Federal Reserve Bank of Chicago . . .

Agricultural Letter

February 18, 1977

Number 1418

PURCHASES OF FARM TRACTORS and other major items of equipment declined in 1976 and further declines are expected in the current year. According to the Farm and Industrial Equipment Institute, retail sales of farm tractors slipped to 153,000 units last year, down 5 percent from the year-earlier level and 22 percent under the recent peak in 1973. In addition, unit sales of balers dropped nearly 15 percent, while sales of mower-conditioners and self-propelled combines fell 8 and 2 percent, respectively. Last year's downtrend in purchases of farm machinery and equipment is expected to carry over into the current year, which coupled with increased inventories will likely ease the upward pressures on prices and temper the rise in loan demand for financing new purchases.

The bulk of last year's decline in farm tractor purchases occurred among units of less than 40 horsepower, reflecting the ongoing trend of replacing small tractors with those of a more intermediate size. Purchases of large tractors—those with 140 or more horsepower—fell by a surprising 10 percent. The unexpected decline in large tractor sales may reflect the concerns of grain farmers over low prices and drought conditions and might serve as an omen of possible trends this year.

Farm tractor sales, 1976

	Units sold		Year-end inventory		Inventory-to-sales ratio
Horsepower	Number	Change	Number	Change	
	(thous.)	*(percent)*	*(thous.)*	*(percent)*	*(percent)*
Under 40	15.9	-29.1	10.1	6.7	63.4
40-59	30.2	14.5	16.3	0.9	54.1
60-79	24.3	1.8	10.5	- 0.1	43.4
80-99	11.1	-16.9	4.7	26.8	42.6
100-119	16.6	2.9	5.6	56.5	34.0
120-139	26.5	- 3.1	7.8	56.2	29.4
140-159	13.1	- 9.5	4.2	26.3	31.7
160 or over	15.6*		6.8		43.3
	153.2	- 4.9	66.0	15.5	43.1

*Includes four-wheel drive tractors which account for about two-thirds of the tractors in this class.

Last year's decline in unit sales of farm machinery and equipment resulted in a further buildup of inventories among manufacturers and retailers. Farm tractor inventories rose to 66,000 units at the end of 1976, 15.5 percent above the year-earlier level. The rise in tractor inventories was particularly evident among tractors with 100 to 140 horsepower, although inventories of tractors with 80 to 100 horsepower and tractors with over 140 horsepower also registered large gains. Year-end inventories of balers, windrowers, and mower-conditioners also rose sharply.

Assuming normal manufacturing schedules, the rise in inventories will likely enhance significantly the price-bargaining position of farmers interested in purchasing new equipment this year, particularly among items where inventories are high relative to sales. Overall, the ratio of year-end tractor inventories to annual sales stood at 43 percent at the end of 1976, up from 35 percent the previous year and the 1973 low of 23 percent. The inventory-to-sales ratio of tractors with 160 or more horsepower is particularly high. Although the inventory-to-sales ratios among tractors of 100 to 159 horsepower are notably lower than for other size categories, the current ratios are up from a year ago and are likely high enough to permit farmers reasonably good price bargaining prospects since the inventories represent a substantial idle investment for manufacturers and dealers.

Despite the prospects for the improved bargaining position of farmers, prices of farm machinery and equipment remain under upward pressure, reflecting the trend in costs of labor, steel, energy, and rubber. Indicative of this, monthly increases in wholesale prices of agricultural machinery and equipment have averaged more than 1 percent since October, pushing the index 9 percent above the year-earlier level in January 1977.

The outlook for farmer-purchases of machinery and equipment supports prospects for further declines this year. The consensus view expressed by manufacturers who responded to a recent FIEI survey indicated expectations of about a 1 to 2 percent decline in unit sales of such major items as farm tractors, self-propelled combines, and cornheads. However, considerably larger declines would seem well within the realm of possibilities. The outlook for cash receipts from farm marketings—a major factor in the demand for farm machinery and equipment—is not encouraging at the present time. Cattle prices have not shown the strength previously anticipated and could remain disappointingly low for a few more months. In addition, lower prices for hogs and milk will likely offset the anticipated gains in production and limit cash receipts. In light of the plentiful supplies, improved weather could undercut some of the support in the already low grain prices, further diluting crop farmers' incentives to purchase equipment.

For rural credit institutions the outlook suggests the growth in farmers' borrowings to finance new machinery and equipment purchases will likely be tempered this year. The increased inventories may permit farmers to bargain fairly well against the rising pressures on machinery prices. This coupled with the probable declines in unit sales indicate the total value of such purchases may be little changed from 1976.

Gary L. Benjamin
Agricultural Economist