seen in many industries, particularly in the chemical and metallurgical industries, which are the largest consumers of industrial electric power. The high-energy-consuming aluminum and magnesium industries are planning on rapid growth. As the new titanium industry expands in the next decade, it will account for a sizeable increase in energy requirements. More power will be needed to process low-grade iron ores for the steel industry. In the chemical field, plastics, synthetic fibers, phosphorus, calcium, and chlorine show important growth prospects.

The atomic energy program consumes huge quantities of electric power, now roughly as much as is used by the entire City of New York. This relatively new market for electric power will expand rapidly as new plants, presently planned or under construction, are completed.

The electric power industry has a unique 75-year record of progressiveness in initiating and benefiting from research developments that can improve the production, distribution, or consumption of its product. More than any other single factor, this progressiveness assures us that the industry will continue its outstanding leadership in meeting the seemingly limitless demands for power in the American economy.