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How Tightly Has China Embraced Market Reforms in Agriculture?

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- Market-based reforms helped lift Chinese agriculture out of decades of poverty and stagnation, but vestiges of the planned economy remain.
- China's policymakers are experimenting with incremental reforms and market intervention as they encounter agricultural problems.
- Pressure from global markets could push China to go further with reforms or to retreat from global markets.

Market-based reforms during the past three decades placed China's agricultural sector on an upward trajectory after centuries of poverty, stagnation, and cycles of floods, famine, and peasant uprisings. China's communist party came to power in 1949, propelled in part by promises to address rural problems. Central planning, collectivization, and taxation of agriculture, however, only perpetuated rural stagnation and led to a famine that killed tens of millions of people.

Market-based reforms begun in the late 1970s broke up rural communes, restored production decisions to individual farmers, and allowed prices to rise to market-clearing levels. Throughout the 1980s and 1990s, the Chinese

Government loosened its grip on prices and marketing, commodity by commodity. By the late 1990s, nearly all farm produce was sold at free-market prices.

Government food procurement bureaucracies were dismantled and privatized, food prices were liberalized, and urban food rationing was abandoned. China's accession to the World Trade Organization (WTO) in 2001 with some of the world's lowest average agricultural tariffs seemed to cement China's commitment to market-based agriculture.

The results of the reforms provide some of the most compelling evidence of the power of market incentives. The Chinese agricultural sector increased production of nearly every

commodity, while releasing millions of laborers that fueled growth in nonfarm sectors. China's farms increased output of staple grains while stepping up production of fruit, vegetables, livestock, and aquaculture products demanded by the growing economy. China also became a major supplier of food to neighboring Asian countries, North America, and Europe. By the late 1990s, China was a net exporter of food, and officials were devising plans to dispose of a large grain surplus.

During the first decade of the 21st century, however, this rapid growth began to place serious strains on agriculture, and rural China became the focus of problems, reversing its 1980s role as the vanguard of reform and growth (see



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"Who Will China Feed?" in the June 2008 issue of *Amber Waves*). Low rural incomes, threats to food security, water scarcity, and environmental and food safety problems became top policy issues.

China's Agriculture Still Burdened by Legacies From the Past

Many of the problems Chinese authorities confront in 21st-century rural China can be traced to bottlenecks in rural resource allocation that were set up in the 1950s to maintain control over a dual rural-urban economy (see box, "China's Rural Population Legacy").

- Agricultural land is still under a collective ownership system with vaguely

defined property ownership rights that discourage long-term investments, prevent farmers from selling their land or using it to secure a mortgage loan, and give rise to conflicts over land grabs by local officials.

- Water is owned by the state, and water prices are fixed by economic planners. As a result, farmers have little incentive to conserve water and have honeycombed water-scarce northern China with ever-deeper wells to tap a falling water table.
- Rural lending to farmers is monopolized by a system of rural credit cooperatives

set up in the 1950s to finance collective farms. Controls on interest rates destroyed incentives to lend to small farmers in the 1990s, commercial banks retreated from rural areas, and farmers now rely on loans from relatives or underground lenders.

- A national rural-urban household registration system, also set up in the 1950s to keep farmers from pouring into cities, is no longer rigorously enforced, but migrants not legally registered in a city are denied many urban social services and remain tied to their home villages.

The collective landownership system, while problematic in many respects, does help preserve short-term social stability. The system maintains an egalitarian distribution of land within villages and guarantees that most rural people have a minimum degree of economic security. When factories began closing in late 2008, millions of unemployed migrant workers returned to their farms instead of lingering in cities. Unclear land ownership, however, and lack of land markets impedes long-term investment and slows other needed adjustments in the farm sector.

China's small-farm sector has proven flexible and responsive in supplying generic commodities, but it cannot easily supply large volumes of uniform product, provide food safety assurances, or ensure product traceability. Frequent food safety incidents highlight the difficulty of certifying and monitoring products in a food sector where modern supermarket chains and food manufacturers operated by large corporations procure raw materials from small-scale, semi-subsistence farmers and village middlemen.

Officials preserved other vestiges of the planned economy as levers to intervene in markets. The Government has dismantled much of its inefficient commodity procurement bureaucracy, but it has retained an extensive network of grain, cotton, edible oil, and pork reserves. In 2006, the amount of grain procured by State-owned enterprises was at a historic high. In 2008-09, the Government became the dominant purchaser of grain and soybeans as it sought to support domestic prices by purchasing commodities



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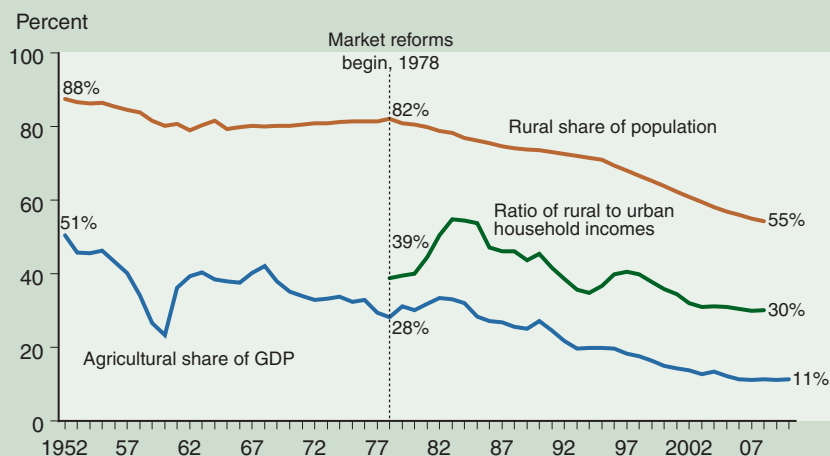
China's Rural Population Legacy

China was an agricultural country at the founding of the Peoples' Republic in 1949. Nearly 90 percent of the people lived in rural areas, and half of Gross Domestic Product (GDP) came from agriculture in the early 1950s. The agricultural share of GDP declined to under 30 percent during the central planning period as economic planners promoted State-owned heavy industry. But the rural share of population remained over 80 percent until the 1970s. A rural-urban household registration policy prevented most rural people from moving to cities, and collective landownership tied farm families to their land. Following economic reforms in the 1970s, both the agricultural share of GDP and the rural share of population declined as urban economic growth outpaced rural growth.

China's large rural population with low productivity and low earnings is a legacy of policies that prevented rural-urban migration in earlier decades. In 2007, roughly half the country's population still lived in rural areas. Most rural people are engaged in agriculture, a sector that produced only 11 percent of GDP in 2007. According to China's 2006 agricultural census, the rural population was 746 million, including 342 million people engaged in agriculture on cropland totaling about 300 million acres.

After improving during the early 1980s, rural income in China generally fell behind rapidly growing income in cities. By 2007, the average rural income was about 30 percent of the urban average. Officials, acutely aware of China's history of rural-based rebellions, put top priority on raising farm income, modernizing agriculture, and restoring eroded rural social services under the rubric of "building a new socialist countryside" enshrined in the Government's 2006-10 5-year plan.

Agriculture's share of the Chinese economy fell faster than the rural share of population



Note: Household income data not available before 1978.
Source: USDA, Economic Research Service calculations based on China's National Bureau of Statistics data.

for reserves while global prices were falling. The Government's expanding role in grain purchases is at odds with the widespread privatization and development of markets across the agricultural economy.

China's officials have been slow to promote the free flow of information that is important to a well-functioning market economy. The size of commodity reserves is kept secret, obscuring assessments of China's



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supply and demand situation. As global food prices soared in 2007-08, few analysts were aware that China held large Government grain reserves. A March 2008 article from China's State Council revealed that reserves had grown for 5 years in a row.

Other information important to efficient functioning of markets—statistical survey results and methodologies, details of food and environmental testing, and incidents of food adulteration and pollution—are also kept secret. In 2008, news reports revealed that company and Government officials knew of the link between infant kidney failure and melamine adulteration of infant formula for several months before it was revealed to the public.

Cautious Agricultural Policy Experimentation

As China's policymakers confront problems in agriculture, they are cautiously experimenting with a wide variety of measures designed to reshape the agricultural sector while preserving the land tenure, financial, and water management institutions that are at its heart. Officials acknowledge that reforms are needed, but the steps they have taken are tentative and cautious. Chinese policymakers are strengthening farmers' rights to use, rent, and subcontract their land, but without privatizing it.

In recent years, large farms created by consolidating small plots have started to

appear, and some villages have complex cooperative or share-holding arrangements for pooling and subcontracting land. But in most of China, the small-farm structure and the inefficiencies it entails are firmly entrenched. Officials are experimenting with pilot projects that expand the number of rural lenders and allow more flexibility in setting interest rates, but farmers have few assets to secure loans. A recent national survey indicated that less than 9 percent of China's farmers had loans.

Given the rigidities imposed by land tenure and related institutions, Chinese officials are experimenting with dozens of schemes, industry plans, and subsidies intended to engineer farm sector changes that will bring small-scale farms into the economic mainstream. Elaborate village-wide credit evaluations, joint-borrowing, and loan guarantee schemes have been implemented to boost rural micro-loans, which usually total less than \$1,000 each. A few villages are testing complex arrangements that permit farmers to put up their land-use rights as loan collateral. Timber rights, fruit orchards, and marketing contracts for farm produce can now be used as mortgage collateral in some regions. The Ministry of Agriculture formulated a plan to set up 40,000 "animal husbandry zones"—centralized locations in villages where farmers keep their livestock. "Industrialized agriculture" strategies aim to mimic large-scale agriculture by banding small

farms together into geographic "production bases" that supply raw materials to a company chosen as a "dragon head" enterprise. Food safety strategies adopted in recent years are based on the industrialized agriculture model and heavy involvement by nearly a dozen Government agencies. A new campaign is encouraging farmers to form cooperatives. Nearly all food safety certification and laboratory testing is performed by Government organizations, with few details revealed to the public.

Pushing Against Market Forces

Market forces tend to push agricultural resources away from grains, which bring low profits in land-scarce China, and pull them into labor-intensive activities that utilize China's abundant labor more efficiently. Chinese Government reports celebrate the higher farm incomes that result from rising production of labor-intensive commodities brought about by market forces. But officials, wary of reliance on food imports, express alarm over the potential decline in grain production resulting from those same market forces. They use various subsidy and price policies that marginally increase short-run farm income, but their broad impact is to keep farmers locked into low-income grain production.

China's officials actively intervene in grain markets to ensure food security (see box, "Grain Market Intervention Cycles"). Traditional staple grains, especially rice, wheat, and corn, are viewed as strategic commodities that must be supplied domestically to maintain food security. Planners have decreed that no more than 5 percent of grain consumed can be imported. They have set a minimum threshold for Government grain reserves at 25 percent of consumption and decreed that cultivated land area cannot fall below a "red line" of 120 million hectares.

In 2004, Chinese authorities introduced subsidy payments to farmers and

Grain Market Intervention Cycles

China's grain market follows up-and-down cycles that reflect policymakers' interventions. A 2007 report by a task force of Chinese grain officials, *Research and Policy Recommendations on Controlling Grain Security Reserves*, provides a rare glimpse of the country's grain policies and trends in grain reserves. Chinese officials watch reserves carefully as an indicator of "food security."

China's Government-managed grain reserves were below the Government's threshold when reforms began. Officials raised grain procurement prices and imposed minimum grain-sale quotas on farmers to increase supply. By 1984, some regions began to experience grain surpluses for the first time. Buying stations flush with grain began to turn away farmers offering grain for sale at the government price.

Soon, China's grain market established an up-and-down cyclical pattern of aggressive policy inducements followed by grain surpluses, relaxed policies, and falling prices that lead to new shortfalls in production, followed by another round of aggressive grain policies. The cycle is evident in the historical trend in grain reserves and prices.

In 1993, as the grain market was liberalized and the economy heated up, officials were alarmed when grain reserves fell to 23 percent of consumption. The Government doubled grain procurement prices during 1994-96, imported grain, and instituted a "Governor's Grain Bag Responsibility" system that required each province to ensure adequate grain supplies. The result was a massive glut of grain. Grain reserves shot up to 62 percent of consumption in 1999, overwhelming grain warehouses. Prices plummeted, production fell, and imports ceased. China subsidized grain exports and industrial uses to liquidate 164 million metric tons of grain between 2000 and 2005.

In 2003/04, officials were again alarmed when grain production slipped to 431 million metric tons and prices began increasing rapidly. Subsidy payments, protection prices, mechanization policies, and other inducements helped boost grain to a record 528 million metric tons by 2008. According to an article produced by China's State Council in 2008, grain reserves averaged 35 percent of consumption. By late 2008, China had another glut of grain, and the Government increased its purchases of grain to prevent prices from falling.

price controls that insulate farmers from supply and demand signals. With the goal of preserving grain self-sufficiency and raising farm incomes, China's Government supports prices by procuring rice, cotton, corn, soybeans, rapeseed, sugar, and rubber for State reserves at minimum "protection prices."

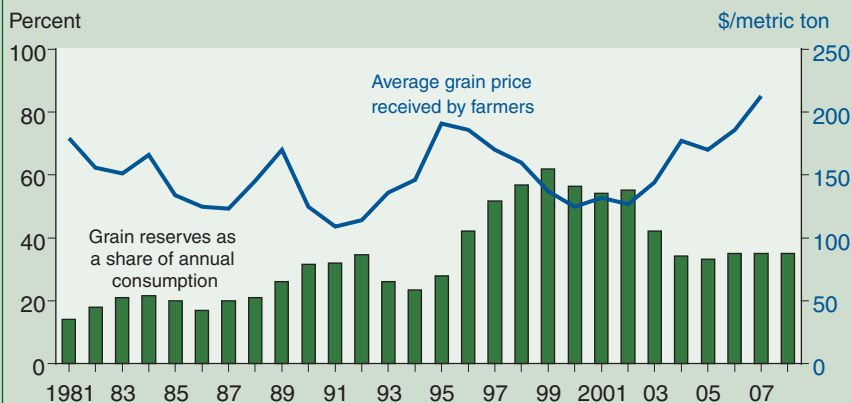
A document on price policies issued in 2008 announced a new approach to "price formation," which intends to utilize protection prices to guarantee that grain prices will rise year after year and always exceed production costs. During the spike in world food prices in 2008, Chinese authorities also sought to limit price increases by introducing temporary retail price controls, shutting down grain exports, auctioning grain reserves in the domestic market, and importing pork and vegetable oils.

In 2004, direct payments to grain farmers were less than \$2 billion. Subsidies grew to over \$17.5 billion in 2009. The scope of subsidies has widened to include payments for farm input costs, machinery purchases, and subsidies for dairy breeding cattle and breeding sows. A phaseout of a centuries-old agricultural tax in 2004-06 supported net farm incomes but eroded the rural tax base, necessitating financial transfers from the central government to local governments in grain-producing counties.

Pressure From Global Markets

China's commitment to market forces is tied to its increased involvement in global markets. Authorities are generally supportive of global trade, but they retain some wariness of open borders, and recent policies have sought to insulate China from global market fluctuations. Agricultural exports are hailed as a means of creating jobs and income for farmers, but policymakers have embraced imports of land-intensive commodities only selectively. Imports of soybeans,

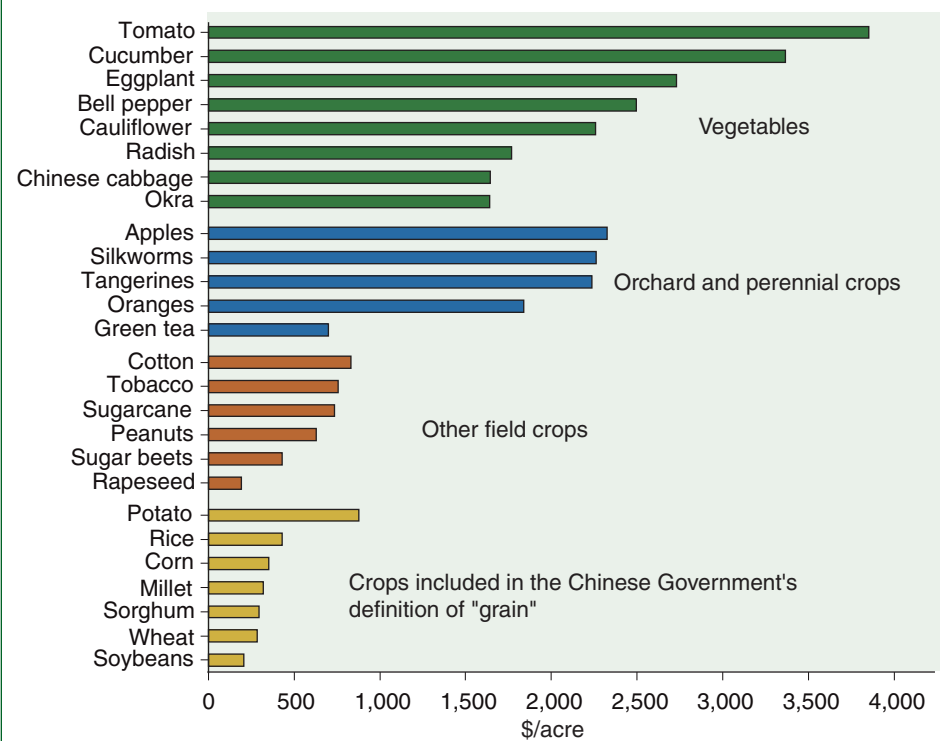
China's grain reserves and prices have fluctuated since 1981



Note: Government reserves include mainly rice, wheat, and corn, and do not include onfarm or privately held inventories. Average price for rice, wheat, and corn received by farmers reported by production cost surveys was converted to dollars at the official exchange rate. Source: USDA, Economic Research Service analysis of data from China Grain Industry Association and China National Development and Reform Commission.

China's farmers receive relatively low returns from grain

Net cash returns per acre, 2006



Source: USDA, Economic Research Service analysis of data from China National Development and Reform Commission.

cotton, animal hides, rubber, and vegetable oils have boomed, but policymakers regularly express concerns about becoming too reliant on imports. A 2008 "food security" document reiterated intentions to limit grain imports to no more than 5 percent of the country's consumption by 2020. The Ministry of Agriculture released a series of revised strategic plans to meet domestic demand and expand exports for 16 commodities, including major grains and livestock, soybeans, rapeseed, cotton, sugar, apples, citrus, and exported aquaculture products over 2008-15.

China's agricultural exports have slowed in recent years due to rising food safety concerns, tighter enforcement of environmental regulations, rising labor costs, cancellation of value-added tax rebates for exports, and appreciation of the Chinese currency. China's food exports to Japan—its

largest market—fell during 2008. Food safety problems are increasing the pressure to reform agricultural production and marketing institutions, but the export slowdown may also temper the enthusiasm of China's officials for free trade.

China's policymakers face a stiff challenge in the 21st century as they promote farm income growth in an open economy. This challenge was highlighted in late 2008 when global commodity prices fell below domestic Chinese prices. Chinese policymakers, intent on supporting prices, purchased large quantities of corn, cotton, wheat, rice, and soybeans at set prices. They also announced higher wheat and rice support prices for 2009. By the end of 2008, commercial sales of domestic soybeans in Heilongjiang Province were at a standstill because the price of imported soybeans was well below the domestic support price. At the time, there were

strong sentiments in the Chinese soybean industry to raise soybean tariffs, but this was not an option since China's commitment as a WTO member bound its soybean tariff at 3 percent.

Situations like the 2008 soybean incident and the slowdown in food exports may be a foreshadowing of a crossroad China's policymakers are approaching. Pressure from the global market could induce authorities to go further in reforming agricultural institutions to improve international competitiveness. Alternatively, global market pressures could induce China to turn inward again by adopting protectionist measures that shield farmers and preserve the current system. *W*

This article is drawn from . . .

- China's Ongoing Agricultural Modernization: Challenges Remain After 30 Years of Reform*, by Bryan Lohmar, Fred Gale, Francis Tuan, and Jim Hansen, EIB-51, USDA, Economic Research Service, April 2009, available at: www.ers.usda.gov/publications/eib51/
- China's New Farm Subsidies*, by Fred Gale, Bryan Lohmar, and Francis Tuan, WRS-0501, USDA, Economic Research Service, February 2005, available at: www.ers.usda.gov/publications/wrs0501/
- China Currency Appreciation Could Boost U.S. Agricultural Exports*, by Fred Gale and Francis Tuan, WRS-0703, USDA, Economic Research Service, August 2007, available at: www.ers.usda.gov/publications/wrs0703/

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