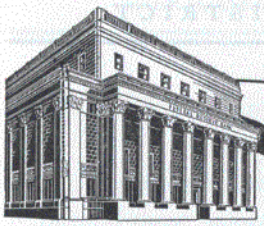
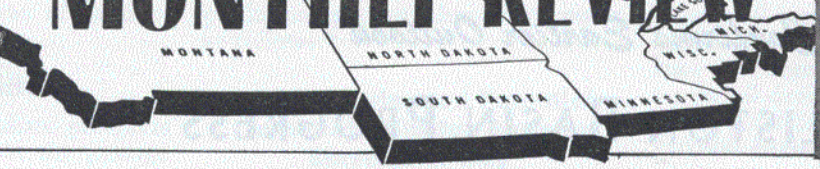
FEDERAL RESERVE BANK OF MINNEAPOLIS



MONTHLY REVIEW



9th DISTRICT AGRICULTURAL AND BUSINESS CONDITIONS

Vol. 10 JULY 31, 1952 Serial No. 31

CAPITAL REQUIREMENTS GIVEN NEW BASIS

Eligibility for Membership in Federal Reserve Revised

POPULATION of the town in which a state bank is located will no longer determine the minimum amount of capital necessary for admission to the Federal Reserve System now that changes have been made in the federal banking laws regarding such requirements.

With amendment of the Federal Reserve Act on July 15, the amount of capital required will be determined by the Board of Governors after consideration of the "character and condition" of the assets and liabilities.

Regarding the maintenance of branches, the law now provides that state member banks located in a state which permits branch banking are required to obtain the permission of the Board in order to establish branches in the head office community. (Permission was already required for the establishment of out-of-town branches.)

Also, some of the minimum capital requirements for both national and state member banks wishing to establish out-of-town branches have been abolished. Parts of the law dealing with branch banking are, of course, without significance where branches are prohibited by state law.

F. R. Board Determines Applicant's Eligibility

Formerly the possession of capital stock and surplus equal to the amount necessary for the establishment of a national bank was in most cases a condition of membership in the Federal Reserve System. Since the minimum capital required of a national bank is dependent upon the population of the town in which the bank is located, the law, in effect, meant that the minimum capital required of state member banks was based on population.

The new law substitutes the discretion of the Board of Governors for the old, arbitrary, capital requirement.

A state bank not meeting the capital requirements for a national bank, however, may not be admitted to membership in the Federal Reserve System unless it is or has been approved for federal deposit insurance.

Previous to the new legislation, although the Comptroller of the Currency and the Federal Deposit Insurance corporation had authority over the establishment of branches in the head office community by banks under their respective jurisdictions, the Board of Governors was without such authority. The new law remedies this deficiency.

The three agencies have always had similar authority regarding the establishment of out-of-town branches by banks under their respective jurisdictions.

THIS ISSUE contains a reappraisal of the oil outlook for the Williston basin, beginning on page 303. Reprints of this article may be obtained by addressing requests to the Research department.

▶Size of town in which applicant bank is located has been eliminated as eligibility factor by amendment to Federal Reserve Act.

▶Permission of Board of Governors now required for establishment of branches by state member banks both in and out of town.

▶Capital requirements for branch banking have been reduced.

Branch Banks' Capital Tied to Population

State member banks with branches have been and are subject to the same minimum capital requirements as apply to national banks with branches.

The recent legislation abolished a provision of the old law which required of national banks with out-of-town branches a minimum capital of $500,000 where such banks are located in states with populations of more than a million (except that a lesser minimum was applicable in states with a population of less than one million).

Parts of the old law which have not been changed state that branch banking by national banks or by state member banks require capital amounting to not "less than the aggregate minimum capital required by law for the establishment of an equal number of national banking associa-

Continued on Page 312

Reappraisal Confirms Earlier Outlook

WILLISTON BASIN PROGRESS

Suggests District Will Have Major Oil Producing Area

NEVER in the experience of oilmen has a new area enjoyed the success or rapidity of development now taking place in the Williston basin. As late as January 1951, this huge (118,000 square mile) geological basin did not have even one oil well, but within six months three widely scattered and significant oil discoveries had caught everybody's attention.*

It wasn't long after the initial discoveries that leasing campaigns by oil companies had signed up more than two-thirds of the basin's acreage. Exploration and drilling increased very rapidly. Nearly a hundred seismic crews are now exploring the U. S. portion of the Williston basin.

One of the most remarkable things about the Williston basin is the high ratio of successes that has attended drilling efforts. Amerada's first dry hole in North Dakota didn't come until after more than two years of operations and nearly a score of successful drilling ventures.

● PRODUCTION PICTURE

11 Fields Indicated In Rapid Development

By the end of July 1952, oil discoveries had suggested the existence of 11 separate fields. (See chart I.) The Beaver Lodge field in North Dakota, most developed field in the basin, had 23 producing wells and more than a dozen drilling rigs active on its 25,000 acres.

Most of the new fields, however, had been found in Montana, where oil companies have seemed to concentrate on "wildcatting" (drilling in localities not proved). Twenty of the 37 drilling rigs in operation in that state were drilling exploratory wells —double the number of wildcat operations in North Dakota.

Worth of New Finds Is Likely to Vary

How good were these discoveries? To the refiner interested in physical quality, the new wells generally flowed a high quality crude oil, low in sulfur and high in gasoline content. In terms of API gravity, most production has ranged from 38° to 44°, although some samples tested as high as 54° API (deeper reservoirs of the Beaver Lodge) and as low as 20° API (Saskatchewan). See table I on page 305.

But to the producer and the investor interested in many additional factors that would bear on profitability (such as depth, drilling costs, yield, and production difficulties), it had become clear from experience that much variation would be found from field to field.

Production in the basin was both shallow and deep: in Manitoba, oil flowed from less than 2,400 feet, while in North Dakota, oil had been found greater than 13,000 feet below the surface.

Some wells flowed naturally under tremendous pressure, while others had to be pumped as soon as they were completed. Consequently, potential flow rates were also highly variable—from a few barrels a day in some places to as high as 6,700 barrels a day at another (one of Shell company's wells at Glendive).

In a few wells, gas was a problem; in some (such as the Virden wells) water made production difficult.

In other words, as in any other large oil area, each new field will present unique problems, and its importance and profitability will have to be judged by its own performance.

▶ Success achieved so far holds promise for more oil finds.

▶ Marketing problems can delay actual production.

▶ Oil can make district's economy less dependent on agriculture.

Production Outlook Good, But Gaps Will Occur

Immediate Prospects

Events of the past year have left some definite impressions about the future of the new oil area. Immediate prospects were for more drilling and additional discoveries. The fact that present fields have been found over such a broad area suggests that production will also be found in other parts of the basin. As many as 300 wells (provided steel is available) would be drilled in the Williston basin this year.

Despite the phenomenal rate of successes in drilling so far, future discoveries in this basin can be expected to be tempered by a good share of failures. Not all the structures that geologists are seeking to pinpoint (such as anticlines and faults) will contain oil. In fact, when drilling into an unproved structure, the chances of hitting any commercial amounts of oil or gas at all are only about one in nine.

This is one consideration highly important to the landowner and the local community. Though the basin's huge size may considerably increase its over-all potential, not every locality will be blessed with nearby oil deposits.

In fact, for every farm or ranch with oil beneath it, there will likely be 50 to 100 others with no oil. This means that wide spaces without oil are bound to separate the relatively

* Editor's note: These earlier oil developments were described in the August 15, 1951, supplement to the Monthly Review. This article, which attempts to bring these events up to date, is a reappraisal of developments in the Williston basin made by the author of the earlier article, Clarence W. Nelson, assistant economist.

concentrated local areas of production.

Long-run Outlook

Beyond these immediate prospects stands the promise that the passage of several years will see a major oil-producing area developed in the Ninth district. It has been estimated (based on yields in other sedimentary basins) that 2½ billion barrels of oil might ultimately be recovered from the Williston basin.

Assuming this over-all recovery and that the present rate of development continues, estimates of future production potential have been made as follows:*

Table II—Estimated Potential Output of Williston Basin in Barrels Per Day

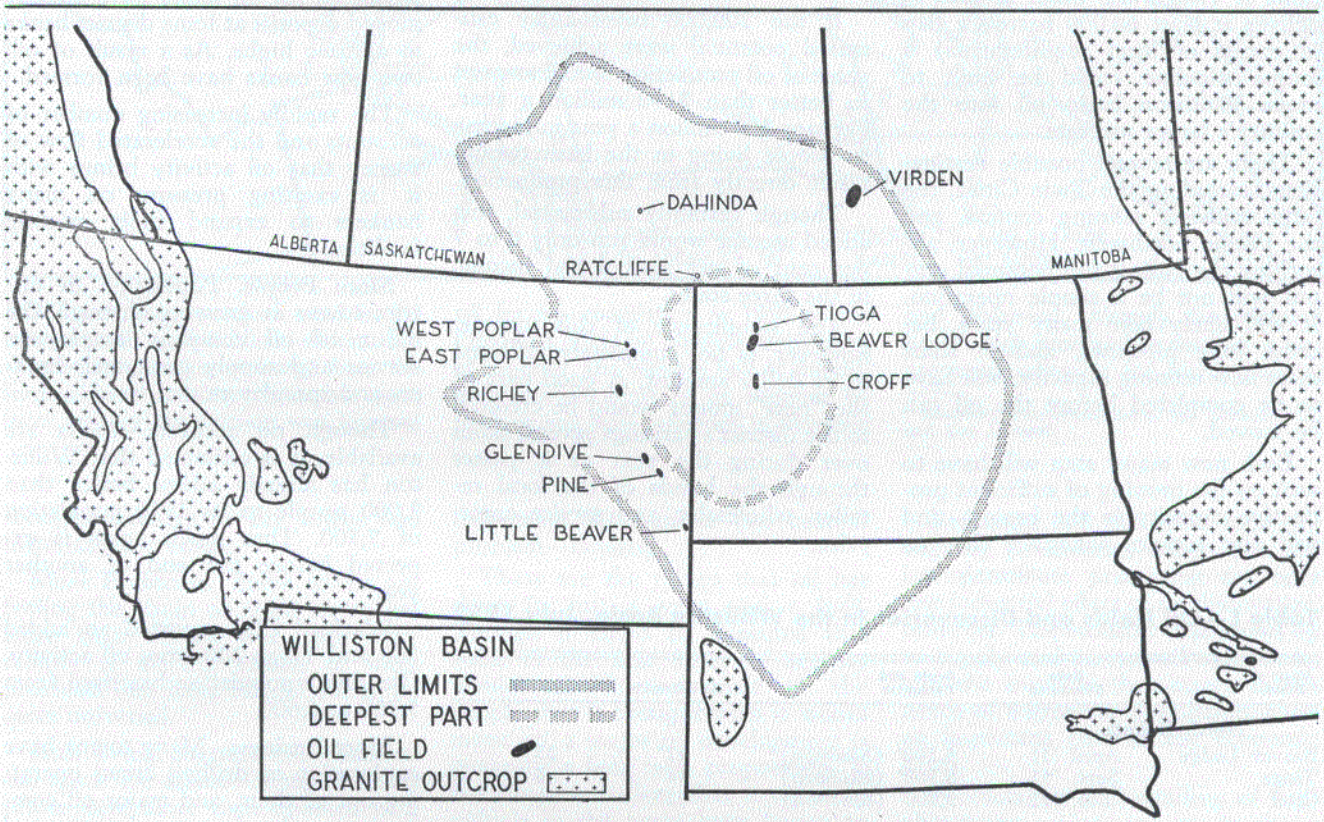
End of Year	Potential Production
1952	10,000 B/D
1953	25,000 B/D
1954	75,000 B/D
1960	200,000 B/D

*Oil and Gas Journal, July 14, 1952

These provisional estimates are of potential output; actual production in new oil areas usually lags well behind as a result of marketing problems. In Alberta, for example, where a new oil development is in its sixth year, potential production exceeds 250,000 barrels a day, while actual production averages only about half that figure.

For the moment, the few thousand barrels of oil being produced daily in the Williston basin is carried by truck and rail to such widely separated points as Los Angeles and St. Paul. This transportation is a temporary arrangement that will be supplanted—when enough oil is proved

CHART I—WILLISTON BASIN OIL DISCOVERIES THROUGH JULY 1952



THE WILLISTON BASIN is a sprawling, underground phenomenon that has no exact boundaries; one of the many possible interpretations is shown here. Its surface, a sparsely settled region of low rolling hills carved with "badlands" and broad, flat valleys, is devoted almost exclusively to wheat and cattle. Below the surface, however, is an important collection of potentially oil-bearing rock layers, thick near the center and shallow near the edges.

Inside the dashed line, granite (the "bottom" of the basin) is deeper than 12,500 feet. In fact, no drill has yet hit granite in that area.

Though the Williston basin proper with its many discoveries has taken the spotlight, being outside its limits does not preclude the possibility of finding oil any more than does being inside guarantee it.*

* Sedimentary rocks of varying thickness and oil potential underlie the Ninth district from the Rocky Mountains on the west to the granite shield that surfaces in Minnesota on the east. East of the Williston basin the sediments (and hence the chances for finding oil) grow very thin. To the west, however, the complex sedimentary region of central Montana is already the source of several producing fields, and the northern rims of two other important basins—the Big Horn basin and the Powder River basin—extend into the state.

—by the more economical method of pipeline shipment all the way from the wells to the refineries.

Already in the Williston basin a crude oil gathering system consisting of about 20 miles of 4-to-6-inch steel pipe, connects the producing wells in the Beaver Lodge field with a railroad loading rack at Tioga.

A trunk pipeline will be built by Service Pipeline company to link this gathering system with a proposed refinery at Mandan, as soon as the refinery is ready for operation. If production expands as anticipated, enough crude should be available by the end of 1953 to supply this line.

When production potential warrants it (when the basin is able to deliver at least 60,000 barrels a day in excess of local requirements) a longer pipeline could be built to move Williston basin oil into the country's larger markets.

There are several possible destinations, including the Twin Cities, the large midwest refining centers, and the Pacific northwest. However, absorbing the basin's full potential output will not be a simple operation. It will likely take many years, because long pipelines, and in some cases new refining capacity, will have to be completed before the oil can be moved.

Each new major step will have to wait on the proving of sufficient productive capacity in the basin — and will also require assurance that an adequate market for the crude oil exists.

In other words, the "economics" of oil development point to the growth of Williston basin production as both long-term and gradual.

• ECONOMIC IMPACT

Oil Could Add Stability To Agricultural Economy

It would take a tremendous oil development to give any serious competition to agriculture as the leading income source. In the three states sharing parts of the Williston basin, net agricultural income currently runs just under $1 billion a year.

If the 200,000 barrel-a-day estimated potential were achieved, the value of oil production would amount to better than $190 million a year. Perhaps $60 million a year in income to people living in the basin would result directly from this production.

Though certainly substantial, this added income would run only 6 to 7 per cent of net agricultural income in the three states.

The significance of this income, however, is not completely reflected in its dollar amount. A good part of the "new" money would be credited to the district's earnings several times over during the year as it passes through the hands of the local retailer, wholesaler, and service enterprise.

Table I — Oil Fields and Discoveries in the Williston Basin, July 1952

Name of Field	Date Discovered	Depth and Formation	API Gravity	Oil Wells
North Dakota				
Beaver Lodge	April '51	8,500′ (Madison)*	42°	23
Tioga	Sept. '51	8,300′ (Madison)	44°	4
Croff	Feb. '52	9,200′ (Madison)	42°	1
Montana				
Richey	July '51	7,200′ (Madison)**	38°	1
East Poplar	Oct. '51	5,700′ (Madison)	40°	3
Pine Unit	Nov. '51	8,900′ (Silurian)	33°	1
Glendive	Dec. '51	8,800′ (Silurian)***	38°	2
West Poplar	April '52	6,200′ (Madison)	38°	1
Little Beaver	July '52	8,400′ (Silurian)		
Canada				
Virden	Feb. '51	2,400′ (Mississippian)	35°	8
Dahinda	Sept. '51	4,700′ (Mississippian)	20°	(non commercial)
Ratcliffe	June '52	6,400′ (Mississippian)	35°	1

* Oil also found at two other depths: 11,600′ (initial discovery) and 10,500′.
** Oil also found at 8,700′.
*** Oil also found at 9,100′.

The fact that oil is a good inducement for new industry has broadened the significance of the development beyond the stage of oil production.

Perhaps the most important thing about the new income is that it will not feel the same ups and downs that weather and the crop market inflict on agriculture. In other words, it will act as a "stabilizer" in the district's economy.

Development Brings Changes to Area's Towns

Even at this early stage of development, many people know at first hand that oil means:

More Money. Bonuses and rental payments for oil leases have already moved deposits at some district banks to all-time highs. As a result of oil, two new banks have been formed.

The rapidly increasing number of accounts and the accelerated flow of money that oil activity brings with it is exerting pressure on many bankers to expand their existing facilities.

More People. Population in district towns is growing through the influx of oil company employees, service and supply personnel, brokers and speculators.

Though no accurate counts are available, it is estimated that Williston has already added better than 2,000 people to its 1950 population of 7,500. That much again is expected before the end of another year.

Watford City reported an added 300 and Tioga 200 from oil activity. Glendive's population has risen from 5,200 to 6,600.

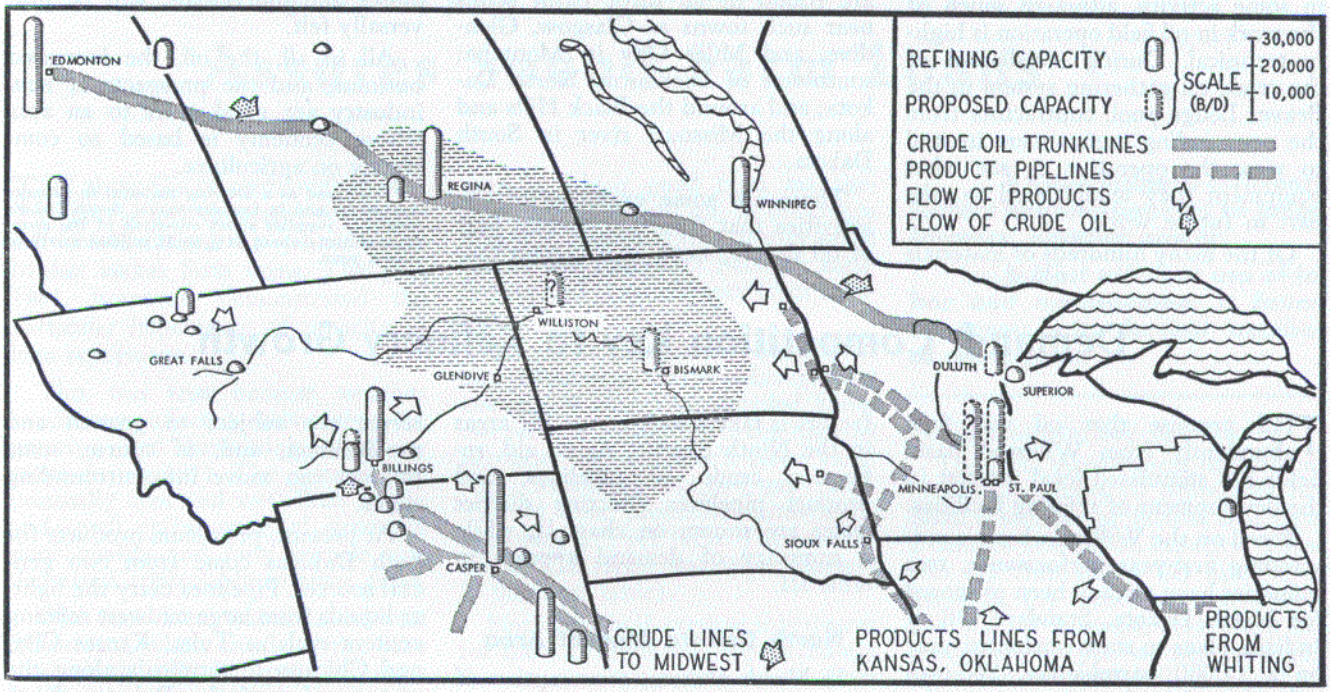
More Business. Many towns have exploration or drilling crews operating out of them, and major oil companies are headquartered in several of the larger ones from Bismarck to Billings.

Among the most active centers are Williston and Glendive, where scores of supply and service companies have set up operations, and where industrial sections are being filled in with new warehouses.

Almost any way it is measured—by bank debits, retail sales, telephone calls, freight handled, or post office

CHART II — REFINING CAPACITY, PIPELINES, AND PETROLEUM MOVEMENT IN THE NINTH DISTRICT AND SURROUNDING AREA

(Total refining capacity for each town is shown by a single symbol; capacity under 1,000 barrels per day not pictured)



MOST petroleum products used in the eastern half of the Ninth district are shipped by pipeline or barge from the large midwest refining centers, but much local refinery construction was touched off by the completion in 1950 of the Canadian crude oil pipeline terminating at Superior. The western half of the district receives most of its supplies by truck or rail from refineries in Montana and Wyoming. Already the Williston basin's high promise has resulted in two proposed refineries for North Dakota.

Sources: Petroleum Adm. for Defense, Oil and Gas Journal.

receipts—activity in key towns had materially increased.

More Problems. Some towns are feeling the strain of rapid expansion more than others, but each community is making efforts to meet problems that have turned out to be quite universal.

Both living quarters and commercial space are scarce—rents and land prices have more than doubled in a year. Trailer additions to towns are common.

Almost every large town in the basin has a newly organized planning commission, and a few have consulted with city planning experts. Some have annexed new areas and made plans to expand water and sewage facilities, extend paved streets, and construct housing.

Everything from trailers to hotels has been moved to active points to help meet the number one current problem—housing.

These are the things that oil has done in just a year and a half. Though it could be expected that some of the first flurry of activity would subside and some of the people that it brought with it would move on, a major oil development is generally a long-term proposition. It has become evident that many individuals in the basin have begun to think of it as such and to plan accordingly.

Start Made on New Industrial Potential

Many district towns both in and out of the Williston basin are looking forward to, and actively inviting, the growth of industry. Refineries were one of the first considerations. (An analysis of district refinery prospects follows this summary.)

Refineries and the other more intriguing possibilities which can follow petroleum processing are only one industrial effect of oil discoveries, however. The industry that grows up to supply and service oil operations, and the business that caters to the needs of a growing population, form an important part of the economic gains.

Wholesaling and retailing of supplies to an active area are in themselves tremendous operations that will be felt all along the normal supply routes of this region. More goods of all descriptions will flow through trade centers like Billings and Fargo and probably be felt as far away as Minneapolis.

Oil equipment, specialized as it is, will largely be imported to the area from manufacturers in the southwest or west coast. But repair and servicing is a local job, and groups that

handle this will form a part of the business community in Williston basin towns.

Local contractors can participate in some activity, although much of the work in oil field operation is highly technical. During installation of the crude oil gathering system in the Beaver Lodge pool, contractors from the surrounding region were invited to view the operation to see what equipment they would need to take part in future work.

Of the many hundreds of materials used in drilling an oil well, some can be supplied locally. An example of one of these is Bentonite, a clay used chiefly as a drilling mud.* Deposits are found in all three basin states near such towns as Glasgow, Glendive, and Miles City in Montana; southwest of Dickinson, North Dakota; and around the Black Hills and along the Missouri river in South Dakota.

These are some examples of the activities that form an integral part of oil development. It is certain that actual production of oil will touch only a few persons directly. But the wealth it creates, diffused throughout the area's economy by many businesses and individuals, will be universally felt.

All in all, the oil, the increased business, and the prospects of new industry are good news to an area whose economy is based so completely on agriculture.

* Also used as a filtering material in refinery operations and in foundry molds. South Dakota presently supplies about one-sixth of the country's output—about $1½ to $2 million worth of clay a year.

Demand, Competition Key to Refinery Growth

THE promise that oil will flow abundantly from Williston basin fields has stimulated local interest in the development of refining facilities.

Based on the Williston basin's outstanding first-year performance, two refineries have already been proposed for North Dakota. Standard Oil of Indiana plans to start work next year on a 15,000 barrel-a-day, 200-man refinery at Mandan—just across the Missouri from Bismarck. Producers Refining company was considering a 10,000-barrel-a-day unit near Williston.

There is one big question in the minds of local business groups: just how much refining capacity can be expected for basin towns, assuming there is continued large growth in crude oil output? Although some factors are necessarily in the "wait-and-see" category, two conditions in the district's economy—demand and competition—give a key to the answer.

Refineries tend to be constructed in or near market centers because it is more economical to ship crude oil than to ship its many derivatives separately. For this reason it is not likely that the capacity of refineries constructed in the Williston basin will much exceed local market consumption.

Competition from existing refineries may also tend to place a ceiling on refinery growth. Products from outside can still reach many areas in the district as cheaply as oil and products could from the center of the Williston basin.

The best way to illustrate these factors is take a look at specific areas in the Ninth district. As an aid, refineries, crude oil pipelines, and product pipelines affecting district states are shown on chart II, while a summary of demand appears in table III.

North Dakota Market Area

In North Dakota, consumption of the four major classes of liquid petroleum products (gasoline, kerosene, light fuel oils, and residual fuel oils) totals about 28,000 barrels a day.* Therefore, if the market for a refinery were restricted to North Dakota, a total capacity just over 30,000 barrels a day would be about the maximum economic construction.

The use of these figures as measures of a state's market potential is only approximate. Markets themselves are subject to growth and modification, and, of course, some product can move into surrounding states.

* These are averages throughout the year; the marked seasonal variation in consumption of particular products considerably complicates the supply problem, but these averages will be used as measures of over-all demand.

At present, petroleum products for both Dakotas come from two general sources. Pipelines carry the lighter liquids from large midwest refining centers such as Tulsa, Kansas City, and Chicago to terminals along the eastern edge of the Dakotas. From here they are moved west by tank car and tank truck.

Refineries in Montana and Wyoming supply most of the western Dakotas' market through combination of truck and rail movement.

South Dakota Market Area

South Dakota's current market potential, based on consumption of the four classes of products, is about 30,000 barrels a day. But the distance of some points in South Dakota from the center of Williston basin pro-

Continued on Page 311

Table III — Comparative Petroleum Markets in Ninth District States, 1952

(All figures given in barrels per day)

Area	DEMAND: Gasoline Consumption	DEMAND: 4-Product* Consumption	SUPPLY: Refining Capacity	SUPPLY: Proposed** Capacity	SUPPLY: Crude Oil Production
Montana	17,000	35,000	62,000	64,500	24,000
North Dakota	17,000	28,000	.....	25,000	2,500
South Dakota	19,000	30,000	400	400	.....
Minnesota and Western Wisconsin	70,000	145,000	12,000	46,500	.....

Source: Petroleum Administration for Defense.

*Total consumption of gasoline, kerosene, distillates and residuals; PAD estimates these figures will be about 10% greater by 1955.

** Includes present capacity and firm proposals.

MANAGERIAL SKILL TESTED IN 1951

Capacity to Produce Assures Sound Farm Loans

THE three C's of credit—character, collateral, and capacity—are standard considerations by which every banker makes farm loans. The year 1951, however, demonstrated the particular importance of capacity in loan repayment.

This was true because weather conditions affected adversely the growing and harvesting of many crops during 1951. The summer was unusually cool and wet. Both coarse and small grains were of generally poor quality and farm income was depressed appreciably in some areas.

One such area was in southwest Minnesota, where much of the corn was worth only half-price or even less compared with good corn on the market. Some of it was so immature and low in quality that it would not efficiently fatten livestock.

Surprisingly, however, some farmers had marketable corn and earned substantial incomes in spite of adverse conditions. It was therefore a year in which good farm management practices paid off. A difference of a few days in corn maturity often spelled the difference between satisfactory and unsatisfactory labor earnings.

Of 122 farmers in the Southwestern Minnesota Farm Management association who kept detailed financial records during 1951, the high 20 per cent had operator's labor earnings [1] averaging $11,614 per farm. The 24 least profitable farms averaged only $51 per farm. The average for all 122 farms was approximately $5,000 (see table).

Since the total average investment for the 122 farms was approximately the same as it was for the 24 least profitable farms, the difference in labor earnings must be attributed in part at least to difference in farm management practices and techniques.

Here is the way labor income was measured on these farms in southwestern Minnesota during 1951:

Farm Receipts	Average of 24 most profitable farms	Average of all 122 farms	Average of 24 least profitable farms
(1) Total farm sales	$49,567	$26,171	$17,517
(2) Increase in farm capital	3,847	2,561	434
(3) Family living from farm	852	708	594
(4) Total farm receipts:	$54,266	$29,440	$18,545
Farm Expenses			
(5) Total farm purchases	$38,179	$21,335	$15,838
(6) Decrease in farm capital	.....	.....	.....
(7) Interest on farm capital	3,919	2,743	2,330
(8) Unpaid family labor	428	367	248
(9) Bd. furnished hired labor	126	79	78
(10) Total farm expenses:	$42,652	$24,524	$18,494
Operator's labor income (4)—(10)	$11,614	$ 4,916	$ 51

Source: Farm Management Reports—Univ. Farm—St. Paul.

Earning Capacity Can Be Indicated

It is well known by bankers that operator's labor income plus interest on equity capital represents a banker's margin of safety in extending credit to farmers. The difficult job, however, is to develop those techniques and measures which can effectively estimate a farmer's capacity to produce satisfactory net earnings.

▶ *Knowledge of efficiency factors enables bankers to judge farmers' earning power.*

▶ *Most efficient use of labor and management is found on farms with largest number of work units.*

The farm management department of the University of Minnesota has listed a number of factors that have a distinct bearing on capacity. These are: (1) crop yields, (2) number of livestock, (3) returns from livestock, (4) size of business, (5) work accomplishment per worker, and (6) control over expenses.

Crop Yields Vary Widely

Crop yields have an important bearing on earnings. High yields per acre ordinarily tend to reduce costs per unit of output.

In the association report for 1951, the 24 least profitable farms reported crop yields per farm at 10 per cent below the average of the 122 farms. On the other hand, the 24 most profitable farms reported crop yields 7 per cent above the average. As might be expected, the farms having the highest crop yields per acre reported the highest net earnings.

Variation in crop yields from farm to farm are often due to management practices, such as planting of adapted seed varieties, following recommended cropping systems, production timing, use of fertilizer, etc.

The banker who is familiar with good farming practices is in better position to judge his credit risks than is one who does not possess this knowledge. He is also in position to be a constructive force for better agriculture in his community.

1/ Operator's labor earnings or income is the net return to the operator for his labor after all expenses are deducted. It excludes interest on equity capital and unpaid family labor.

Livestock Programs Spell Income Stability

Farmers with a substantial livestock program did better financially than those with a limited livestock program, according to farm management records in southwestern Minnesota for 1951. There were exceptions, of course, but generally experience indicates that the bigger the livestock program the higher the net earnings.

The farmer who has developed a good livestock program is more frequently a better credit risk compared with the farmer who has relatively little livestock. Livestock, it has been demonstrated, also tends to create a stabilizing influence on farm income from year to year. The importance of a good livestock program on operator's labor earnings is indicated in the following table:

Relation of Amount of Productive Livestock to Earnings on 37 South Dakota Farms in 1950:

Total Animal Units	No. of Farms	Average Operator's Labor Earnings
Under 30	11	$4,566
30 - 52	16	5,944
52 - Over	10	8,635

Livestock Feeding Efficiency Varies

In most years, approximately two-thirds of total farm income in the district is from the sale of livestock or livestock products. It is therefore important for the banker to know if the farmer is a good operator of a livestock program.

High production per livestock unit, sanitation, balanced rations, good pasture programs, proper shelter — all are important considerations for efficient livestock production.

There is an old saying that "The eye of the master fatteneth the flock." The banker should know which of his prospective borrowers have a "knack" with livestock and which do not. It makes a difference in net cash returns from livestock programs.

Operators of the most profitable 24 farms in the Southwestern Minnesota Farm Management association last year averaged 20 per cent higher returns for each $100 worth of feed, compared with the average return from the least profitable 24 farms.

Efficiency Factors for Dairy-General Livestock Farms in Eastern South Dakota

	Average of all farms	Good standards	Farm under analysis
Size of business			
Acres in farm	200-400	240-480	.....
Acres in crops	150	200	.....
Number of milk cows	13	18-25	.....
Number of litters, pigs	6	8	.....
Number of hens	185	200	.....
Total work units	400	510	.....
Labor efficiency			
Number of workers	1.6	1.7	.....
Work units per worker	250	300	.....
Crop acres per worker	100	120	.....
Animal units per worker	23	30	.....
Crop organization and efficiency			
% of cropland in hay and past.	15	30	.....
% of cropland in row crops	40	35	.....
% of cropland in small grain	45	35	.....
Livestock efficiency			
Pounds butterfat per cow	160	250-300	.....
Pigs saved per litter	5.8	7	.....
Eggs laid per hen	110	165	.....
Mortality of layers	20	12	.....
% calf crop	80	85-95	.....
% lamb crop	80	100-125	.....
Pounds of wool per head	8	9	.....
Av. weight of pigs at weaning	*	30-35	.....

* Insufficient information available

Source: Agricultural Economics Dept.—South Dakota State College—Brookings, South Dakota

Expenses Influenced By Size of Business

Labor and management is utilized more efficiently and profitably on the moderately large farm or ranch. Labor incomes on such farms are usually more satisfactory. Farm experts point out, however, that size of farm cannot always be measured in terms of number of acres, capital investment or number of workers. Some farms are naturally more productive than others. Some enterprises are highly intensive, others are not.

The important point is that each worker be fully and efficiently employed. Farm management experts attempt to measure size of business in terms of "work units." A work unit is defined as the accomplishment of an average worker in a 10-hour day.

To illustrate the importance of size of business and accomplishment per worker in relation to earnings, the accompanying table is shown covering a group of farms in the association report during 1951:

Measures	24 most profitable farms	Average of 122 farms	24 least profitable farms
Operator's labor earnings	$11,614	$4,916	$ 51
(1) Crop yields	107.0	100.0	90
(2) % of tillable land in high ret. crops	65.1	60.2	57.4
(3) Ret. for $100 feed to prod. livestock	112.0	100.0	90.0
(4) Prod. livestock units per 100 acres	42.4	31.7	28.0
(5) Size of business—work units	779.0	529.0	420.0
(6) Work units per worker	354.0	311.0	280.0
(7) Pow. mach. equip., and bldg. exp. per work unit	$ 7.65	$ 7.75	$ 8.63

Source: Report of Div. of Agrl. Econ.—Univ. Farm—St. Paul.

Another factor of considerable importance in modern farming is control over expenses. The more efficient farmers are able to control expenses by securing higher crop yields, by efficient livestock production, by operating adequately sized farm units and by following good common sense practices. (See table above.)

Concluded on Next Page

Bankers Set Up Own Efficiency Factors

In most areas of the Ninth Federal Reserve district there are few if any farm management associations in operation. Furthermore, only a relatively few farmers within association boundaries avail themselves of such services.

In most cases, financial records kept by farmers are not adequate to make thorough farm management analyses, as can be indicated for the 122 farms in southwestern Minnesota.

Where farm management data is not available or where the farmer keeps few records, the banker may find it profitable to work out a set of standard values that seem to fit his particular community. Perhaps the local county agricultural agent or the vocational agricultural instructor could help in the preparation of such standards.

A set of standards and efficiency factors that might apply to a dairy or general livestock farm in eastern South Dakota is given in the accompanying table. The values suggested herein may be changed according to the area or in accordance with the best judgment of the individual banker. In general, such a table may be used as a "bench mark" by the banker in measuring earning capacity of prospective borrowers. END

CURRENT BUSINESS DEVELOPMENTS

RETAIL SALES VOLUME IN MINING AREAS HURT BY STEEL STRIKE

THE steel strike, which was settled near the end of July, forced only a small number of firms to close and put out of work only a small per cent of the labor force in the district.

It is recognized, however, that the cumulative effects of the steel shortage will become more evident later.

Effects of the strike were felt by the Ninth district economy in both a direct and indirect way. Iron ore miners and steel workers were, of course, unemployed for a long period, and the growing shortage of finished steel forced some industrial firms to cease operation.

Since iron ore is the principal mineral produced in this region, the strike was a matter of concern to many persons. In Minnesota, Wisconsin, and the Upper Peninsula of Michigan (in which the Lake Superior iron bodies are located) more than 32,500 workers were employed at mid-May in the mining of all types of minerals. Of this total, approximately two-thirds, or nearly 22,000, were engaged in iron ore mining.

In addition to the iron ore miners and the steel workers (located mostly in Duluth) who were directly involved in the steel strike, about 1,500 additional workers closely allied with mining operations were put out of work on the iron ranges in Minnesota. Several hundred were idled in northern Wisconsin and on the Upper Peninsula of Michigan.

It was feared as the strike continued that steel fabricators would be forced to close down at an accelerated rate. By the latter part of July, however, only a few large firms had closed. In the Twin Cities, between 1,500 and 2,000 workers had been laid off. In the other cities of Minnesota, the number had been estimated at from 100 to 200.

This number doubtless would have been larger had not some firms which had discontinued the fabrication of civilian items continued to produce defense material. Also holding down reported figures of persons laid off is the fact that some large industrial firms had advanced their vacation schedules.

With the strike extending over several weeks, the loss of income has been reflected in lower retail sales. Workers idled by a strike must wait several weeks — in Minnesota, three weeks—before they are eligible to receive unemployment insurance payments. The income of these workers as well as of those on strike had been cut drastically.

Although the strike has been settled, fabricators of steel products may be faced with a steel shortage for many weeks. The output of steel exceeded the demand in the weeks preceding the strike, and inventories were high at the time the steel mills were closed down. With the production of steel reduced to about 12 per cent of capacity for several weeks, inventories have been depleted.

Department Store Sales — The volume of district sales in the latter part of June began to reflect both the loss of wage income in the mining region and, in some agricultural areas, an expected decline in income from crops.

In northeastern Minnesota, which covers the mining territory, June sales were off by about 5 per cent from a year ago. On the Upper Peninsula of Michigan and in Northern Wisconsin, sales fell off 6 to 7 per cent.

Weekly figures for the first half of July indicated a lower volume of sales in the mining region. In the first week of July as compared with the corresponding week of last year, sales in St. Paul were up by 2 per cent, while they were down 10 per cent in Duluth and Superior and 5 per cent in Minneapolis.

In the second week, Duluth and Superior sales were up 7 per cent, while in Minneapolis and St. Paul they were up 10 per cent.

In towns where the volume of retail sales rises and falls in close relationship with realized cash farm income and the crop outlook, business activity has shown a variable trend among the different farming areas of the district.

In western North Dakota and in eastern Montana, where wheat and grazing is the most important source of farm income, the crop outlook in June was very poor due to insufficient rainfall. Reflecting this condition, department store sales in eastern Montana towns were 9 per cent below those for 1951, and 12 per cent lower in western North Dakota towns.

In southern Minnesota and in eastern South Dakota, income real-

ized from 1951 crops was disappointingly low, chiefly due to the low quality corn crop. This condition doubtless had an adverse effect on retail sales.

An off-setting factor, however, was the prospect for excellent crops prevailing this year throughout this area in June and July. The result was a slightly lower volume of retail trade as compared with the same months of last year.

Bank Debits—Aside from firms and wage earners more or less directly affected by the strike, business and labor in this district have continued to enjoy prosperous conditions. The volume of business transacted has been high and appears to be rising among some industries, such as those in soft goods.

In comparison with 1951 monthly figures, bank debits for June were up 4 per cent, while for May they were down slightly. In previous months, debits were about equal to those for corresponding months of last year.

Since wholesale prices reached a peak in March 1951 and retail prices at the end of last year, the larger amount of bank debits no longer reflects higher prices but most likely an increase in the volume of business transacted.

Ninth District Business Indexes

(Adjusted for Seasonal Variation—1947-49=100)

	June '52	May '52	June '51	June '50
Bank Debits—93 Cities	130	121	120	108
Bank Debits—Farming Centers	124	125	118	108
Ninth District Dept. Store Sales	100	104	98	102
City Department Store Sales	101	105	99	104
Country Department Store Sales	98	102	97	100
Ninth District Dept. Store Stocks	105p	106	122	101
City Department Store Stocks	107	107	128	101
Country Department Store Stocks	102p	104	114	102
Lumber Sales at Retail Yards (Bd. Ft.)	89p	91	84	116
Miscellaneous Carloadings	83	109	109	106
Total Carloadings (excl. Misc.)	45	95	104	94
Farm Prices (Minn. unadj.)	105	105	111	93

p—preliminary

Employment — Before the steel strike was called, employment was high in this district. Employment had exceeded the 1951 level in the western states, while in the eastern states it was recovering from a mild winter slump.

In Montana and North Dakota, employment in non-agricultural establishments had been above the 1951 level since the first of the year. According to the Montana state employment service, employment in June was estimated at 157,900, setting a new record for the state.

In Minnesota, employment was above last year's monthly totals in both April and May. In South Dakota it was above in May.

Employment has remained below last year's level, however, in Wisconsin and on the Upper Peninsula of Michigan. The seasonal increase since the winter months has not been sufficient to lift it above the 1951 monthly totals. END

WILLISTON BASIN

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duction is so great that many present suppliers of the Dakotas can economically handle their share of the market by pipeline shipment into the state. Sioux Falls, for example, is as close to Tulsa as it is to Tioga.

Actually, pipeline shipment costs are a relatively small part of the final product price.

To whatever extent areas in the district may be economically supplied from established refineries outside, refinery construction in the district will probably not reach the figure indicated by market potential.

Montana Market Area

In Montana, where oil has been produced for nearly four decades, a dozen small to medium-sized refineries cluster about two main centers. The smaller group is in northwestern Montana, where several oil fields are located (including the Cut Bank field, which produces about 30 per cent of Montana's crude oil output).

The larger concentration is in the Billings area, where most of the crude oil refined is imported by pipeline from Wyoming.

Refining capacity in the state totals about 60,000 barrels a day and, disregarding location and adaptability of each unit, this is nominally enough to cover Montana's present demand for about 35,000 barrels of liquid products a day. Some Wyoming refineries participate in supplying Montana localities.

Aside from normal expansion and replacement—a part of which could take place in the Williston basin area—the likelihood of large additions to refining capacity in Montana is slight.

The one current refinery expansion in the state is that of the Farmers Union refinery at Laurel (near Billings), which is undergoing expansion from 10,000 to 12,500 barrels a day.

Minnesota-Western Wisconsin Market Area

Consumption in the Minnesota-western Wisconsin area, where the district's largest market centers are located, runs about 150,000 barrels a day of the four liquid products. Most of these products are supplied through pipelines from such mid-west refinery locations as Tulsa, Kansas City, Wood River, or Chicago. During summer months river barges are important.

At present, refining capacity in the area totals only 12,000 barrels a day, but much construction was given impetus by the completion in 1950 of the crude oil pipeline from Edmonton to Superior. The second refinery in the Duluth-Superior area should be in operation by the end of this year, to bring refining capacity in that locality to 15,500 barrels a day.

The Twin Cities are feeling the expansion, too. Construction is already under way by the Northwestern Refining company at St. Paul Park to bring their 8,000-barrel-a-day capacity to a total of 30,000 barrels a day by the fall of 1953. No further reports have been heard of another proposal made last year to build a 30,000-barrel-a-day refinery in the Twin Cities area.

Both refineries at the Head of the Lakes are on the interprovincial pipeline and will probably continue to use the Canadian crude that flows through it, but with the closeness of the Williston basin development, refiners in the Twin Cities area now look to this new source for crude oil.

This recently inspired growth of refining capacity means that more of the products consumed in the eastern part of the district will be locally refined. But a good share of this market will undoubtedly continue to be supplied for some time from midwest refining centers. The fact that some companies have expanded refineries as far away as Oklahoma to meet their growing market here, indicates their views on market economics.

This general outlook for refinery development in the Ninth district could, of course, be affected variously by such contingencies as national emergency, availability of materials, and sudden changes in demand. But the two existing economic forces of demand and competition give the best clue to the limits of refinery construction in the district. END

F. R. ACT. CHANGED

Continued from Front Page

tions situated in the various places where such association and its branches are situated."

The minimum capital required of national banks is as follows:

Population	Capital Required
6,000 or less	$ 50,000
6,001 to 50,000	100,000
50,001 or more	200,000
50,001 or more (outlying districts)	100,000

Besides these capital requirements, one of the new amendments provides that "no such association shall establish a branch outside the city, town, or village in which it is situated unless it has a combined capital stock and surplus equal to the combined amount of capital stock and surplus, if any, required by the law of the State in which such association is situated for the establishment of such branches by State banks, or, if the law of such State requires only a minimum capital stock for the establishment of such branches of State banks, unless such association has not less than an equal amount of capital stock."

This amendment protects the state banking systems from undue competition from national banks.

Eligibility Status Of Some Banks Changed

Under the new legislation, many State banks with branches which formerly could not qualify for membership in the Federal Reserve System because of legal capital requirements may now qualify for such membership. In other words, the change in the law transformed the status of some banks from ineligible to eligible. This is particularly true of banks located in smaller communities.

For example, a state bank located in a Wisconsin (population over a million) town of less than 6,001 population with a branch in another such town needed capital stock of a half million dollars in order to qualify for membership in the Federal Reserve System prior to the new legislation. Now such a bank needs capital stock of only $100,000 to qualify.

Judgment Replaces Rule of Thumb

These changes in the law, which were recommended by the Comptroller of the Currency, the Board of Governors of the Federal Reserve System, and the National Association of Supervisors of State Banks, have to a large extent replaced the strait jacket of arbitrary rules with an opportunity for the greater exercise of intelligent judgment by the federal supervisory authorities in connection with the regulation of banking.

These amendments recognize that an adequate appraisal of the soundness of a particular bank cannot be accomplished merely by inspecting the balance sheet and noting the population of the community served. Equally important considerations included the **kinds** of assets and liabilities, the **economic characteristics** of the town served rather than its size, and the **qualifications** of the management. END

BANKING DEVELOPMENTS

Deposit Reversal Confirmed in June

END-OF-JUNE reports from Ninth district member banks confirm the reversal of the seasonal deposit decline which was reported at the end of May. Additional deposits of $24 million flowed into district member banks in June. The distribution of the increase with respect to city and country banks favored the city banks, which accounted for two-thirds of the increase.

City Banks — Net credits to deposit accounts owned by banks, the U. S. government, and others exceeded net debits to the accounts of individuals, partnerships and corporations by $14 million. This deposit increase, together with an increase in borrowings, was accompanied on the asset side by additions to loan and investment accounts and a reduction in "cash and due."

More than half the $5 million loan increase went to commercial, industrial, and agricultural borrowers; the remainder of the increase represented real estate and security loans.

A substantial amount of securities was added to the investment portfolios of the city banks. More U. S. government securities were acquired

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NATIONAL SUMMARY OF BUSINESS CONDITIONS

COMPILED BY THE BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM, JULY 30, 1952

■ INDUSTRIAL production and rail freight traffic decreased sharply further during June and most of July owing mainly to the effects of the steel dispute, but recovery began following settlement of this dispute towards the end of the month. Activity in construction and other industries was generally maintained in June and July. Wholesale prices changed little and consumer prices rose to a new high.

Industrial Production—The Board's production index in June was 203 per cent of the 1935-39 average, as compared with 211 in May and 222 in February. The further drop in June reflected work stoppages at steel works and iron ore mines. In July the index is expected to decrease about 10 points, reflecting curtailments in steel consuming industries and reduced operations because of vacation schedules in some other industries.

Durable goods production declined 10 per cent in June as steel mill activity was curtailed to 18 per cent of capacity as compared with 90 per cent in April and May. Steel production was scheduled at about 15 per cent of capacity during most of July but increased substantially at the end of the month.

Activity in most steel consuming industries was maintained through June and inventories were reduced rapidly. Passenger auto assemblies were virtually unchanged but in July have been reduced almost three-fifths to about 175,000 units.

Activity in machinery industries held steady in June at a level somewhat below the first quarter, and output of aircraft and other military equipment continued to increase.

Output of non-durable goods rose in June, reflecting a further expansion in activity at textile mills and resumption of operations at oil refineries. Activity in most other non-durable goods industries changed little.

Minerals production in June and July, while above the sharply reduced May level, was more than 10 per cent below April, as iron ore mining was curtailed to levels about four-fifths below a year ago and coal output was reduced further.

The drop in crude petroleum production during the refinery shutdowns in May was considerably greater than estimated earlier, and in June and July crude oil output has remained moderately below the April level.

Construction—Value of construction contract awards declined slightly in June, reflecting a decrease in private awards. New work put in place continued close to record levels. The number of housing units started, at 106,000, was little changed from that in each of the three preceding months.

Employment—Seasonally adjusted total employment in non-agricultural establishments showed only a small decline in June, as employment outside the steel industry was generally maintained. The average work week at manufacturing plants rose somewhat to 40.4 hours and average hourly earnings remained at $1.66.

Unemployment increased seasonally by about 200,000 in June but was 150,000 below a year ago. By mid-July, claims for unemployment compensation were substantially above the June level, mainly because of layoffs in various steel-consuming lines.

Agriculture—Crop production in 1952 is expected to be about 4 per cent larger than last year, according to official reports based on July 1 conditions. Marked increases are forecast in output of wheat and corn, with some rebuilding of stocks in prospect. Milk and egg output decreased in June, reflecting largely above normal temperatures. Meat production in July has remained somewhat above year-ago levels.

Distribution—Department store sales in the first three weeks of July were slightly above year-ago figures but were down somewhat from June on a seasonally adjusted basis. Sales of television sets and appliances continued strong.

Department store stocks showed about the usual seasonal change through June.

Sales of passenger autos decreased in June and, owing mainly to the reduced supplies of new cars, a further more marked drop apparently occurred in July.

Commodity Prices—The general level of wholesale commodity prices changed little from mid-June to the fourth week in July. There were advances in prices of foodstuffs — particularly eggs and hogs — textile products, and non-ferrous metals, while steel scrap, rubber, cotton, burlap, tallow, and feedstuffs declined. Following settlement of the steel dispute, ceiling prices for finished steel were raised about 6 per cent.

The consumers price index rose .3 per cent in June to a new high. Prices of foods —meat and eggs—rose seasonally and rent and other services advanced further, while prices of housefurnishings declined.

Bank Credit—Bank credit expanded substantially in the early part of July, reflecting financing associated with Treasury borrowing and further increases in instalment borrowing by consumers, state and local government financing, real estate financing, and farm borrowing.

Bank reserve positions continued generally tight in late June and the first half of July owing in large part to a currency outflow and an increase in required reserves associated with seasonal Treasury financing operations. Discounts at the Federal Reserve banks increased and the rate on federal funds remained high.

Interest rates charged by commercial banks in short-term business loans averaged 3.51 per cent in the first half of June compared with 3.45 per cent in the first half of March. The largest rate increases occurred in the southern and western sections of the county, while rates declined in some northern and eastern cities.

Security Markets—Common stock prices generally rose during the first half of July, reaching on July 16 their highest level since April 1930. Yields on short-term U. S. government securities rose during the latter part of June and the first three weeks of July, the rate on new Treasury bill issues reaching 1.87 per cent, the highest level since early January.

BANKING DEVELOPMENTS

Continued from Previous Page

by these banks in June ($32 million) than in any month since May of 1949. The purchase of bills and certificates was responsible for the increase.

Obligations other than those of the U. S. government amounting to $6 million were also added to holdings.

Country Banks—An increase of $8 million in the assets of country banks during June represents the addition of $12 million to "cash and due"—which was only partially offset by the minor liquidation of loans and investments amounting to $3 million and $2 million respectively.

Permitting the asset increase were net deposits of $8 million, $3 million of which were time deposits. END