

Business Conditions

1966 November



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THE Trend OF BUSINESS

Construction lags

Employment, industrial production and total spending on goods and services reached new highs in the third quarter. Construction, however, continued in the decline evident since last spring. More than half of the slide in total construction is attributable to the residential sector, but private nonresidential construction and public construction also have slowed somewhat.

Total construction was at a record annual rate of 79 billion dollars in February and March. By September this rate had dropped to less than 73 billion. Production of construction materials and employment in contract construction also declined in marked contrast to substantial increases in most industries.

The work force in contract construction was estimated at 3.2 million in September, seasonally adjusted, about the same as a year earlier, but about 200,000 less than the peak

in the spring. The rate of unemployment of construction workers, however, was 4.8 percent in September compared with 5.8 percent in the same month of 1965. Many construction workers idled by the drop in home building have found jobs in other types of construction or in other fields. Industrial and commercial firms continually advertise their needs for workers skilled in the building trades—particularly electricians, plumbers and steamfitters—for production jobs as well as maintenance and repair duties.

Construction and the cycle

Since the early Fifties, construction—including major repairs and alterations—has accounted for from 10.5 to 11.7 percent of all spending on goods and services each year. The range for the 1960-65 period was remarkably narrow—10.5 to 10.7 percent. Although construction in 1966 doubtless will

BUSINESS CONDITIONS is published monthly by the Federal Reserve Bank of Chicago, George W. Cloos was primarily responsible for the article "The trend of business—Construction lags," William J. Hocter for "Bank earnings: Banks set fast—and slow—pace" and Ernest T. Baughman for "Futures markets and farm finance."

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Economic Fact Book: An Economic Fact Book of the Seventh Federal Reserve District has recently been published. In this 49-page booklet have been assembled considerable data describing some of the major economic features of the Seventh District states. Copies may be obtained by writing to the Research Department of this Bank.

be appreciably higher than last year, the rise will be much less than for total spending. As a result, the proportion of construction to total spending is likely to decline to slightly more than 10 percent.

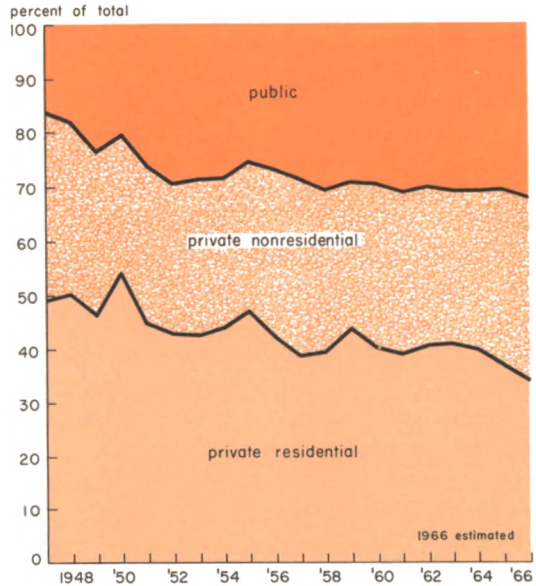
Total construction can be divided conveniently into three categories—private residential, private nonresidential and public. Each of these groups will account for about one-third of total construction in 1966, but the proportions have varied considerably from year to year.

During the 1947-65 period, the proportion of residential building to total construction has ranged from 37 to 54 percent. For private nonresidential construction, the proportion to the total has varied much less—from 27 to 34 percent—during the same period. Public construction has tended to rise relative to the private sector. Accounting for only 17 percent of the total in 1947, the public sector has amounted to 31 percent of all construction in recent years.

Year-to-year changes in residential construction have differed widely from changes in nonresidential private construction. While residential activity probably will be off about 5 percent in 1966, nonresidential construction may be up about 10 percent. Similar developments have occurred in other years of prosperity. In 1951, 1956, 1957 and 1960, residential construction declined while nonresidential activity increased sharply. Conversely, during years of recession or sluggish growth, such as 1954, 1958 and 1962, residential construction rose while nonresidential declined or increased much less.

Inverse movements of residential and nonresidential construction in periods of business expansion or decline is, in part, a matter of cause and effect. Homebuilding is heavily dependent upon credit availability. The average new home is purchased with a 25-year

Residential construction has trended downward as proportion of outlays since 1950



maturity mortgage and a less than 30 percent downpayment. Some transactions require only a 10 percent downpayment and are amortized over even longer periods. When business expands vigorously, competition for loanable funds is strong. In such times, funds that might have been invested in residential mortgages are channeled to other uses, including nonresidential construction.

Homes or factories?

A large share of private nonresidential construction, about 80 percent, represents capital expenditures of commercial and industrial firms and public utilities. The remainder consists of farm construction and projects of nonprofit institutions, including private hospitals, schools, churches, and research and recreational facilities.

In contrast to purchasers of residences, business firms obtain funds from a variety of internal and external sources. They have access to the money and capital markets and usually are not subject to usury laws and various conventions that tend to hamper the residential construction sector in the competition for funds.

Another advantage business firms have in obtaining financing for nonresidential construction relates to the lesser significance to them of interest as a cost. Gross revenues of an apartment building may be only 10 percent of the value of the structure, and interest represents, by far, the largest expense of the owner. For most businesses selling products or services, variations in interest expense are small relative to the cost of payments to labor and supplies.

Construction costs rise

Availability of mortgage credit has not been the only factor restraining construction activity during recent months. Demand pressures on available manpower and certain types of construction materials have caused wages and prices to rise sharply. This development has been accompanied by delays in completion of projects and decisions of some businesses to defer new projects until firm bids and more reliable work schedules are possible.

The Department of Commerce index of construction costs has risen at least 1 percent in each year of the past decade. The annual increase accelerated to 3.6 percent in 1965 and to more than 4 percent in the current year.

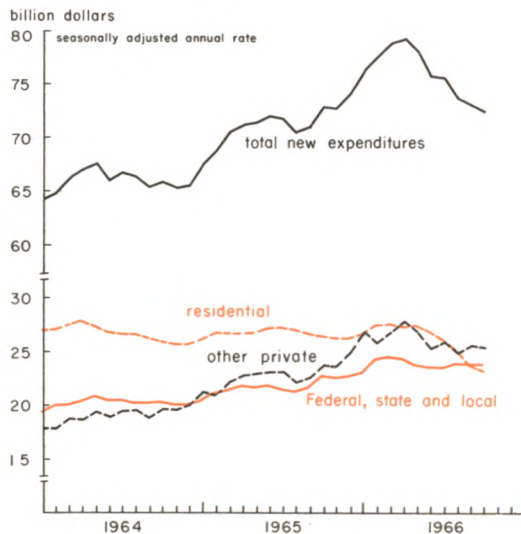
New contracts negotiated by the principal building trades unions in 1966 commonly called for increases of 6 percent or more in total hourly compensation, well in excess of the average rise for industrial workers. In

addition, heavy use of overtime for some skills has boosted labor costs by an additional amount. This fact, together with heavy demand for contractors' services and uncertainties regarding the cost and availability of materials, has caused many bids to be submitted at levels well in excess of the rise indicated by the construction cost indexes.

The Bureau of Public Roads maintains an index of bid prices on comparable highway projects. This index rose almost 4 percent in 1965 and a further 7.4 percent in 1966.

In mid-1966 the average price of all construction materials was 4.1 percent above a year earlier. Some materials and components—such as insulating board, portland cement and warm air furnaces—were up 1 percent or less. Prices of certain other materials, including gypsum products, plate glass and vinyl floor covering, were as much as 5 percent

Public construction has declined only slightly since early 1966



lower than at this time last year.

At the other extreme, hardwood prices were up 21 percent, sheathed cable 16 percent and copper tubing 39 percent. Most lumber products moved to lower levels in the late spring after the initial impact of military needs had been absorbed and homebuilding requirements were reduced.

Contracts and plans

Tabulations of building starts and construction contracts provide useful "leading indicators" of future activity in this industry.

Housing starts, an indication of construction in subsequent months, are expected by most analysts to be 15 to 20 percent below last year during 1966. Expenditures on new residential construction will be down much less, perhaps only 5 percent. There are three reasons: first, the inclusion in the dollar aggregates of outlays on residences started in 1965, second, the rise in homebuilding costs and, third, the trend toward larger, more elaborate units.

For many years the F. W. Dodge Corporation has compiled reports of construction contracts, primarily as a service for subcontractors and suppliers of materials. The Dodge seasonally adjusted index of construction contracts reached a record high in April at 161 (1957-59=100). By August it had declined to 139, about equal to the year-ago level.

During the first nine months of 1966, total construction contracts were 5 percent above last year for the nation and 7 percent higher for the Midwest. Until July, year-to-year declines for the residential sector were more than offset by increases for other types, especially factories and commercial building.

Recently an official of the Dodge Corporation forecast that contracts in the final three months of 1966 would be lower than in the

comparable year-earlier period. The entire year was projected to show a 3 percent year-to-year rise, somewhat less than the increase in construction costs.

The recent decline of construction contracts does not necessarily mean a drop in total activity in the year ahead. *Engineering News Record*, a publication serving the construction industry, reports data on large construction projects entering the planning stage. New plans for the first nine months of 1966 were up from the same period of the previous year by 15 percent for the nation and 19 percent for the Midwest. Plans for apartments and manufacturing plants were below last year, but most other categories—especially schools, highways, sewers and waterworks—showed substantial gains. New construction plans were especially strong in September, exceeding the year-earlier level by 25 percent.

When will the decline end?

Apparently, the demand for new buildings and other structures remains very strong. But many plans will not be pushed through to completion on current schedules if costs continue to rise rapidly. Construction work has been limited by availability of men, fabricated components and the effects of these shortages on costs, as well as reduced availability of funds. Demand for labor has eased somewhat since August. Any further alleviation of shortages of resources will help promote the development of additional projects.

Since World War II, the dollar volume of new construction has declined only once—in 1960. Forecasts of a prolonged slide in new building, such as that which foreshadowed the Great Depression, have been proved wrong again and again.

Short of direct action by the Government necessitated by wartime needs, it is unlikely

that an appreciable portion of the resources of the construction industry will be idle in the months ahead. Needs for residential building will rise gradually, as indicated by the decline in vacancies, growth in the adult population and the resumption of growth of the rate of family formation. Many new plans for commercial and industrial projects are temporarily "on the shelf." Some Federal Government work and grants-in-aid to local governments have been postponed in line with the Administration's desire to hold down aggregate spending. Certain proposed state

and local government bond issues, intended to provide funds for construction, have been withdrawn to await a more receptive capital market.

Plans for urban transit facilities, slum clearance, mass housing, airports, interstate highways and air and water pollution projects will receive renewed attention when manpower and materials are available. Each of these programs, whether undertaken by government or private firms, tends to stimulate other types of construction required to serve a growing population.

Bank earnings, 1965

Banks set fast—and slow—pace

Net earnings vary greatly among banks, even banks that may be similar in size and certain other characteristics. Small banks, for example, were widely represented among both high- and low-earning banks in the Seventh Federal Reserve District during 1965.

Detailed information is available on costs and revenues for the 186 member banks that participated in the functional cost service provided by the Federal Reserve Bank of Chicago last year.¹ The major characteristics of the 25 banks with highest net earnings and the 25 banks with lowest net earnings are described in this article. For the top group, net earnings averaged \$11 per \$1,000 of *available funds* and for the low earners, \$4.

Available funds include demand and time

deposits and other liabilities plus those capital funds not invested in banking premises and other fixed assets. Net current earnings represents the excess of current operating income over current operating expenses after computed Federal income taxes. State and local taxes and other nonoperating income or expense, such as profits or losses on security transactions and loan losses or recoveries, are not included in the analysis.

Deposit size and earnings

The high-earning banks appeared with relatively greater frequency among banks of

¹The functional cost service was described in "Bank Profits—Costs and Returns for Major Functions, 1965," *Business Conditions*, October 1966.

the 5-15 million dollar deposit size than among the larger or smaller banks. The distribution of the low-earning banks was spread more evenly among all sizes.

Net current earnings per \$1,000 of available funds ranged from \$14.79 to \$9.64 for the top-25 banks and from \$5.13 to minus \$2.39 for the low-25 banks. Average net earnings for the high-earnings group was \$10.83 and for the low group \$4.05. The largest concentration of the high-earning banks was in the \$10-11 range and for the low-earning banks in the \$4-5 range.

High-earning banks		Low-earning banks	
Net earnings per \$1,000 of funds used	Number of banks	Net earnings per \$1,000 of funds used	Number of banks
(dollars)		(dollars)	
9-10	5	Under 2	1
10-11	12	2-3	1
11-13	6	3-4	8
13-15	2	4-5	10
		Over 5	5

An analysis of the variation in earnings and deposit sizes by individual banks demonstrates no marked causal relationship between size and earnings. Deposit size, therefore, is not a major factor in determining bank earnings as measured by net returns on available funds.

The balance sheet

Balance sheets that show annual average liabilities and assets were developed for each of the participating banks. The liabilities include deposits and capital—the funds-supplying functions. The assets include loans and investments—the funds-using functions.

Earnings are generated largely by loans and investments with some revenue obtained from activity charges on checking accounts and fees charged for other bank services. Banks must hold a portion of their assets in reserves, cash in vault and other very liquid

High-earning banks tend to be concentrated in the 5-15 million dollar deposit-size group

Deposit size (million dollars)	Total banks	Functional cost service participants, 1965	
		High-earning banks (number)	Low-earning banks
0-5	11	1	1
5-15	50	14	7
15-25	34	3	5
25-50	33	3	3
50-100	34	3	6
100-200	14	1	2
Over 200	10	0	1
Total	186	25	25

assets (such as short-term Government securities) in order to meet deposit withdrawals or other sudden or unexpected demands on the bank. Since yields on such liquid assets ordinarily are lower than yields on loans and longer maturity securities, there is a constant effort to balance the needs for liquidity and earnings.

The mix of assets will depend also on the demands for various kinds of credit experienced by the bank and any sizable shift in bank expenses. For example, in recent years many banks have boosted their interest payments on time money and have acquired additional time deposits. Since these funds normally are less volatile than demand deposits, it has been possible to offset this additional expense in part by acquiring higher-earning assets with relatively less liquidity and replacing some of the lower-earning but more liquid assets.

Differences in balance sheet composition affect both income and expenses, and, hence, the portfolio yield and the cost of money.

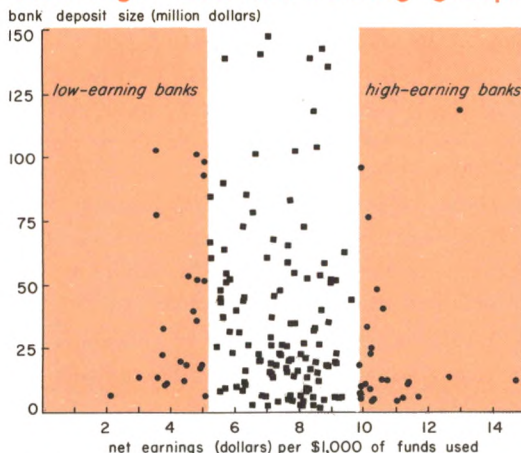
The high-earning banks had net portfolio income (total portfolio income net of all expenses for loans and investments) of 4.4 percent compared with 3.9 percent for the low-earning banks. Cost of money for the high-earning banks was 2.2 percent while the low-earning banks had a net cost of 2.7 percent. The top earners, therefore, generated more income from their loan and investment portfolios and at the same time secured deposit funds at lower cost than the low-earning banks.

There are two major differences in the asset composition of the high- and low-earning bank groups. First, the more profitable group employed a larger share of total assets in state and local government securities (municipals) than the less profitable banks—13 percent contrasted with 8 percent. (Income from municipals is exempt from Federal income tax.) The offset occurs in the other securities category—largely Federal funds sold, brokers' loans and commercial paper. U. S. Government securities accounted for 25 percent of total assets in both groups and total investments accounted for 41 percent.

The second difference in the asset mix is in the relative share of total assets in real estate loans and other loans. The more profitable banks have about 20 percent of their assets in other loans (mainly, business and agricultural) and 15 percent in real estate loans. The less profitable banks had only 17 percent of total assets in other loans and 18 percent in real estate loans. Installment loans accounted for 11 percent of total assets in both bank groups.

Two significant differences also are evident between the two groups in the liability and capital sections of the balance sheet. First, time deposits account for 50 percent of all deposits at the low-earning banks com-

Small banks dominate both high- and low-earning groups



Note: Twelve banks have been excluded to avoid disclosure of individual bank earnings.

pared with only 40 percent at the more profitable banks. Time deposits can cost from 2 to 4 times as much as demand deposits largely because of the interest expense. This is an important factor and weighs heavily in the net earnings results. The high-earning banks have been able to rely more heavily on demand deposits and have obtained their available funds at a lower average cost.

Second, the volume of available funds supplied by the capital accounts—capital, surplus and reserves—also influence the net earnings on available funds. In the 1965 functional cost analysis, capital funds were assumed to be free of cost. They were not treated as a separate function and none of the operating expenses were charged against them.² Banks having relatively large amounts of available funds from capital, therefore, had an advantage in this analysis which would be largely removed if earnings were

²In the 1966 functional cost service, the capital accounts will be handled as a separate function and will share in both bank revenues and expenses.

computed on the basis of return to capital.

The capital account provided about 9 percent of the available funds of the high-earning banks and about 6 percent for the low-earning banks. Not all of the funds supplied by the capital accounts become part of the pool of available funds, however. Funds committed to the bank building and other fixed assets are netted out since these resources are not available to the bank to hold as cash or for use in the portfolio of loans and investments.

Earnings

Competition and management skill largely

Distribution of assets and liabilities

	Functional cost service participants, 1965	
	High-earning banks	Low-earning banks
	(percent)	
Assets		
Cash	12	12
Investments		
U. S. Governments	25	25
State and local governments	13	8
Other securities	3	7
Total investments	41	40
Loans		
Instalment loans	11	11
Real estate loans	15	18
Other loans	20	17
Total loans	46	46
Other assets	1	2
Total assets	100	100
Liabilities		
Demand deposits	49	41
Time deposits	40	50
Other liabilities	1	2
Capital and reserves	10	7
Total liabilities and capital	100	100

determine operating results for individual banks. Net earnings of the four funds-using functions are determined by three factors: income, operating and overhead expenses and the cost of money.

Direct expenses incurred in each function are largely the responsibility of the official in charge.³ In addition, each function shares in the overhead expenses (business development and general administrative expenses) of the bank. These expenses are under the control of the bank's management but are not usually under the jurisdiction of the officer in charge of a particular function.

Each function is charged for the funds that it actually employs—the cost of money. Functional cost utilizes the pool of funds approach, in which each funds-using function is assumed to draw money from a common pool and, thus, is charged an identical "price," irrespective of the source of these funds.⁴

Except for investments, the high-earning banks had higher gross income in each function than the low-earning banks. The greatest difference in gross revenues between the two groups was in the instalment loan function—\$11 per \$1,000 of funds used.

The high-earning banks incurred lower

³Direct expenses include salaries, wages and all other costs of directly operating the function.

⁴This approach is believed to be a more realistic reflection of day-by-day banking operations than the asset-management theory in which special types of funds—such as time deposits—are assumed to be allocated to special types of assets—such as real estate—and the function is "charged" at the rate that the bank "paid" depositors for these funds. Tying changes in asset composition to changes in the mix of liabilities is a useful managerial tool for long-run profit planning, but this approach tends to misrepresent actual banking practices where the overall quality of the security or loan in question is more likely to be the criterion for action than recent shifts in deposit mix.

total operating expenses in two of the funding functions: instalment loans and other loans. In the real estate loan function, the low-earning banks had lower total operating expenses—\$2 less per \$1,000 of funds used than the high-earning group. Total operating expenses were the same in the investments function in both bank groups.

In the instalment loan function, the high-earning banks had lower costs than the low-earning group in each of the three expense categories. The net difference in expenses of \$12 per \$1,000 of funds used was the result of lower costs for salaries and wages, \$3, processing, \$4, and overhead, \$5.

The difference in total operating expense in the other loan function was the result of lower costs for salaries and wages and other expenses.

In the real estate loan function, the low-earning banks were able to operate with lower expenses for salaries and wages and overhead expenses.

These findings suggest that the high-earning banks have more efficient banking operations in the instalment and other loan functions. However, the low-earning banks have a sizable commitment of total assets to real estate loans and apparently have developed efficient methods for utilizing their personnel and other resources in this function.

There was a greater cost of money in each of the funds-using functions for the low-earning banks—\$27 compared with \$22 for the high earners. The low group had approximately 10 percent more time deposits than the high-earning banks, which partially explains the difference in the cost of money, as well as higher operating expenses in the demand and time deposit functions.

The relative importance of the contribution of gross revenues, total operating expenses and cost of money to the difference

Income, expenses and net earnings by function

Per \$1,000 of funds used in 1965

	Investment	Instalment loans	Real estate loans	Other loans
	(dollars)			
High-earning banks				
Total income	36	94	58	57
Expenses				
Salaries and wages	1	14	5	5
Other processing	*	9	3	3
Overhead	1	7	3	3
Operating expenses	2	30	11	11
Cost of money	22	22	22	22
Total expenses	24	52	33	33
Net earnings	12	42	25	24
Low-earning banks				
Total income	36	83	54	54
Expenses				
Salaries and wages	1	17	4	7
Other processing	*	13	3	6
Overhead	1	12	2	3
Operating expenses	2	42	9	16
Cost of money	27	27	27	27
Total expenses	29	69	36	43
Net earnings	7	14	18	11
Difference¹				
Higher income	0	11	4	3
Lower expenses	0	12	-2	5
Cost of money	5	5	5	5
Net earnings	5	28	7	13

*Less than \$1.

¹The difference between high-earning and low-earning bank figures.

in net earnings varies among the four functions. In the investment function, the net earnings advantage of high-earning banks was due entirely to the difference in the cost of money. In the other funds-using functions, the high earners also had greater gross income and—except for real estate loans—

lower operating expenses.

Trust and safe deposit earnings

The trust department and safe deposit rental functions provide specific services on a fee basis. While these functions can contribute to the bank's net earnings, they are distinctly different in that neither utilizes any of the funds provided by the deposit and capital functions. As a result, these two functions do not share in the bank's expenses to obtain deposits—the cost of money.

A number of the 186 banks that participated in the 1965 functional cost service do not have trust departments; only 15 of the 25 high-earning banks and 18 of the low-earning banks offer such services. However, all the banks in the high-earning group and 24 banks in the low-earning group provided safe deposit services.

For these two bank groups, the cost data indicate that the trust and safe deposit functions were not profitable operations in 1965. The trust function in the high-earning group had net losses equal to 1.5 times the five-year average gross revenues from this function. The net loss was even larger in the low-earning group—2.6 times the five-year average gross income. Only three of the 15 banks in the high-earning group and only two of the banks in the low-earning group had profitable trust operations.

A simple cost and revenue analysis of trust operations can be misleading, however. In the first place, many banks in the Seventh District—especially the smaller banks—have relatively new trust departments. The initial costs tend to be very high. Usually a highly skilled trust officer—who can command a sizable salary—must be hired. In addition, adequate financial and legal advisory and reference services must be secured.

Furthermore, most cost accounting pro-

grams, including the Federal Reserve functional cost service, fail to assign an accurate amount of income to this function. For example, trust deposits within the bank are not assigned a share of portfolio income. Similarly, there is no workable method of imputing to the trust and safe deposit functions the income which results from the “cross-selling” of services. That is, trust and safe deposit functions may attract or retain customers who otherwise would not use the bank's other services.

Safe deposit boxes are a service that almost all banks feel compelled to provide for their customers even if operating expenses exceed box-rental income. By implication, individual bankers are apparently making a subjective estimate of the cross-selling and are assuming that there are benefits that offset the loss on this service.

In the functional cost service, safe deposit expenses are compared to the current year's income. Expenses exceeded income by 21 percent in the high-earning banks, and by 89 percent in the low-earning group. Ten of the high-earning banks had safe deposit operations that were in the “black” compared to seven in the low-earning group.

Conclusion

The earnings superiority of the high-earning banks, as sketched in this statistical “profile,” would seem to be due to a combination of three factors. First, the high-earning group generated greater earnings from their loans—particularly instalment loans. Second, the high-earning banks were able to secure their principal resource—funds for loans and investments—at lower cost. Finally, in many areas of banking operations, the high earners were more efficient in the utilization of personnel, equipment and other factors which contribute to bank costs.

Futures markets and farm finance*

Several commodities exchanges recently have undertaken to provide facilities for trading in futures contracts for live meat animals:

Chicago Mercantile Exchange:

Beef steers, beginning November 30, 1964

Feeder steers, beginning November 1965

Hogs, beginning February 1966

Chicago Board of Trade:

Beef steers, beginning October 1966

The Kansas City Board of Trade:

Feeder steers, beginning June 1966

This development is similar to the trading in grain futures contracts which originated in Chicago over 100 years ago. It reflects and is a further step in the trend of United States agriculture toward vertical integration and the contract sale of future production.

For some agricultural commodities, large proportions of the total supply are produced by vertically integrated firms or under contracts between farmers and processors and marketing firms. These commodities include broilers, milk for fluid consumption, sugar beets, seed crops and fruits and vegetables for processing. For some of these, this type arrangement is long-standing.

The commodities for which vertical integration or contract production have seen the greatest development tend to be those produced in small, compact areas that have fairly specialized outlets and require relatively large amounts of labor or cash expense in their production. The crops and livestock which are produced over wide areas by large numbers of farmers and are marketed to a

multiplicity of outlets, thus far, have not participated greatly in the trend toward vertical integration or contract production. This could be because Government programs for many years have provided relatively high price support floors for these major crops—wheat, corn, cotton, soybeans and rice—and this has reduced any need to seek additional price insurance.

This, however, is not an entirely satisfactory explanation since for 100 years or more farmers have been able to sell some of their major crops at firm prices for future delivery but have made little use of the opportunity. Yield insurance also has been available for major crops but is not used widely by farmers.¹

Government support of prices for cattle and hogs has been intermittent and largely indirect. Furthermore, under capable management, production of livestock is less exposed than crops to the effects of weather and other natural hazards. Farmers may be concerned more, therefore, about the risk of price decline for livestock than the risk of "crop failure."

Futures markets compared

The livestock futures market represents a somewhat different use of futures contracts than the long-established and familiar trad-

*Summary of a speech given by Ernest T. Baughman, Vice President and Director of Research, Federal Reserve Bank of Chicago, before the 80th Annual Convention, Iowa Bankers Association, Des Moines, Iowa, October 17, 1966.

¹See "Crop Insurance," *Business Conditions*, May 1966.

ing in grain futures.² In grains, the major function of the futures contract has been to enable a *holder of grain* to “hedge,” that is, to shift the risk of possible loss caused by price decline to someone willing and able to carry that risk. (In transferring such risk, one also transfers the possible gain from price increase.)

However, farmers or others, if they desired to do so, could sell grain for future delivery at any time whether or not they were holding grain in storage or were growing a crop. Sale of a futures contract before the grain is produced provides insurance against possible loss from price decline but increases the risk of loss from crop failure. The contract must be honored either by actual delivery or by purchasing a comparable contract before the date for delivery. If a farmer undertook to insure against price decline by selling for future delivery and failed to produce a crop, he would have increased, not reduced, the risk.

The livestock futures, from the farmer’s point of view, provide a means of contracting future production at firm prices. This is similar to a grain farmer selling future delivery of a crop not yet produced.

From the point of view of livestock processors, the futures markets in beef cattle and hogs make it feasible to enter into contracts for future purchase of livestock at firm prices. This may enable processors to assure a more stable supply of livestock. Their “long” position in these contracts (and exposure to risk of loss due to price decline) can be offset by taking “short” positions on futures contracts. At least one large meat

packing firm has announced that it will enter into such contracts—to purchase hogs and cattle for future delivery—and hedge such contracts through sales on the futures markets. The prices at which processors will be willing to purchase livestock for future delivery will be determined largely by the prices at which such contracts can be hedged, that is, the price at which speculators are willing to purchase futures contracts.

Livestock futures prices and cash prices must converge when futures contracts mature, but there is no necessary relation at other times. Furthermore, there is no necessary linkage between livestock futures prices in the various delivery months. Livestock are produced throughout the year and are not “storable” except for fairly short periods, and there is no large inventory of the contract grades and weights ready for market at any given time. This is in contrast with grains, for example, where the commodity is storable, relatively large inventories are available and most of a year’s production is consummated within a relatively short time span.

Marketings of livestock probably are sufficiently flexible and responsive to prices to assure that deliveries can be made on any futures contracts where delivery is desired. The usual practice (as in grain futures) is for such positions to be liquidated by offsetting purchases or sales of contracts, not by making delivery of livestock. It is essential, nevertheless, that delivery be possible. The contracts now in use appear to be functional in this respect; they provide for delivery of identifiable quality and quantity of widely produced commodities at convenient locations at prescribed times. Only 20 August contracts for beef steers on the Chicago Mercantile Exchange were satisfied by deliveries from a total of 22,369 such contracts. Deliveries of beef steers generally have been con-

²For a description of the technical features of futures markets see “Beef Futures,” *Business Conditions*, March 1965; for information on current contracts and fees make inquiry to the respective exchanges or boards of trade.

summed without difficulty.

Why the renewed interest now?

It must be presumed that much of the recent interest in the possibilities of contracting the sale of future production reflects considerations other than a desire to raise the general level of livestock prices. Any belief that a change in market mechanisms and practices can raise prices substantially without imposing effective control on supply is, of course, a figment of the imagination. The interest appears to have developed largely as a result of changes in recent years in some of the basic characteristics of agriculture which affect risks in that industry.

While it has become trite to observe that agriculture is a rapidly changing industry, it is necessary to understand the general pattern of changes transpiring and the forces bringing them about if developments in individual facets of the industry are to be interpreted meaningfully. A number of these developments affect risk and, consequently, credit arrangements—current and prospective.

Farmers have incorporated a tremendous amount of new technology into their businesses in the past 15 years. This has increased greatly their ability to produce crops, livestock and livestock products. Total production of agricultural commodities last year exceeded output in 1950 by 35 percent. However, the tremendous impact of this technology is demonstrated even more emphatically in the effects on farm population. The population living on farms declined 46 percent to 12.4 million during this period or to 6.5 percent of the nation's total. The man-hours of labor utilized on farms declined by about the same proportion as population.

Total acres of cropland harvested declined 13 percent (reflecting largely the

and raise prices) while the amount of livestock for breeding purposes remained essentially unchanged. However, these acres and herds were divided among only 3.4 million farms in 1965, 27 percent fewer than in 1950. The average size of farm, therefore, has increased substantially in terms of cropland harvested, breeding animals and total production.

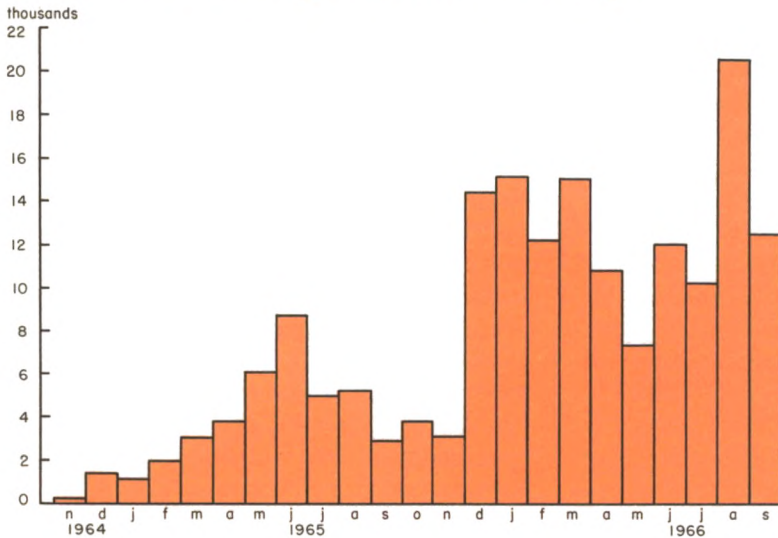
Farms have increased also in terms of value—both the total and value per farm. Total value of agricultural assets increased 80 percent during the past 15 years—to 238 billion dollars. This sharp rise has boosted the amount of credit required to finance transfers of ownership of farm assets. Farm real estate debt, for example, increased 250 percent during the period—to 21.2 billion dollars.

Farmers' annual production expenses have increased substantially—56 percent since 1950—to 30 billion dollars. This, too, has boosted agriculture's credit requirements. Farmers' non-real estate debt rose 190 percent—to 20.4 billion dollars. Total farm debt, therefore, exceeded 40 billion dollars at the end of 1965, compared with 13.1 billion 15 years earlier. Owner equity has increased also—66 percent—and, while still large, has declined as a proportion of the total value of agricultural assets.

Along with these trends, there has been a trend toward greater specialization of production on individual farms, also a result of the improvements in technology and mechanization. While many of these trends have been evident for many years, the pace of change in American agriculture appears to have accelerated after World War II.

An important point, then, is that these trends, by and large, are the result of improvements in technology and progress in mechanization, and there is no reason to be-

Volume of slaughter beef contracts traded on the Chicago Mercantile Exchange



lieve they have “run their course” or that they can be moderated, except at great cost. The feasible practice for farmers, bankers and public officials, therefore, is to adjust to such changes, not resist them.

The renewed interest that farmers display in exploring more fully the possible benefits to be derived from marketing arrangements in which they contract the sale of future production appears to spring in large part from changes in risks associated with changes in the structure of agriculture and the costs of producing agricultural commodities. With larger farms, increased production per farm, greater specialization of production, higher cash costs of production and increased reliance upon credit as a source of capital, farmers’ *equity* in their products at the time of marketing has declined. Therefore, even a modest change in price has a large effect on net income. To the extent this has occurred, farmers have a greater interest in the possibilities of shifting risk of price declines; if

achieved by contracting commodities for future delivery, this also eliminates possibilities of any windfall gains from price increases.

Historically, farmers have preferred to be in a position to benefit from any increase in price that might occur during the period when crops or livestock were being produced. In general, farmers have been good risk bearers; they have been usually unwilling to pay a substantial

premium in order to avoid risk of price decline or low yield. This preference is demonstrated for yields by the limited, although growing, participation in the all risk yield insurance offered by the Federal Crop Insurance Corporation and for prices by the apparently limited use made by farmers of the markets in grain futures. But this situation may be changing. Price certainty may be increasing in importance relative to price *level*.

Futures, a risk shifter

The experience to date, although limited, suggests that futures markets for cattle and hogs are workable. Their role will be determined largely by the need for a mechanism to shift risk. If farmers find they have greater and greater need to shift risk of price change, some form of arrangement to accomplish this will come into widespread use. It is not necessary that farmers make widespread direct use of futures markets for cattle and hogs in order for such markets to serve their need. Farmers

could contract future production largely with processors who, in turn, would hedge such purchase contracts in futures markets. It is essential, however, that there be broadly based futures markets to accommodate the hedging of the processors. Such markets must have a broad range of speculators to assure consistent and effective performance of the risk-bearing function. Farmers are not excluded from serving as speculators as well as using the markets to establish prices for future production. But the one role should not be confused with the other.

Credit joins management and capital

The perfection and widespread use of futures markets for livestock would appear to make it possible to extend greater amounts of credit to some farmers, feeders and processors. Such customers will have demonstrated ability to perform their usual functions efficiently but may have inadequate capital to make full use of their other resources — largely labor and management. When such farmers, for example, can show firm contracts in the futures markets or with established buyers for the sale of future production at profitable prices, the risk in extending credit to finance the production will be reduced. Such customers, on average, will earn less profit per animal, because of the cost of shifting risk, but they will be less likely to suffer catastrophic loss. Because of the larger volume that can be financed, they may make faster financial progress overall than if they had to carry the risk themselves. Young farmers who are well endowed with labor and management but short on capital may be able to use such markets effectively; also for farmers who are heavily specialized, whether or not large enough to provide a fairly steady flow of livestock to markets.

probably will continue for some years to carry most of the production and price risks himself. But as farms are transferred to new owners and farm debt rises relative to farm assets and as the effects of recent and prospective technological developments percolate further through the agricultural fabric, the necessity and desire to transfer risk may become stronger. In this event, markets in livestock futures would be expected to attract widespread participation.

Interest may strengthen also in other facets of risk transfer and means to avoid risk. Debt can be minimized, for example, by renting or leasing land instead of owning it. The same applies with respect to certain machinery and even buildings and livestock. Farmers' and farm managers' major focus may shift gradually from the now almost universal goal of acquiring ownership of agricultural resources to that of acquiring the *use* of agricultural resources owned largely or entirely by others. The problems of providing credit service to farmers (and to the owners of agricultural resources and the purveyors of specialized services sold to farmers) under these conditions would become increasingly complex.

Risk insurance and credit arrangements of types not yet visualized may be needed and, if so, will certainly be developed. The recent initiation of markets in livestock futures may be a harbinger of trends not yet evident to either farmers, bankers, marketing firms or public officials. The essential service to be provided by credit will continue to be that of helping competent managers to acquire the use of resources needed to enable them to utilize fully their labor and management in producing commodities desired by consumers. Futures markets, contract sale of future production and other arrangements for transferring risk can serve a useful role in achieving efficient production.

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