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PURCHASES OF FARM MACHINERY AND EQUIPMENT were mixed in the fourth quarter. Recent reports from the Farm and Industrial Equipment Institute show unit retail sales of farm tractors with 40 or more horsepower down 12 percent from a year earlier. This sharp decline was partially offset, however, by year-to-year gains of around 5 percent for combines and balers. With the latest surge in interest rates and prospects for a decline in farm earnings, this rather lackluster fourth-quarter performance points to a likely decline in farm machinery and equipment purchases this year.

The fourth-quarter slowing held unit sales of farm tractors with 40 or more horsepower at about 139,000 units last year. That was nominally below the 1978 level but 2 percent above the average for the three years prior. Despite the leveling-off in tractor sales overall, sales of large tractors were very strong last year. Unit sales of four-wheel drive tractors were up 31 percent, while sales of large two-wheel drive tractors with 160 or more horsepower were up 16 percent. Together, these two classes accounted for nearly a sixth of all tractors sold last year. But the rise in large tractor sales was not enough to offset the 4 percent decline in unit sales of all other tractors.

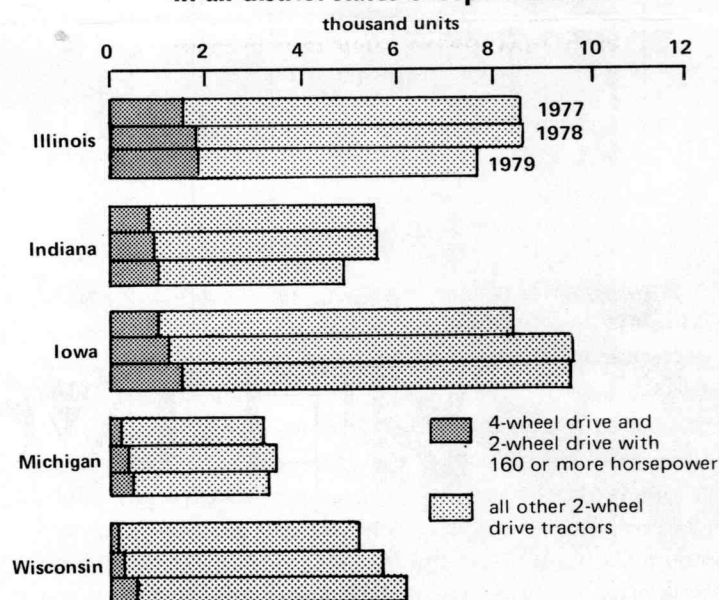
Despite an increase for big tractors, unit sales of all tractors were flat in 1979

| | 1979 sales | | 1979 ending inventory | | |
|--|----------------|-----------------|-----------------------|-----------------|--------------------------|
| | Thousand units | Percent change* | Thousand units | Percent change* | As percent of 1979 sales |
| Two-wheel drive (by horsepower rating) | | | | | |
| 40-59 | 29.7 | - 1.0 | 19.5 | 35.4 | 65.6 |
| 60-79 | 21.6 | 4.2 | 13.2 | 9.5 | 61.0 |
| 80-99 | 13.7 | - 6.3 | 5.2 | -14.1 | 38.1 |
| 100-119 | 15.0 | - 5.6 | 7.5 | 4.1 | 49.8 |
| 120-139 | 25.9 | - 5.6 | 9.3 | -12.3 | 36.0 |
| 140-159 | 11.4 | -14.6 | 4.9 | 0.3 | 42.7 |
| 160 or more | 10.2 | 15.7 | 5.5 | 43.8 | 54.2 |
| Total | 127.5 | - 2.5 | 65.1 | 10.3 | 51.0 |
| Four-wheel drive | 11.5 | 31.0 | 6.1 | 29.1 | 53.2 |
| All farm tractors | 139.0 | - 0.4 | 71.2 | 11.7 | 51.2 |

*From previous year.

SOURCE: Farm and Industrial Equipment Institute.

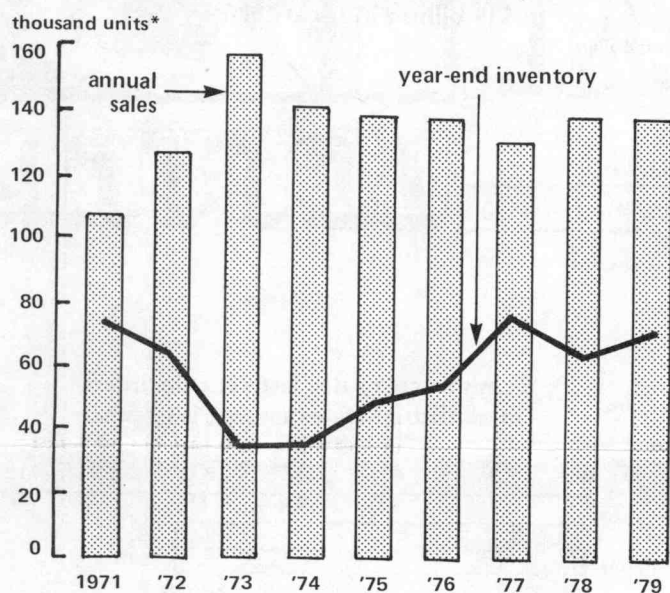
Unit tractor sales last year declined in all district states except Wisconsin



Except for an 11 percent decline for balers (under 200 pound bales), unit sales of several other items rose last year. Combine sales were up more than 2 percent and, at 32,200 units, the largest total since 1976. Unit sales of mower-conditioners and manure spreaders were up 1 to 2 percent, while sales of forage harvestors were up 7 percent.

Farm equipment sales were softer in district states than in other states, although trends varied widely among the five states. Unit sales of combines fell nearly 5 percent in district states, despite noticeable year-to-year gains in Michigan and Wisconsin. Baler sales in the five-state area were down 7 percent. Unit sales of four-wheel drive tractors in the five states slightly exceeded the large gain reported nationwide. But sales of large two-wheel drive tractors with 160 or more horsepower were unchanged, and sales of other two-wheel drive tractors were off 7 percent. District states account for about a fourth of all tractor sales and nearly a third of all combine sales.

Annual unit sales of farm tractors have leveled-off following a big recovery in the early 1970s



*Tractors with 40 or more horsepower.

Inventories of farm tractors at the end of December were 12 percent greater than a year before, but combine inventories were down 9 percent. The year-end inventory of tractors was equivalent to over half of last year's tractor sales and the combine inventory was equivalent to more than a fourth of combine sales in 1979. In some respects, the inventory figures are surprisingly high. Production schedules were interrupted by strikes at two major manufacturers during the latter part of 1979. One strike lasted three weeks. The other has turned into a stalemate that has lasted more than four months. Inventories are likely to be drawn down more than usual in the early months of this year, reflecting the high costs associated with financing inventories, the continuing strike against one manufacturer, and the somewhat pessimistic outlook for sales.

The outlook for farm equipment purchases this year is heavily influenced by such negative factors as the tightness in credit markets and the prospects for a decline in net farm income. The positive elements include the likelihood of larger plantings and perhaps some spillover on spending from the high farm earnings

AGRICULTURAL EXPORTS are expected to increase substantially this year, despite the partial embargo on grain shipments to the Soviet Union. Latest projections from the USDA suggest the value of agricultural exports may reach \$37 billion in the fiscal year ending in September. That is only \$1 billion less than the pre-embargo estimate and nearly a sixth more than the

of the past couple of years. The decision announced last week that there will not be a paid diversion option in this year's feed grain program may have added more credibility to an earlier survey of farmers' planting intentions. That survey, taken before the partial embargo on grain shipments to the Soviet Union, showed farmers intend to boost corn acreage 4 percent this year, while holding soybean acreage at last year's record shattering level. The larger acreage, along with the added income earned by farmers the past couple of years, could add strength to farm machinery demand this year. But these positive elements are likely to be outweighed by the negative factors, resulting perhaps in a significant decline in unit sales.

The latest rise in interest rates was largely unexpected and reinforces earlier concerns about the impact on farmers of the higher cost of borrowing. In a January 1 survey, more than a third of the district agricultural banks indicated that the high interest rates at that time would have a substantial impact on farmers' credit demands to finance machinery and equipment purchases. Nearly half the bankers foresaw a moderate impact, and only a sixth expected a negligible impact. In light of the latest round of interest rate hikes, these views suggest many farmers may elect to postpone major capital expenditures until financing costs are lower.

The reluctance to purchase machinery and equipment at current interest rates could also be reinforced by the expected decline in net farm income. USDA projections point to only a 3 percent increase in cash receipts from farm marketings this year. Moreover, production expenses are expected to rise nearly 12 percent, resulting in a substantial reduction in net farm income from last year's record high.

Although unit sales will likely decline, higher prices and the continuing shift toward larger capacity equipment will hold total expenditures high. Prices paid by farmers for farm machinery and equipment are up 11 percent from a year ago. USDA estimates show capital expenditures for machinery and equipment rose to \$10 billion in 1978. Last year, such expenditures probably rose about 15 percent. Unless unit sales fall off sharply, there may be a further slight increase this year.

record set in fiscal 1979. The prospective increase from a year ago includes estimates of an 11 percent rise in the volume of shipments as well as higher prices for most commodities except soybeans and products.

The volume of fiscal 1980 agricultural exports is expected to exceed 152 million metric tons. That is up from

U.S. agricultural exports to most areas of the world will be larger in fiscal 1980

| | Fiscal year ending September 30 | | |
|-----------------------|---------------------------------|------|-------|
| | 1978 | 1979 | 1980* |
| | (billion dollars) | | |
| Western Europe | 8.7 | 9.7 | 11.0 |
| European Community | 6.7 | 7.4 | 8.1 |
| Eastern Europe | 1.1 | 1.5 | 2.4 |
| Soviet Union | 1.9 | 2.2 | 1.4 |
| Asia | 9.5 | 11.7 | 13.8 |
| West & South Asia | 2.0 | 2.2 | 2.3 |
| Southeast & East Asia | 2.9 | 3.5 | 4.6 |
| Japan | 4.2 | 5.1 | 5.6 |
| China | .4 | .9 | 1.3 |
| Canada | 1.6 | 1.7 | 1.6 |
| Africa | 1.6 | 1.5 | 2.1 |
| Latin American | 2.8 | 3.3 | 4.5 |
| Oceania | .1 | .2 | .2 |
| Total | 27.3 | 32.0 | 37.0 |

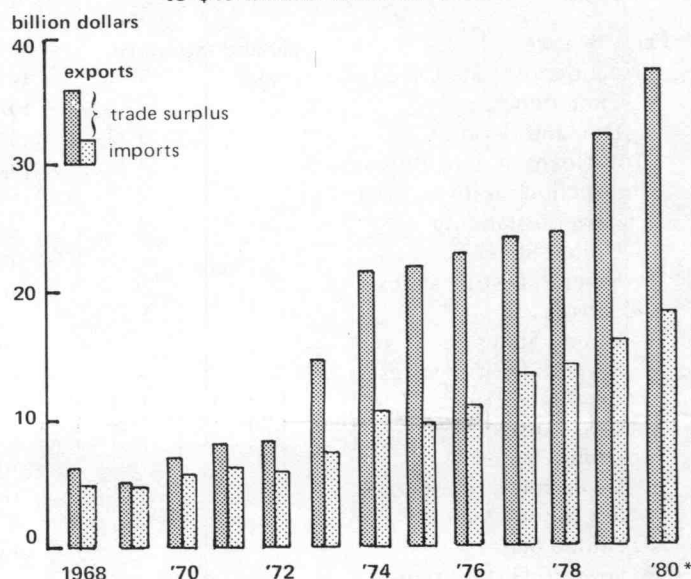
*USDA forecasts.

137.5 million tons the year before and less than 8 million tons below the estimates before the embargo. The embargo stopped shipment of about 18 million tons of grains and soybeans to the Soviet Union. Feed grain shipments, which account for about 43 percent of the total volume, are expected to rise 11 percent in the current fiscal year, while shipments of wheat are expected to rise 12 percent. Shipments of soybeans and soybean products are projected to rise nearly 9 percent. Together, feed grains, wheat, and soybeans and products account for 86 percent of the projected export tonnage.

Much of the projected increase in tonnage has already been achieved. During the last three months of calendar 1979 (the first quarter of fiscal 1980) export shipments were 10 million tons greater than in the same period a year before, accounting for two-thirds of the increase projected for all of fiscal 1980. More current information based on weekly export inspections of grains and soybeans suggest the increased shipments have continued this winter. Corn exports from October through February, for instance, were nearly 45 percent higher than a year before. Wheat exports during that period were up more than a fifth. And soybean exports were up about 7 percent.

Because of the stepped-up pace, corn shipments during the next seven months can lag year-earlier levels by more than a tenth and still achieve the nearly 2.3 billion bushels projected for all of fiscal 1980. Because of a drouth in Argentina, however, some analysts believe corn exports may exceed the USDA's projection. Alternatively, soybean shipments will have to continue to

The increase in exports is expected to boost the agricultural trade surplus to \$19 billion in fiscal 1980



*USDA projection.

hold above year-earlier levels by about 7 percent to reach the increase projected for all of fiscal 1980. This may be hard to achieve if the Brazilian soybean crop this spring is as large as some analysts are now projecting.

The increase in export shipments has been achieved despite the embargo and the longshoremen's refusal to load ships destined for either Iran or the Soviet Union. In some respects, the continuing strong pace in grain exports reflects the new foreign demand that surfaced in response to increased availabilities and the prospects of lower prices following the embargo announcement. And to some extent, it probably reflects more than the expected leakage from world supplies that is cushioning the impact of the embargo on the Soviet Union. Revised USDA estimates, for instance, suggest that total grain imports by the Soviet Union in the 12 months ending in June will be only 6 million tons less than the pre-embargo estimate and still at a record level. The large imports and a draw-down in carryover stocks may allow the Soviet Union to keep grain utilization—net of dockage and waste—equal to the amount used in 1978/79.

Agricultural imports in fiscal 1980 are expected to rise about 11 percent to \$18 billion. A large part of the increase will likely come from coffee and sugar, which together account for over a third of this year's expected import value. A large increase in quantity and sharply higher prices are expected to boost the value of sugar imports nearly 50 percent. Coffee imports are expected to be up a sixth in value, as higher prices offset a slight dip in the volume.

Gary L. Benjamin

Selected agricultural economic developments

| Subject | Unit | Latest period | Value | Percent change from | |
|---------------------------------------|-------------|---------------|--------|---------------------|----------|
| | | | | Prior period | Year ago |
| Farm finance | | | | | |
| Total deposits at agricultural bankst | 1972-73=100 | February | 203 | - 0.4 | + 8 |
| Time deposits | 1972-73=100 | February | 249 | + 1.2 | +11 |
| Demand deposits | 1972-73=100 | February | 126 | - 5.5 | - 3 |
| Total loans at agricultural bankst | 1972-73=100 | February | 256 | - 0.9 | + 9 |
| Production credit associations | | | | | |
| Loans outstanding | | | | | |
| United States | mil. dol. | January | 18,185 | + 0.8 | +22 |
| Seventh District states | mil. dol. | January | 3,802 | + 1.0 | +27 |
| Loans made | | | | | |
| United States | mil. dol. | January | 3,427 | + 5.2 | +27 |
| Seventh District states | mil. dol. | January | 724 | + 6.2 | +35 |
| Federal land banks | | | | | |
| Loans outstanding | | | | | |
| United States | mil. dol. | January | 30,268 | + 1.8 | +21 |
| Seventh District states | mil. dol. | January | 6,886 | + 2.4 | +27 |
| New money loaned | | | | | |
| United States | mil. dol. | January | 782 | +21.9 | +30 |
| Seventh District states | mil. dol. | January | 206 | +45.0 | +62 |
| Interest rates | | | | | |
| Feeder cattle loanst† | percent | 4th Quarter | 12.60 | +12.0 | +29 |
| Farm real estate loanst† | percent | 4th Quarter | 12.22 | + 9.8 | +23 |
| Three-month Treasury bills | percent | 2/21-2/27 | 13.63 | +11.6 | +44 |
| Federal funds rate | percent | 2/21-2/27 | 14.62 | + 8.0 | +45 |
| Government bonds (long-term) | percent | 2/18-2/22 | 12.59 | +14.1 | +39 |
| Agricultural trade | | | | | |
| Agricultural exports | mil. dol. | December | 3,682 | - 2.7 | +34 |
| Agricultural imports | mil. dol. | December | 1,610 | + 5.7 | +18 |
| Farm machinery sales | | | | | |
| Farm tractors | units | December | 9,007 | +61.8 | -17 |
| Combines | units | December | 1,932 | +15.7 | + 8 |
| Balers | units | December | 350 | +30.6 | -18 |

†Member banks in Seventh District having a large proportion of agricultural loans in towns of less than 15,000 population.

††Average of rates reported by District agricultural banks.

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