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China's agricultural reforms

U.S. agricultural exports to the Peoples Republic of China expanded during the 1970s and early 1980s, peaking at more than \$2.2 billion in 1981. This trend led many to believe that China, with its huge population and inefficient agricultural sector, would become a market of almost unlimited potential. However, a significant adjustment in the way the Chinese government administers its agricultural policy took place in 1978, laying the groundwork for an astonishing increase in agricultural production during the 1980s. As this growth progressed, imports were displaced by domestic production and U.S. agricultural trade with China trended down. Moreover, in 1985 China became a net exporter of grains and a major competitor of the United States in Asian markets.

The spectacular growth of output in China's agricultural sector has affected both crop and livestock production. Production of wheat, rice, and coarse grains between 1978 and the record production year of 1984 increased more than 35 percent. The largest gain between 1978 and 1984 was registered in wheat production, up almost 63 percent. While planted area increased 7 percent during the period, most of the increase in wheat output is attributable to a 51 percent increase in yields. Rice and coarse grain output jumped almost 30 percent between 1978 and 1984 as yield increases of 41 and 66 percent, respectively, offset declines in acreage planted. Although output of these crops dropped somewhat in 1985 due to smaller plantings and reduced yields, production remained 26 percent above the 1978 level.

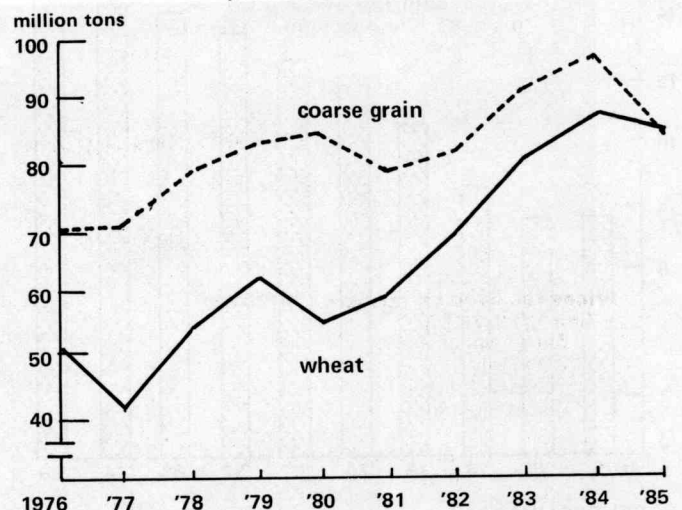
Equally impressive gains have been registered in oilseed and cotton production. Between 1978 and 1984, production of all oilseed crops increased 88 percent as both plantings and yields rose sharply. While soybean output increased 28 percent over this period, production of most other oilseed crops doubled. A major contributor to this increase was cottonseed output, which increased almost 150 percent during the six-year period. Concurrently, cotton output increased by 180 percent, reaching a record 27.9 million bales in 1984.

Output of livestock products in China have registered substantial gains throughout the 1980s, reaching rec-

ord levels in 1985. Meat production grew at an annual compound rate greater than 10 percent, more than doubling during the seven years from 1978 to 1985, as feedgrains became more readily available. While beef production increased almost 50 percent over that period, pork production remains the dominant meat product in China. Pork output more than doubled during the seven years leading up to 1985 and accounted for 94 percent of total meat production last year, a slightly larger proportion of the total than in 1978. Milk production has also risen sharply, but remains quite small at about 2.5 million tons in 1985. Poultry meat and egg production have also grown rapidly in recent years.

The rapid gains in agricultural output in China have been attributed to substantial changes in agricultural policy that were initiated in 1978. One important factor has been the simultaneous decentralization of decision making and the linking of earnings to output. Prior to 1978, agricultural production in China was organized around the commune system. Under that system, acreage and production targets were issued by the central government to the communes, which, in turn, communicated these objectives to large production teams. The farm households that comprised the production teams were paid for their contribution of labor in meeting the production plan.

Trends in wheat and coarse grain production in China



SOURCE: USDA.

With economic decision-making centralized away from the local level and with little incentive for production teams to exceed targets or maximize profits, agricultural production floundered under the commune system. During the 1960s and 1970s, agricultural output grew, but at a sluggish rate, and rural incomes remained depressed. Recognizing the shortcomings of the commune system in stimulating agriculture, China's policy makers moved toward a decentralized and more incentive-oriented system.

The system that has evolved from these changes places major emphasis on the rural household as the primary decision-making unit in agricultural production. Rather than meeting mandatory planting and production targets, farm families contract with cooperatives to raise a particular crop, returning a portion of the output to the cooperative as payment for the use of the land. Production in excess of the contractual amounts is the return to the household which can be consumed or sold in an expanded network of free markets. The new system, by doing away with the goal of self sufficiency for each commune, has spurred greater specialization in production among regions of the country and for rural households. Long-term production contracts have been used to approximate tenure rights to the land, encouraging investment and maintenance of soil fertility. An additional benefit of allowing rural households to make decisions about the allocation of their labor and capital has been the rapid growth of nonfarm rural enterprises.

In addition to this fundamental change in the structure of rural organization, policy makers directed more re-

sources to the agricultural sector. Stocks of large- and medium-size tractors rose 55 percent between 1978 and 1985, while hand tractors jumped 177 percent. Fertilizer output has increased more than 50 percent during the seven-year period. The provision of additional resources along with a concerted effort to improve production techniques for both crops and livestock supported the rapid gains in yields and animal product output.

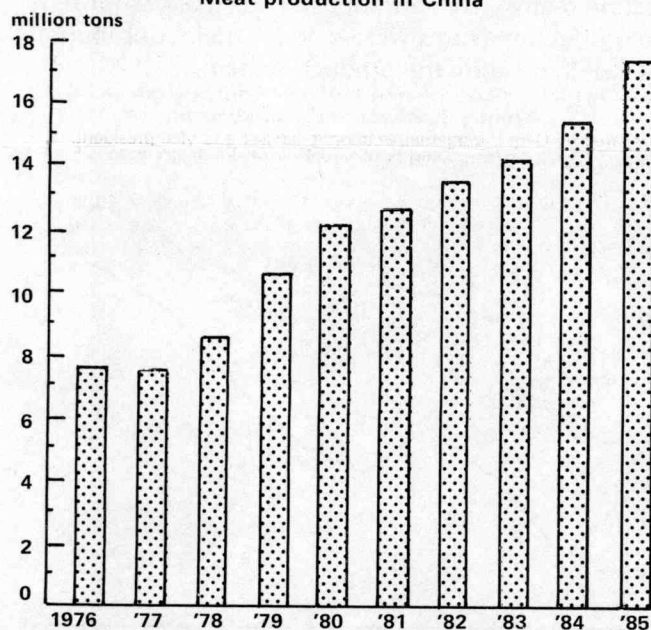
Although decentralizing production decisions to households and providing additional inputs were necessary to the growth in China's agricultural sector, the policy change that allowed this incentive system to take hold was a sharp increase in prices for farm commodities. In 1979, prices for grains, oilseeds, and hogs were raised 20 to 25 percent with additional premiums for above quota deliveries. Further price adjustments have been made in subsequent years and price controls on many commodities have been relaxed recently. As a result, prices for fresh fruits and vegetables and many livestock products, which are traded largely in farm markets, have been tied more closely to supply and demand.

The growth in private markets for agricultural products has been encouraged by the government, in part to stimulate the development of a more efficient marketing system for agricultural products. While the government intends to remain involved in the procurement and distribution of agricultural commodities, there is a move toward a less dominant role to ease the budget pressures that have grown over the last several years. For instance, the government continues to purchase large contracted amounts of grains and cotton at set prices, but production in excess of the quotas will no longer earn a premium and will be steered increasingly into private markets, where price controls have been relaxed.

The move toward greater market orientation requires the modernization of China's distribution and marketing system. A major consideration in this regard is the improvement of the marketing infrastructure. Transportation bottlenecks limit the movement of agricultural commodities from production or surplus areas to deficit areas. Efforts to improve the transportation system center on upgrading and expanding the rural road network and building new rail lines. Inadequate storage capacity has also surfaced as a major problem following the bumper crops of the last several years, resulting in spoilage and losses in a variety of crops. Further investment in the grain-milling and feed industries are also required to keep pace with the large increases in grain and livestock production.

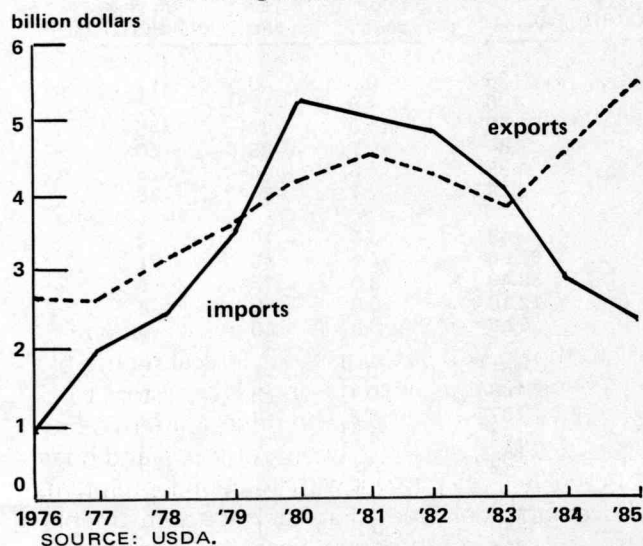
The changes in China's agricultural sector have had a major impact on trade. By stimulating both crop and

Meat production in China



SOURCE: USDA.

China's agriculture trade balance



livestock production simultaneously, the initial effect of the reforms was to reduce China's agricultural trade balance. Although agricultural exports grew by a third between 1978 and 1980, the value of agricultural imports more than doubled during the period. Much of that increase is attributable to larger imports of grain, as China strived to improve food availability and rapidly increase livestock output. The United States was a major beneficiary of this increase in imports, with total U.S. grain shipments rising from 3.3 million metric tons in 1978 to more than 8 million metric tons in the early 1980s.

Following 1980, China's crop production began to catch up with demand and imports started to trend downward. By 1985, the value of China's agricultural imports had fallen below the 1978 level, while exports continued to trend upward. In 1985, the value of China's agricultural exports were 75 percent above the 1978 level, and China became a net exporter of grains. The rapid growth in China's grain production and exports has had a two-fold effect on U.S. agricultural exports. Not only did U.S. grain exports to China slip from a high of 8.5 million metric tons in 1982 to .82 million metric tons last year, but larger exports by China to Asian markets undermined a major market for U.S. agricultural exports.

Although agricultural output in China is expected to continue increasing through the remainder of the decade, growth will likely recede from the very rapid rates that have been recorded since the late 1970s.

Production targets suggest that cotton output will show little growth during the remainder of the 1980s, while increases in oilseed crops will likely slow markedly from the high growth rates of the early 1980s. Total grain production is also expected to grow at a slower rate as continued gains in yields offset an expected decline in acreage. Despite drops from earlier growth rates, livestock production is expected to show substantial gains during the latter half of the 1980s. Growth in total meat output is expected to approach 4 percent per year for the period, while milk and egg production targets imply annual increases of 16 and 10.5 percent.

China's trade intentions point to continued efforts to maintain an agricultural trade surplus as a source of foreign exchange. Long-term trade agreements with the Soviet Union and East European countries for corn and soybean shipments, along with intentions to maintain a position in Asian markets would imply continued competition for U.S. agricultural exports. However, these trade objectives may prove elusive. The ambitious goals for domestic livestock production, if unaltered, could consume an increasing proportion of feed grain output, particularly in years of unfavorable weather, limiting exportable supplies. Moreover, continued declines in U.S. loan rates and world market prices could undermine the foreign exchange earning goal of China's current agricultural trade policy. It appears then that there is some uncertainty regarding China's ability to continue as a major exporter of grain and the possibility, particularly during short crop years, that China could substantially increase grain imports.

Peter J. Heffernan

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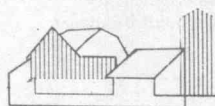
Selected Agricultural Economic Indicators

	Latest period	Value	Percent change from		
			Prior period	Year ago	Two years ago
Prices received by farmers (1977=100)					
Crops (1977=100)	August	125	0.0	3	-13
Corn (\$per bu.)	August	100	-4.8	-12	-30
Oats (\$per bu.)	August	1.70	-15.0	-30	-46
Soybeans (\$per bu.)	August	.84	-6.7	-28	-50
Wheat (\$per bu.)	August	4.88	-4.5	-4	-25
	August	2.19	-2.7	-24	-36
Livestock and products (1977=100)					
Barrows and gilts (\$per cwt.)	August	148	3.5	16	3
Steers and heifers (\$per cwt.)	August	62.80	4.1	45	21
Milk (\$per cwt.)	August	58.40	3.5	13	-5
Eggs (¢per doz.)	August	12.10	0.8	0	-8
	August	62.6	6.8	8	6
Prices paid by farmers (1977=100)					
Production items	July	161	0.0 [†]	-1	-2
Feed	July	145	-0.7 [†]	-3	-6
Feeder livestock	July	107	-5.3 [†]	-7	-22
Fuels and energy	July	154	4.8 [†]	5	3
	July	155	-3.1 [†]	-24	-23
Producer Prices (1967=100)					
Agricultural machinery and equipment	August	288	0.1	-2	-1
Fertilizer materials	August	340	0.2	1	1
Agricultural chemicals	August	204	-2.8	-11	-12
	August	477	0.2	4	6
Consumer prices (1967=100)					
Food	July	328	0.0	2	5
	July	320	0.9	3	6
Production or stocks					
Corn stocks (mil. bu.)	June 1	4,989	N.A.	76	133
Soybean stocks (mil. bu.)	June 1	847	N.A.	39	79
Beef production (bil. lbs.)	July	2.15	6.0	4	11
Pork production (bil. lbs.)	July	1.06	-0.2	-7	2
Milk production (bil. lbs.)††	July	10.5	-2.1	-1	8

N.A. Not applicable

[†]Prior period is three months earlier.

^{††}21 selected states.



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