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Farm income down sharply

For a number of months various economic indicators have been signaling a lag in the rate of recovery in the Ninth district compared with that of the United States as a whole. This lag or divergence in trend appears to have broadened somewhat further recently as the cumulative effects of the summer drouth and strikes became more pronounced. For example, the rate of increase this year in bank debits and department store sales has slowed down to a greater extent in the Ninth district than is true for the entire nation. District bank deposits, which earlier in the year were exhibiting faster growth than bank deposits for the United States as a whole, now are falling behind somewhat. Nevertheless, bank debits, retail sales and bank deposits, and some other district economic indicators continue to show modest advances over their marks of a year earlier. Cash farm income is a notable exception, with district farm receipts from marketings in the third quarter off 17 percent from 1958. In contrast, receipts from marketings for the entire nation were down about 7 percent.

Two of the more important factors behind the current lag in economic recovery in the Ninth district are the decline in crop production as a result of the severe summer drouth and the impact of strikes in the mining areas of the district.

The production of all wheat, barley, oats, soybeans and flaxseed in the district is off from a fourth to over a third from a year earlier. Fur-

In this issue:

Lake States pulping looks to hardwoods . . . . . page 7

ECONOMIC TRENDS IN FIRST NINE MONTHS OF 1959 IN PERCENT OF SAME PERIOD 1958

	Percent Change	
	Ninth District	United States
Employment (non-ag)	+ 1.7	+ 2.7
Unemployment (insured)	—26.7	—35.0
Department store sales	+ 6.1	+ 7.1
Building permits (valuation)	+ 4.3	+20.4
Construction contract awards ($)	— 4.5	+ 5.9
Electric power	+16.7	+11.5
Personal income[1]	+ 3.5	+ 5.7
Cash farm income	— 7.5	— 2.4
Loans and discounts	+10.8	+ 9.6
Demand deposits	+ 3.8	+ 3.1
Time deposits	+ 8.4	+ 6.6
Bank debits	+10.2	+12.9

[1]Seasonally adjusted annual rate for September 1959 compared to annual rate for 1958. (Minnesota only.)

thermore, the general level of farm product prices is down about 6 percent. The resulting lower farm incomes in 1959 are significant in the predominantly agricultural economy of the Ninth district. Moreover, many of the district's processing and distributing grain industries will be dealing with a smaller volume of raw materials this season. It is perhaps significant that in the Ninth district net farm income accounts for approximately 14 percent of total personal income whereas for the nation as a whole it is less than 4 percent.

Mining activity is also relatively more important in the Ninth district than it is for the rest of the nation in terms of employment. The impact of the steel strike has, of course, been felt most severely in the iron ore mining areas of Minnesota, Wisconsin and Michigan. In these areas, bank debits and retail sales are tending to fall behind year-ago levels. The injunction in the steel strike has put people back to work, at least temporarily, but this may not be of too much comfort to many mining workers in this region since large numbers of workers will soon face seasonal unemployment as the lakes freeze up.

The following selected topics describe particular aspects of the district's current economic scene:

RECENT BANKING DEVELOPMENTS

Preliminary reports indicate that country member banks in the district gained deposits of only $14 million in October while their loans were reduced $2 million. Both of these changes contrasted sharply with the seasonal pattern ordinarily evident in October. Thus, this October was the first since monthly reports were initiated in 1947 that country bank loans did not rise. And the deposit increase registered in October was the second smallest increase for the month in the past 13 years. Country bank borrowings at the Federal Reserve Bank of Minneapolis fell from $16 million in October to $7 million during the first half of November. Despite the drop, country bank borrowings averaged higher in the first half of November than they did in those weeks of any of the past four years.

From mid-October to mid-November, the district weekly reporting banks experienced virtually no change in the total of their loans. Commercial and industrial loans declined by $6 million as they had in the previous four-week period while small gains in other categories offset most of the business loan delcine. Last year, total loans fell by $13 million from mid-October to mid-November. Demand deposits of the city banks rose by $16 million during those weeks this year in contrast to a decline of $35 million a year earlier. In November through the eighteenth, the city banks borrowed an average of $20.5 million at the Federal Reserve Bank compared to an average of $28 million in October.

Possible support for the thesis that the Ninth district economy has lagged the rest of the nation in recent months is the fact that the percentage of the nation's bank deposits lodged at Ninth district member banks did not increase as much in the third quarter as is usual for that period. Similarly, the percentage of the nation's total

loans represented by district member banks did not rise by as much in the third quarter as is usual.

RETAIL SALES

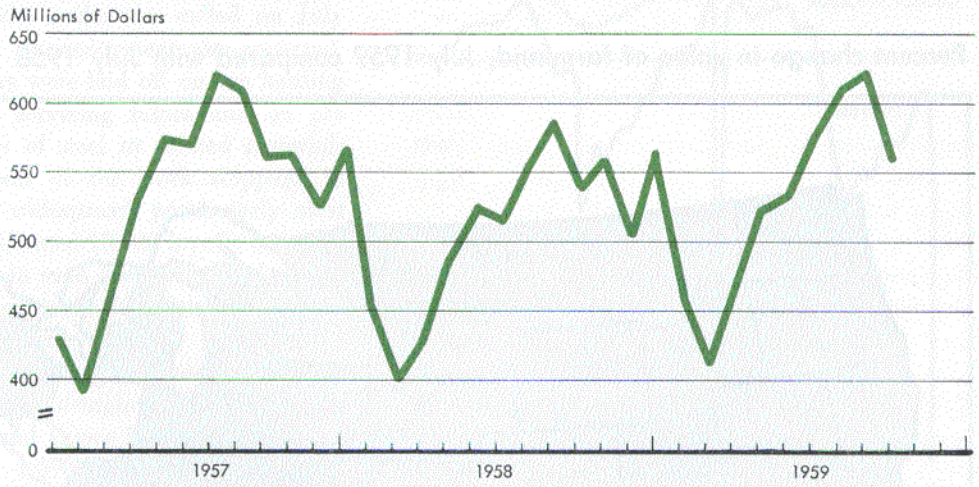
Sales of retail stores in the Ninth district rose more during the first half of 1959 than in the same period of last year according to the Bureau of the Census' sample (which excludes sales of large retail chains). Then, however, adverse economic developments began to make their impact. A poor small grain harvest, a decline in cash farm income and a reduction in employment due to strikes and layoffs caused consumers to reduce expenditures in retail markets. Sales have fallen off most in mining and some farming centers.

In the district as a whole, retail sales in the Bureau of Census' sample of stores rose less in July and August and declined more in September than in the same period of last year. June sales this year were 12 percent above those for June 1958 while sales in September were only 3.5 percent above the corresponding month of last year. In the nation, the percent increase over a year ago also declined during the third quarter but not as much as in this district. Of course, retail sales in the nation were affected more by the 1957-58 recession than in the Ninth district.

This slowing down during the third quarter was quite general in sales of all types of retail outlets with the exception of eating and drinking places and of automobile and auto parts dealers. In fact, in these outlets, receipts during the third quarter continued to show an improvement over a year ago.

Reduced consumer income is having an even greater impact in the fourth quarter as indicated by the continued downward trend of department store sales. The seasonally adjusted department store index for this district in August stood at 140 percent of the 1947-49 average and in October was down to 123 percent. Weekly figures indicate that department store sales during the first three weeks of November were below a year ago in Minneapolis-St. Paul and Duluth-Superior. A bus strike called on November 9 in the Twin Cities has been an additional factor in depressing sales in the downtown business areas of these two cities.

Ninth district retail sales*



*Bureau of the Census sample, which excludes only the large retail chains.

FARM LAND VALUES

Farm land values in the Ninth district exhibited diverse movements during the four months ended July 1, 1959, according to U. S. Department of Agriculture estimates. Land values in Minnesota advanced 2 percent in the March to July period, while in Montana farm land values moved up 3 percent during the period. Declines

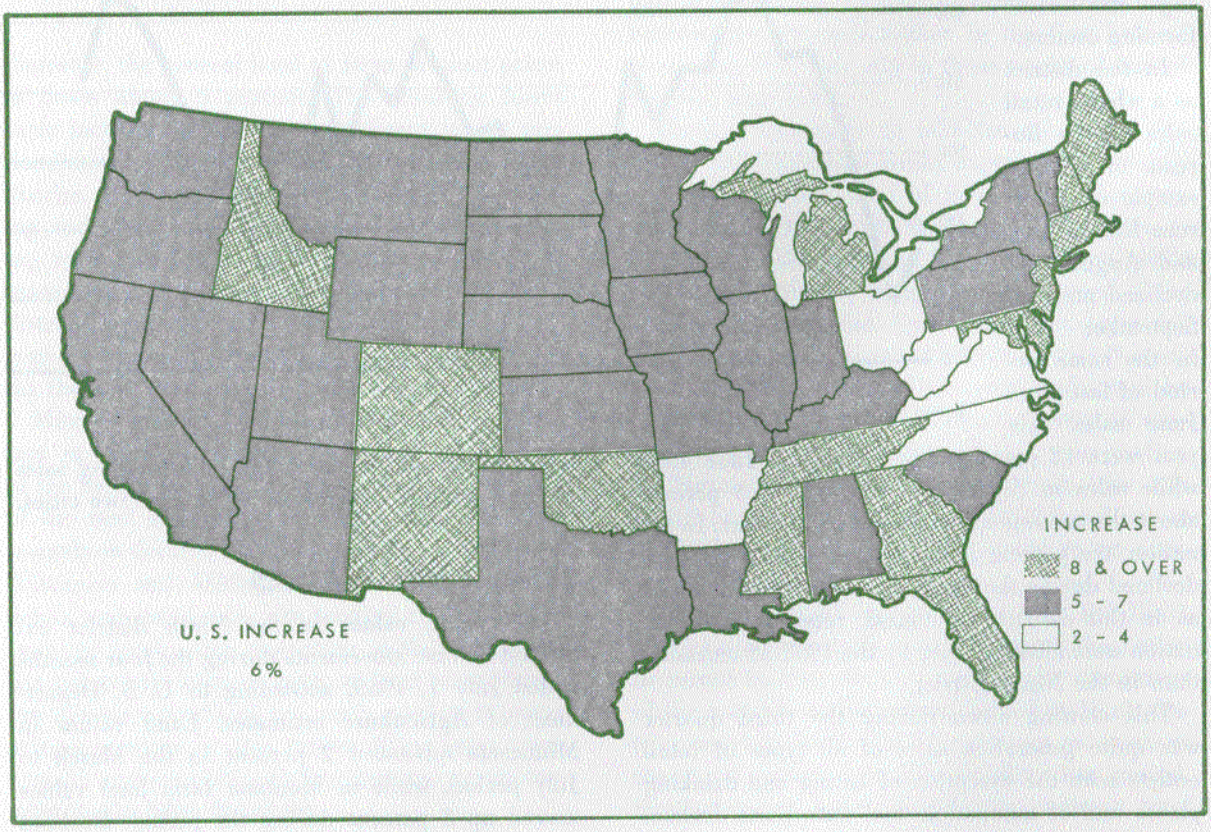
in land values of 1 percent were noted in the Dakotas between March and July this year—the only states in the nation where values declined. Over the year, however, increases were noted in all states of the United States.

The nation as a whole experienced a 1 percent rise in the index of farm land values during the four-month period ended July 1. This brought the index to 169 percent of the 1947-49 average value. Except for the November 1957 to March 1958 period when values rose an equal amount, this was the smallest increase in any four-month period since July 1956.

Land values have increased continuously since early in 1954. In 1954 land prices were still lower in relation to farm income than they were in the pre-World War II period. In addition, since 1954 the drive to enlarge farms and the demand for land for nonfarm uses, as well as the desire to hold land as an inflation hedge, have exerted upward pressures on land values.

The 'gap' between incomes and land prices noted as late as 1954 has been more than closed by the persistent rise in land values. The USDA suggests that expectations of future earnings of land appear to be given more weight currently in land pricing. Strength or weakness in farm land values where the pressure for nonfarm uses is not strong, is more closely tied to current income prospects. For example, in the Dakotas, two states which were suffering from widespread drouth, declines in land values were experienced.

Percent change in value of farmland, July 1959 compared with July 1958



DISTRICT EMPLOYMENT

The largest factor in the district employment picture since midsummer has been the steel strike. The effect was at first largely localized in the iron range areas of northern Minnesota, northern Wisconsin and Upper Michigan at the ore shipping points. However, as shortages of steel developed, the effects spread to manufacturing centers.

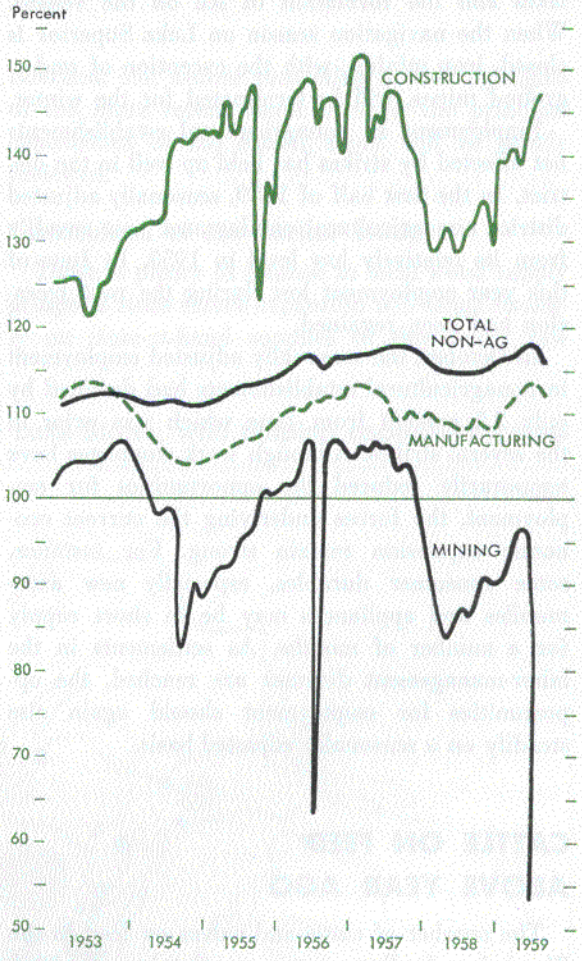
Up to November 7 when the U. S. Supreme Court handed down a decision to uphold the injunction against the U. S. Steelworkers Union, about 29,000 workers had been idled either directly or indirectly as a result of the strike in this district. Of this number, about 21,500 were iron ore miners and 3,000 were steel workers. Almost immediately after the strike was called on July 15, some secondary unemployment also occurred. About 4,000 workers were laid off on ore hauling railroads, in firms servicing mines and on ore docks. As shortages of steel or related materials developed, the effects of the work stoppage in steel became more widespread, particularly after mid-October. An estimated 10,000 layoffs occurred in Minnesota alone in such industries as electrical and nonelectrical machinery, fabricated metals and transportation equipment.

Other strikes in addition to those in the steel industry added to the unemployment. The copper strike in Montana and Upper Michigan also idled about 8,500 and 1,070 workers, respectively. Furthermore, some 3,500 workers were idled for relatively brief periods during the fall months in lumbering and in meat packing plants.

Various devices were used to keep other industrial plants operating in the face of growing material shortages. Steel products traded among metal fabricators enabled many to fill in gaps in raw material supplies. In some firms a reduction in the number of working days per week occurred. For instance, in Minnesota the workweek in the manufacture of fabricated metals declined from an average of 41.3 hours in September to 40.6 hours in October and in agricultural machinery it was significantly below 40 hours in both months.

Monthly index of employment, Ninth district

(seasonally adjusted, 1947-49 average = 100)



Some preparations had been made to resume the mining and shipping of iron ore as soon as a settlement in the steel labor-management dispute was reached or an injunction became effective. In this district, about 60 percent of the iron ore workers were recalled within the first week. Freezing temperatures prevented mine operators from reopening the ore washing plants. Freezing of ore in railroad cars has slowed up unloading at

the docks. Ore boats have been loaded to less than the maximum capacity on account of the rough lakes and the formation of ice on the vessels. When the navigation season on Lake Superior is closed, iron mining, with the exception of underground mines, will be terminated for the winter.

Employment in nonagricultural establishments not affected by strikes has held up well in the district. In the first half of 1959, seasonally adjusted district nonagricultural employment rose steadily from its relatively low level in 1958. In June of this year employment lost during the past recession had been regained.

In October, the seasonally adjusted employment in nonagricultural establishments had declined by only 2.5 percent from June which was prior to the several strikes. Although work stoppages have temporarily reduced the opportunities for employment, the forces underlying the current economic expansion remain strong. For instance, some consumer durables, especially new automobiles and appliances may be in short supply for a number of months. As settlements in the labor-management disputes are reached, the opportunities for employment should again rise steadily on a seasonally adjusted basis.

CATTLE ON FEED ABOVE YEAR AGO

The number of cattle and calves on feed in the 21 major feeding states on October 1, 1959 totaled 4,766,000 head, according to a recent report of the U. S. Department of Agriculture. This was an increase of 20 percent from the number on feed October 1 a year earlier. Thirteen of these states[1] accounted for 4,333,000 head of cattle and calves on feed, or 90 percent of the total for the 21 states. This was a record number of cattle on feed in the 13 states for October 1.

There were 483,000 cattle on feed October 1 in the Ninth district; this was 11 percent above a year ago. Minnesota, the most important feeding state in the district, recorded a 22 percent increase compared with a year earlier, while South Dakota, which is also an important feeding state, registered a 3 percent decrease. A shortage of feed because of severe drouth is likely the major reason for this decrease in South Dakota.

CATTLE AND CALVES ON FEED OCTOBER 1, 1959 COMPARED WITH 1958

	1958	1959	Percent change
Minnesota	205,000	250,000	+22
North Dakota	45,000	56,000	+25
South Dakota	155,000	150,000	— 3
Montana	32,000	27,000	—16
	437,000	483,000	+11

In the 13 states, the number of cattle and calves on feed October 1 that had been fed less than three months was about 23 percent above the October 1, 1958 number, whereas the number on feed three to six months was up 15 percent and the number over six months was up almost 20 percent.

The weights of cattle and calves on feed October 1 indicated a slightly higher proportion of lighter cattle than was the case a year ago. In the 13 states the number of cattle weighing less than 700 pounds was up 15 percent from last year. The three weight groups of 700-900 pounds, 900-1100 pounds and 1100 pounds and over were each about 11 percent higher than October 1, 1958.

Cattle feeders in the 13 states have reported that of the 4,333,000 cattle and calves on feed October 1, they expected to market 2,929,000 head during October, November and December. If their intentions are carried out, the number marketed during these months will be 24 percent greater than the number marketed during the same period last year.

[1]The states are: Ohio, Indiana, Illinois, Minnesota, Iowa, Missouri, South Dakota, Nebraska, Kansas, Texas, Colorado, Arizona and California. The other states included in the total of 21 major feeding states are: Pennsylvania, Michigan, Wisconsin, North Dakota, Oklahoma, Montana, Idaho and Utah.

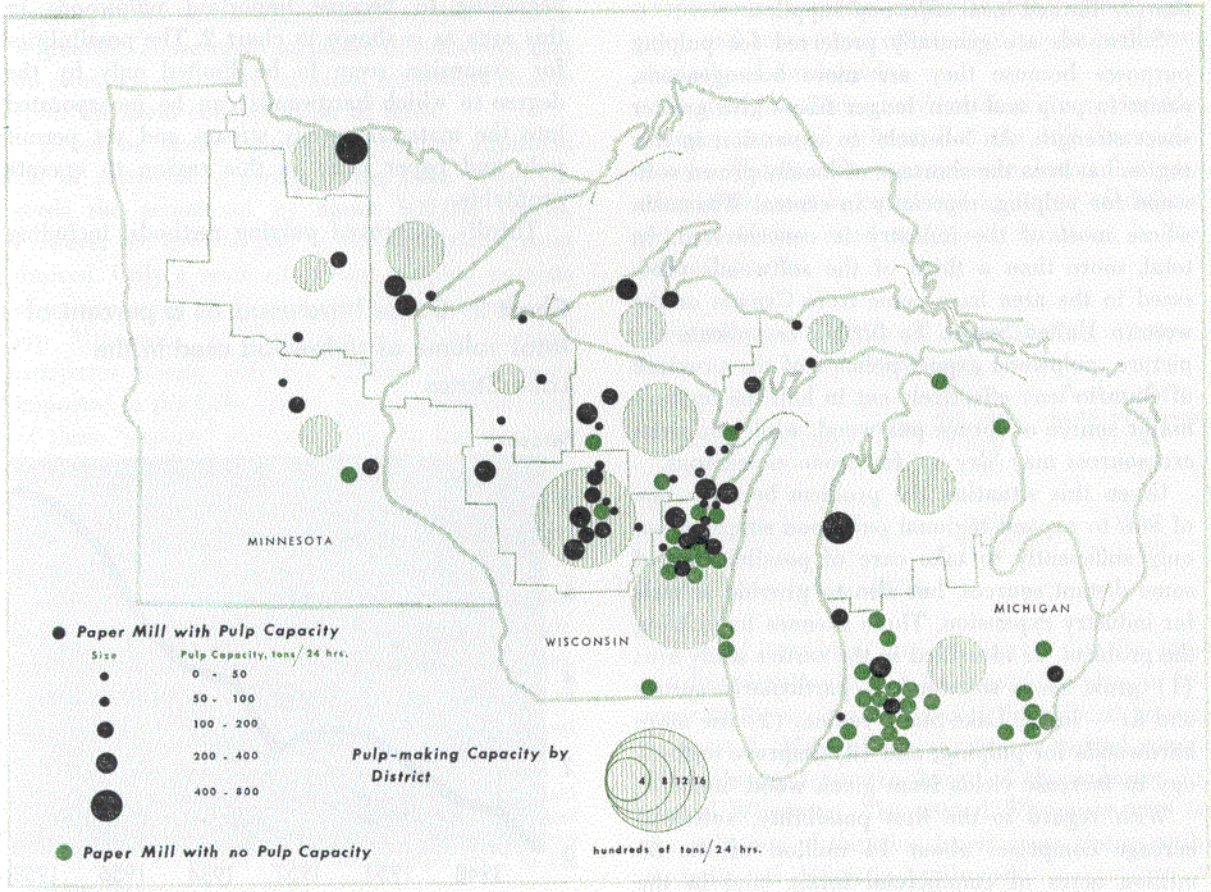
Lake states pulping looks to hardwoods

Pulp mills in the Lake States of Minnesota, Wisconsin and Michigan have turned increasingly to hardwoods as traditionally favored softwoods have come more and more into tight supply. This aspect of the region's industry was the subject of an earlier study published by this bank [1]. Since that time more up-to-date forest inventory data have become available [2], such that a somewhat more accurate supply-demand situation can be sketched. But before presenting a few highlights of the more recent forest surveys, the principal conclusions of the earlier study will be briefly reviewed.

Conclusions of the earlier study

There is plenty of interest in local wood supply prospects since future expansion will hinge strongly on close-at-hand supplies of this bulky raw

Chart 1—Location of pulp and paper mills in the Lake States, with pulping capacity by area



Source: Lockwood Directory

An earlier study mentioned here, *Pulp and Paper in the Upper Lakes Region*, is still available on request. Copies of the 28-page study, published in July 1956, may be secured by writing to the Research Department, Federal Reserve Bank of Minneapolis, Minneapolis 2, Minnesota.

material. The U. S. paper industry as a whole is expected to grow sharply over the next 20 years—and in order for this area's pulp and paper industry to realize its full share of expanding markets, it must successfully meet the problem of sharply limited local *softwood* supplies.

Softwoods are generally preferred for pulping purposes because they are more homogeneous, easier to pulp and their longer fibers give greater sheet strength. An 'obstacle' to expansion in this region has been the shortage of locally grown softwood for pulping, especially in central Wisconsin where most of the industry is concentrated. In total, more than a third of the softwoods processed in the area have come from Canada or the western United States. To further complicate the picture, pulpwood export policies of the province of Ontario may effectively cut in half the region's major source of spruce pulpwood, while the western sources may 'dry up' for economic reasons.

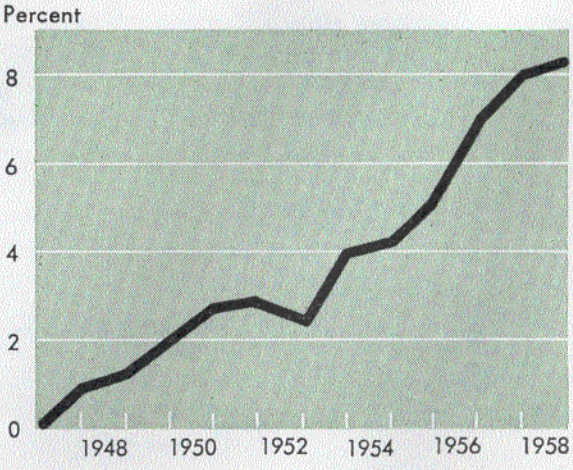
Given this situation the problem becomes one of how to expand regional pulpwood supplies, not only sufficiently to take care of possible loss of some distant sources, but also to provide a basis for industry expansion. Three avenues for solving the problem, as identified in the earlier study are: (1) grow more softwoods — particularly spruce and fir — in the Lake States region, (2) use more hardwoods for pulping, and (3) improve technology to increase yields from given wood 'inputs.'

With regard to the first possibility, softwood acreage comprises about 14 million of the 53 million acres of commercial forest land in the three Lake States of Michigan, Minnesota and Wisconsin. But over a third of the softwood acreage is not stocked or productive, hence much more softwood could be produced if the stands were brought into better shape. Reforestation unfortunately is an exceedingly long-term enterprise. As a result, increased growth of softwoods in the region, at the very best, could sponsor only a small part of the needed pulping stock to match the expected demand increase.

The second solution apparently holds the key. The three-state region has a large annual growth of hardwoods, consisting of both aspen and 'dense' hardwoods (e.g., oak, birch, maple, elm), much of which presently goes unused. Aspen is already widely used, while dense hardwoods are beginning to become important pulpwoods in this area as is shown in chart 2. The possibilities for expansion seem to be limited only by the degree to which hardwoods can be incorporated into the materials-supply stream and yet permit pulp and paper mills in this region to operate profitably.

Thirdly, improved pulping methods, including

Chart 2—Dense hardwood as a percent of total volume of pulpwood used in the Lake States



a shift toward higher yielding processes, can also contribute somewhat to an expansion of paper output with no expansion in wood supplies. These were the main conclusions of the earlier study. Now, more recent forest survey data covering the Lake States has provided detailed information for sub-areas of the three states indicating growth, drain and allowable cut for each of the main species groups [2].

Recent forest inventory data

Chart 3 pictures the situation for softwoods as a whole, showing by symbols either the annual surplus or deficit (allowable cut minus actual cut) and indicates most of the nine areas are overcut. It further illustrates the relatively heavy pressure existing in the areas where concentration of mills is greatest. Those small surpluses of softwoods that do exist are generally in areas somewhat remote from the main concentration of mills.

Based on these figures, the annual allowable cut of softwoods growing in the Lake States exceeds the actual cut by about 500,000 cords[1]. However the species 'mix' is not exactly that most desired. Only a tenth of the net 'surplus' consists of spruce, most of which is growing in northeastern Minnesota. In total volume, this 'surplus' compares closely with the volume of softwoods imported to the Lake States. An estimated one-half of these 'imports' are vulnerable to loss for reasons mentioned earlier. Thus, only a part of the locally-grown softwood surplus—perhaps 200,000 cords—can be counted on for longer term expansion.

Hardwoods, on the other hand, provide the largest reservoir of potential pulping stock. The situation regarding hardwoods as a whole is illustrated in chart 4. The estimated annual surplus of hardwoods totals over 1,500,000 cords, about 880,000 of which is the 'light' hardwood, aspen. This million and a half cords of wood is sufficient to produce 1,000,000 tons or more of pulp. The immense volume this represents can be better appreciated when arrayed against the region's present annual pulp production of about 2,000,000 tons. Thus, hardwoods clearly represent the expansion frontier for the region's pulp and paper industry.

The basic technology for utilization of hardwoods of all types in papers of even the finer grades has been well developed. Because hardwoods have only a third to a fifth of the fiber length present in softwoods, they will probably never be fully substituted for softwoods in some products. Yet they have been used in increasing proportions in many of the region's quality papers, and some types of product can be made exclusively of hardwoods.

In the Lake States hardwoods are considerably cheaper per cord delivered at the mill than softwoods. Hardwoods are an even better bargain when their cost is calculated in terms of dollars per ton of dry wood substance, as shown in the following table.

PULPWOOD COSTS IN LAKE STATES, 1958, F.O.B. MILL

	Per cord	Per ton of dry wood substance
Mixed hardwoods	$16.50	$11.40
Aspen	17.00	17.80
Jack Pine	26.50	26.60
Balsam Fir	29.00	33.20
Spruce	34.00	32.80

Source: Forest Service, USDA [2]

It is of interest to note on chart 4 that the geographic distribution of hardwood surplus is inverse to the concentration of pulp mills as shown in chart 1. Most of the surplus is located somewhat distant from the heart of the industry in central Wisconsin. The central Wisconsin area is the only one of the nine forest areas shown with an indicated deficit in hardwoods.

[1]One cord is equivalent to the volume of wood in a stack of 4-foot logs, tightly-packed in a pile four feet high and eight feet long. A cord may contain from 1 1/2 to 2 or more tons of wood dry weight (green weight might run 2 to 2 3/4 tons per cord).

Wood costs and competitive standing

The foregoing facts would indicate the freight bill in the Lake States will tend to be somewhat higher because of the existing distribution of forests and mill capacity than it would have been had the surplus been more evenly distributed. Some Lake States mills are, however, adjusted to a relatively high freight bill for wood, hauling some of it several hundred miles from the western Rockies. Of course, these same central Wisconsin localities are closer to major midwest markets, such as Chicago, helping to save on transportation costs to market.

From a broader competitive standpoint, wood costs at the mill may be high in absolute terms for the average mill in this region, but are of lesser importance on a relative basis than in some other major paper-producing sections of the country. The reason is the relatively high average value of product of the industry here. Many more dollars of value are added by the manufacturing process per ton of output in the Lake States than for example, in the South or the Pacific Northwest:

	Average pulpwood cost per cord	Total wood costs as a percentage of value of paper produced
Wisconsin	$20.00	9%
Louisiana	14.50	19%
North Carolina	13.50	19%

Wisconsin has been a net importer of manufactured pulp (about 20% of current consumption) while North Carolina is a net exporter and Louisiana has maintained an approximate balance.

Essentially then, the higher value of paper produced here reduces the importance of wood costs relative to over-all milling costs. In the South, much of the product is kraft paper used for wrapping, packaging and other 'low value' purposes; in the Lake States are located many important producers of high quality printing, writing and specialty papers.

In terms of the number of cords of pulpwood used for each dollar's worth of paper turned out, this comparison is revealing:

	Number of cords of pulpwood used per hundred dollars of paper produced
Wisconsin	0.5
Virginia	1.2
Georgia	1.9
Florida	1.7
Louisiana	1.4
Washington	2.0
Oregon	1.2

This relationship helps to explain why the industry in this region has been able to pay freight bills on a part of its pulpwood of $15 and more per cord and yet remain competitive in many national markets. While factors unique to this region may further crimp already tight softwood supplies and possibly run the dollar cost of such wood upward at a faster rate than the general trend in other regions, the relative impact of these costs on the final product price may still be less here than in many major paper-producing areas.

In conclusion, many practical problems remain to be overcome in using greater and greater volumes of hardwoods and at the same time maintaining a high average value of product. Yet the great relative abundance of hardwoods in this region and the success attained so far in blending hardwood pulps into traditional quality paper products lends promise to the region's outlook for growth.

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[1] C. W. Nelson, "Pulp and Paper in the Upper Lakes Region," Federal Reserve Bank of Minneapolis, July 1956, 28p.

[2] Forest Service, USDA, "Feasibility for Using Lake States Hardwoods for Newsprint and other Pulp and Paper Products," April 1959, 84p.

Annual allowable cut minus actual cut for 9 forest areas of the Lake States

Chart 3—All softwoods

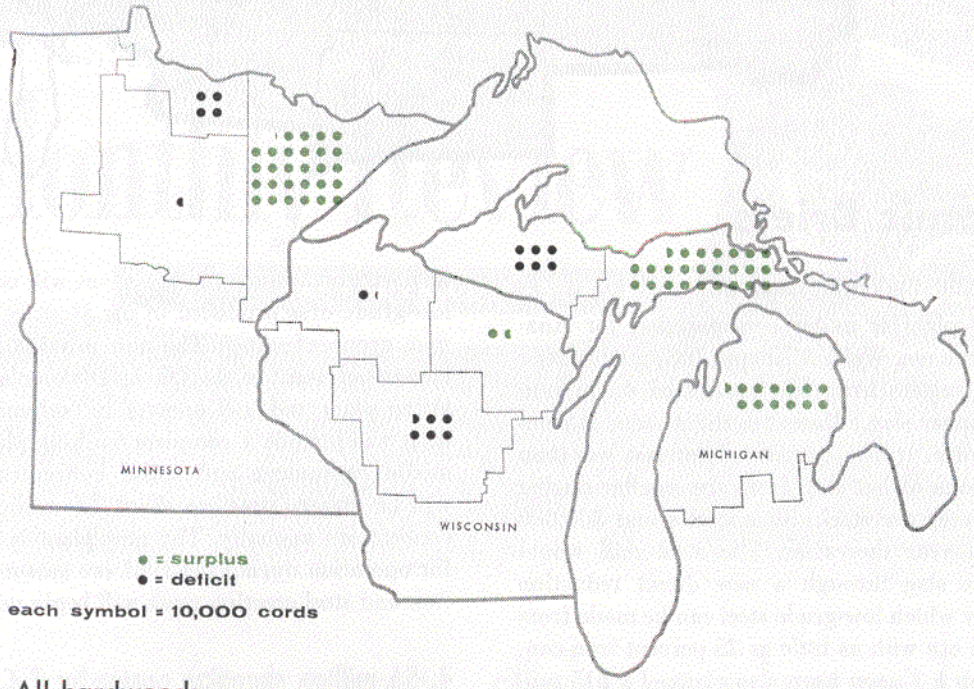
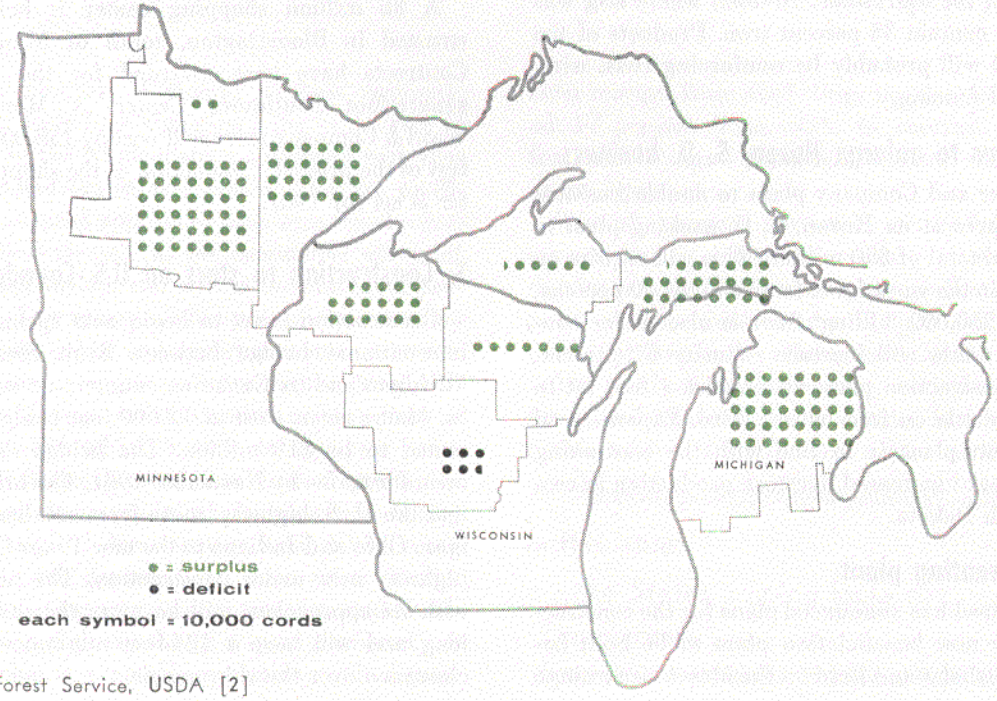
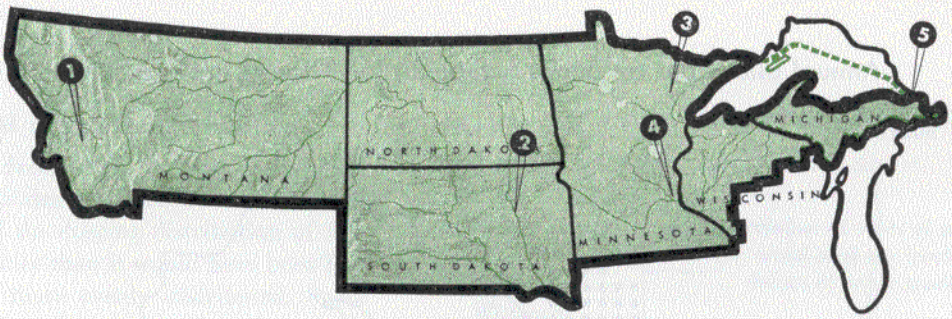


Chart 4—All hardwoods



Source: Forest Service, USDA [2]



Economic Briefs

1. Anaconda may get steel mill

A steel plant is under consideration for Anaconda, Montana. Webb & Knapp, Inc., a large New York real estate firm, has purchased 40 million tons of copper slag adjacent to the Anaconda company smelter. It also contracted for not less than 200,000 tons of hot slag from the smelter during the first year the steel mill operates and 300,000 tons each year thereafter. The steel mill would utilize the slag through a new direct reduction process by which low-grade steel can be made from powdered ore with as little as 25 percent iron content. Webb & Knapp have also planned a $15 million plant for Clarksdale, Arizona where slag was found to contain 33 percent iron. Products of the steel mill will probably be reinforcing rods, wire, nails and fencing.

2. Armour to enlarge Huron, S. D. business

Armour and Company plans to double business expenditures at its Huron, S. D. packing plant to an annual total of $50 million. This will require an increase in the work force from 450 to 600 persons. A new $250,000 'killing' floor is also under construction; this will increase capacity 67 percent. Other construction planned includes a feed lot to increase cattle on feed by one-third. Expansion of the Huron plant is in line with the continuing trend toward increased livestock production in central South Dakota.

3. Ore treating plant

U. S. Steel has announced plans for the construction of a new beneficiation plant to be built between Chisholm and Buhl on the Mesabi iron range in northern Minnesota. The plant will concentrate low-grade ores produced in the Monroe and Sherman group of mines. The new installation will be located adjacent to the Oliver Division's Sherman sizing plant and will operate in conjunction with it. It will include a complete washing plant, heavy media equipment and spiral concentrators, and will be able to produce about 1.5 million tons of concentrate annually. The new plant is scheduled for operation during the 1961 ore season. Foundation and steel erection work will begin next spring.

4. $6 million shopping center for T. C. suburb

A $6 million shopping center is being constructed in Bloomington, south of Minneapolis. Contracts have been awarded for the 320,000-square-foot Southtown Center. A Montgomery Ward & Company store will occupy 158,000 square feet of the project. Completion of the shopping center is set for 1961.

5. Construction to start on U.S.-Canada bridge

Construction is set to begin next spring on the international bridge between Sault Ste. Marie, Michigan and its Canadian counterpart across the St. Marys river. Cost of 12,000-foot bridge is estimated to be $18 million. The bridge should be open for traffic by November 1961. The bridge will link the U. S. highway route from southern Michigan, Ohio and Indiana to the new Trans-Canadian highway now under construction. The new span, with its approaches, will be more than two miles long and will have a 124-foot minimum vertical clearance over the ship canals.