

# China, Agriculture and the World Trade Organization



## Main findings

WTO accession has the potential to strongly benefit China, particularly the manufacturing sector. Agriculture is a far more import sensitive sector, however, and accession will likely result in major upheaval for rural residents. Without complementary domestic policy changes, increased agricultural imports will reduce both the demand and wages for farm labor. Despite assurances of China's Ministry of Agriculture about maintaining grain production, accession will cause many of those who remain in the agricultural sector to switch production to those products in which China has a comparative advantage (such as horticulture and meats for export). Domestic policy initiatives are crucial for the environmental health of rural China in both land tenure and incentives toward organic agriculture and away from dependence on chemical farm inputs. Most importantly, the government will have to invest in China's rural areas, especially in the poorer western regions. This investment imperative is not only for economic equality—to mitigate the growing gap between China's haves and have-nots—but also for the sake of social stability, so that as China continues on its path, each worker can share in the prosperity to come.

## Introduction

Three decades ago, agriculture contributed to 50 percent of China's Gross Domestic Product and employed 81 percent of the labor force. Now, despite having been reduced to around 14 percent of GDP, agriculture still employs 50 percent of the labor market. By joining the World Trade Organization (WTO), China is forced to open markets to foreign agriculture trading companies. The government must plan for what will happen to these farmers and farm workers if they are displaced by agricultural imports. China has been astonishingly self-sufficient in grain up to now. But with lower tariffs, increasing demand for higher food quality and a more varied

diet, China may begin to import grain in large quantities, particularly to feed livestock.

The changes taking place in rural China and Chinese agriculture are extraordinarily complex. The first section of this paper surveys Chinese agricultural trends since WTO accession, while using general supply and demand theories to identify winners and losers in potential future scenarios. The second section details the WTO commitments China has agreed to, and which of these are common to WTO members and which are specific to China. The third section examines how other WTO members assess China's compliance with its commitments. Finally, this paper will examine how China's domestic policy might complement the changes brought by accession, and, along with accession, influence the economic, environmental and social make-up of rural China.

## Chinese agricultural trade: Current trends and data

Agriculture as a percentage of internationally traded Chinese goods has dropped from 10.1 percent in 1995 to 5.1 percent in 2003 (WTO International Trade Statistics, 2004). Nonetheless, China is the fifth largest exporter and fourth largest importer of agricultural products in the world, and in purchasing power parity, the second largest economy worldwide (CIA Factbook, 2005). In fact, within two years of joining the World Trade Organization (WTO), Chinese imports of soybeans contributed to a rise in the world market price, confirming the power of the Chinese market to affect worldwide supply and demand (WTO International Trade Statistics, 2004). The potential of China's growing economy and the changing Chinese diet have not escaped exporters of agricultural products, and agricultural negotiations have been an important element of China's entry to the WTO. This section will provide an overview on current trade, including major products and partners, and introduce China's specific accession commitments

before discussing Chinese agricultural market trends since WTO accession.

### Trade facts and figures

Of China's \$7.262 trillion GDP (2004 est.) 13.8 per cent can be attributed to agriculture, of which, the major products identified are rice, wheat, potatoes, corn, peanuts, tea, millet, barley, apples, cotton, oilseed, pork, fish (CIA Factbook, 2005). Net exports add considerably to China's total GDP, but in agriculture, there is a net deficit of \$8.3 billion (WTO ITS, 2004). This number varies depending upon the source. For example, in the Outlook Report "Chinese Exports Outpaced Imports in WTO Year One" the Economic Research Service (ERS) of the United States Department of Agriculture (USDA), finds 2002 agricultural exports at \$13 billion, greater than the \$10.8 billion 2002 agricultural imports (Gale and Hansen, 2003). However, these totals exclude forestry, fish and textile products. Using WTO data, a consistently growing agricultural trade deficit is apparent (see Table 1).

Table 1. Chinese exports and imports of agricultural products (in billions USD)

	1990	1995	2001	2002	2003
<b>Exports</b>	\$10.10	\$15	\$16.60	\$18.80	\$22.20
<b>Import</b>	\$7.90	\$16.10	\$20.10	\$22	\$30.50

WTO, International Trade Statistics, 2004

Table 2: Top Chinese ag import products (2003)

Major imports	Value millions USD	Volume 1,000 tons
Soybeans	5,417.50	20,744
Palm oil	1,445.80	3,326
Natural rubber	1,154.80	1,203
Raw cotton	1,162.80	870
Soybean oil	1,016.20	1,885
Poultry meat, offal	644	461.8
Pork	149	90.6

ERS, USDA website, 2004

Table 3: Top Chinese Ag Export Products (2003)

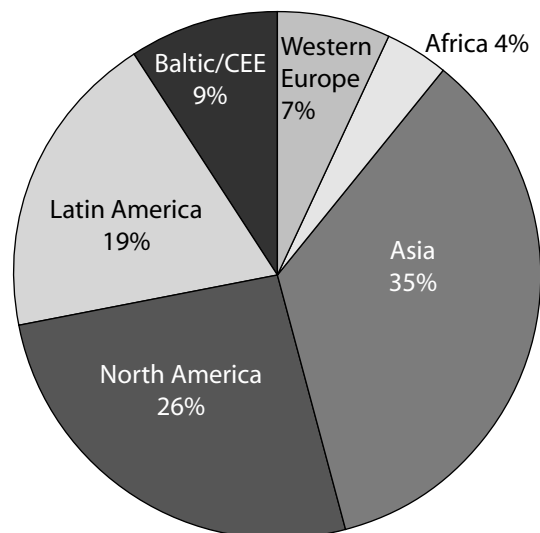
Major exports	Value millions USD	Volume 1,000 metric tons
<b>Preserved food*</b>	2,168.80	-
<b>Vegetables</b>	2,119.70	4,848
<b>Corn</b>	1,766.60	16,389
<b>Fruit and nuts</b>	751.6	1,630
<b>Poultry meat, offal</b>	319.5	276
<b>Pork</b>	269.3	214
<b>Live swine</b>	216.3	**1,887
<b>Live poultry</b>	67.4	**39,083

\*Preserved food is generally defined as salted, dried, frequently pickled or candied, and canned food.

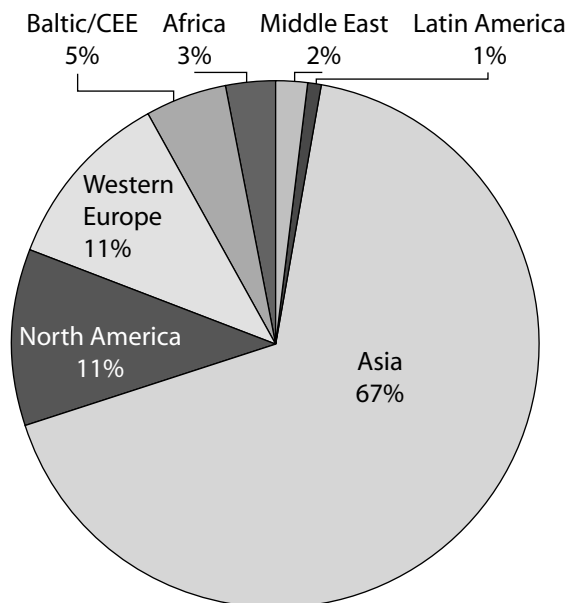
\*\*Counted as head

Source: ERS, USDA website, 2004

As shown in Table 1, both imports and exports have increased over the last two decades, but the windfall has been enjoyed more by some trading partners than others. For example, though the vast majority of China's agricultural trade is concentrated in Asia, North American trading partners have been gaining ground, with U.S. exports to China increasing by 71 percent from 2002 to 2003 (WTO ITS, 2004). This is due in large part to the doubling of soybean exports from 11.3 to 20.7 million metric tons (mmt) (see Table 2).



WTO, International Trade Statistics, 2004



WTO, *International Trade Statistics, 2004*

### WTO commitments

By entering the WTO, China has agreed to limit both tariff and non-tariff measures. As for all WTO members, this commitment will be implemented through Tariff Rate Quotas (TRQs) whereupon predetermined levels of sensitive commodities are admitted to China with minimum tariffs, the average tariff for China's agricultural imports are from around 22 percent to 17.5 percent (Washington Council on International Trade (WCIT), 2005). Any import volumes over the quota are subject to much higher tariffs, but because initial volume quotas were set high, a spike in over quota tariff rates is not expected to happen soon. Cotton is the major exception: the TRQ volume is set at only 0.89 million metric tons (mmt), and 2004 imports reached 1.9 million tons. Cotton imports over the allotted .89 mmt are subject to tariffs of up to 40 percent (WCIT, 2005).

As for non-tariff measures, China has pledged to do away with all export subsidies and to cap domestic support at 8.5 percent of the total value of national agricultural production. This domestic support commitment falls between the 5 percent allowed developed countries and the 10 percent de minimus allowed for developing countries, and is a concession to China's economy-in-transition status (Crook, 2002).<sup>1</sup>

Also, upon joining the WTO, China agreed to ensure that its food, animal health and plant health measures conformed to the WTO Agreement on the Application of Sanitary and Phytosanitary Measures (the SPS

Agreement), which requires that any health-related restrictions on imports be based on international SPS standards or be otherwise scientifically justified (WCIT, 2005). Though the SPS measures are intended to protect domestic consumers from dangerous foreign products, WTO SPS rules have significant implications for Chinese exports as well, particularly of pesticide-laden vegetables and animals and meat produced with non-therapeutic use of antibiotics in animal feed. In addition, Chinese exports of live poultry are falling, possibly as a result of international concern over avian flu. Exports were 19 million head in 2004, roughly half of the 39 million in 2003 (UN FAOSTAT Database, 2005).

Finally, China was subject to somewhat unconventional agreements on anti-dumping and countervailing duties. For agriculture, these provisions are intended to make it easier for both China and other countries to bring cases against each other for dumping. Such cases will be easier to prove, and countries will have greater leniency in creating policies to level the playing field (Huang and Rozelle, 2002). The special measures are a result of China's non-market economy, and are expected to last 15 years (Huang and Rozelle, 2002).

Table 4: Comparison of import tariffs on major agricultural products

Product	2001 rate (%)	2004 rate (%)
Barley	114	3
Soybeans	3	3
Citrus	40	12
Beef	45	12
Pork	20	12
Poultry	20	10
Wine	65	14
Tobacco	34	10

Table 5: Allocation of tariff rate quotas to state-owned enterprises (as opposed to private enterprises)

Product	2004 quota (mmt)	Allocation to STEs 2004	Allocation to STEs 2002
Corn	7.2	60	68
Rice	5.4	50	50
Wheat	9.6	90	90
Sugar	1.9	70	70
Cotton	0.89	33	33
Wool	0.29	0	0
Palm oil	2.7	18	34
Canola oil	1.1	18	34
Soybean oil	3.1	18	34

Sources: National Development and Reform Commission, Ministry of Commerce

### Trends

Through the 1990s China's trade policy was influenced by food security concerns and a desire to support domestic soy crushing and textile industries. In 1994-95, maize exports were discontinued and imports of other grains increased, resulting in worldwide price increases (ERS website, 2005). This domestic policy combined with good weather to create a grain surplus and in the following years imports fell sharply. Between 1996-97 and 1997-98 cotton imports increased sharply, from 53 to 884 thousand tons (ERS website, 2005). In mid-2000, a previous policy was revised, putting restrictions on vegetable oil imports and relaxing restrictions on whole soybean imports in an effort to augment the domestic oilseed crushing industry (ERS website, 2005). In joining the WTO, China has agreed to shift TRQ allocations from state-owned enterprises to private firms while allowing foreign firms greater market access (see Table 5). These changes are expected to reduce the frequency of such drastic policy shifts, making China's agricultural trade policy somewhat less volatile and more predictable for trading partners. How this privatization will play out in practice remains to be seen.

Recent years have seen China importing more cotton and soybeans, and exporting vegetables, meat and fruits (see Tables 2 and 3). With only 15 percent of China

considered arable land, these trends follow China's comparative advantage of labor-intensive products (CIA Factbook, 2005). Indeed, a review of agricultural trade in light of factor-intensity (i.e. crops with more land input versus crops with more labor input) reveals an upward trend of trade in labor-intensive products and decrease in land-intensive crop trade (Huang and Rozelle, 2002). For example, after a poor 2003 harvest, Chinese imports of cotton went from \$308 million in 2002 to \$3.4 billion in 2004 (Gale, 2005). As the domestic cotton supply is tight, these imports help fuel the labor-intensive, and export oriented, textile industry.

China has maintained high GDP growth for two decades. "For China, as for the rest of Asia, the strong growth in consumption was associated with an adequate growth of real wages" (Flassbeck, Dullien and Geiger, 2005). Coupled with rapid urbanization, this growth has helped to shift the Chinese diet from rice and other staples to meat, fruits and fish (ERS, 2005). From the early 1980s to the late 1990s, grain production growth diminished from 4.7 percent to only 0.03 percent per annum, and grain consumption in urban areas decreased from 130 kg per head in 1990 to less than 80 kg per head in 2003 (ERS, 2005). In the same period, annual growth rates of red meat, fruit and fish production have all remained over 6.5 percent (Huang and Rozelle, 2002). The corresponding changes in trade are due in part to these changes in diet and production (Huang and Rozelle, 2002). However, while the consumption of fish, eggs, poultry, meat, oils and fats are increasing, the rates of increase in urban areas far outpace those of rural areas, and annual per capita grain consumption was three times higher in rural areas, a telltale sign of continued dependence on grains (ERS, 2005) and relative poverty.

A common speculation over China's WTO accession was that it would become a net importer of grains (OECD, 2001). This would logically follow a switch from land- to labor-intensive food production. However, China is one of the world's largest producers of wheat, and has wheat stocks of between 32 and 45 million tons (Crook, 2002). These stocks were estimated to be much higher just before 2000, when policy was directed at increasing production, despite falling consumption. When stock-holding costs to the government became too burdensome, however, large portions of the low-quality wheat were auctioned off, mostly as poultry and livestock feedstuffs (Morgan,

2004). In the period when reserves were used as feed-stuffs, wheat imports were minimal, fluctuating around 1.7 million tons from 2001-2003 (FAOSTAT, 2005). In an effort to replenish stocks, wheat imports climbed to 7 million tons in 2004, or 7 percent of domestic production (Gale, 2005). With state-owned enterprises holding 90 percent of the wheat TRQs, most of the imports were put into reserves rather than sold on the domestic market (Gale, 2005).

Some experts, such as Scott Rozelle of the University of California, project an increase in maize imports, up to 30 million tons in 2020 (Blythe, 1999). However, maize has thus far surpassed wheat as a Chinese export product. Maize imports hit a high of 36,000 metric tons in 2001, but have since remained around 10,000 tons, while exports increased from 6 million tons in 2001 to 16.4 million tons in 2003 before falling again to 2.3 million tons in 2004 (FAOSTAT, 2005). The USDA reports that part of China's push to keep corn exports high was to reduce stocks, which, in 2002, were 40 million tons in the Jilin province alone (Gale, 2002).

Logistical issues and transportation infrastructure are factors in what might appear to be contradictory export/import trading patterns. Ninety percent of China's maize production takes place in four northeastern provinces, and major consumption areas are found in the south, along the coast (Gale, 2002). Al Mussel, agricultural economist at the George Morris Centre, has clarified that China is often simultaneously importing and exporting products, due to inadequate transportation between regions (White, 2003). Indeed, despite a government waiver on rail tax for corn shipments, most maize is transported by ship. As meat becomes a more significant part of the Chinese diet, maize producers may sell more of the feedgrain domestically, or could reduce corn production in favor of meat production, but when or whether this will translate into net maize imports remains to be seen.

## Notes

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## Implications of WTO accession for rural China

There is already a large income gap between urban workers and poorer rural workers in China. Increased competition from foreign goods and services could lead to further unemployment and downward pressure on farm wages, inducing the rural poor to migrate to cities. Not only will these migrants increase the available labor pool and put downward pressure on urban wages: increased urbanization is also likely to strain the food distribution system. Currently malnutrition is less frequent in rural areas than in urban areas. However China's citizen registration system also leaves many migrant workers ineligible for social safety net benefits when they move to the city (Rosenthal, 2001). Following China's accession to the WTO, the fate of its rural inhabitants, farmers and otherwise, depends largely on how the agriculture economy develops.

### Food security

One fear accompanying WTO accession is that with increased dependence on grain imports, trade liberalization puts Chinese food security at risk. Grain consumption as a percentage of the Chinese diet is decreasing, giving way to increased consumption of vegetables and meats (ERS, 2005). Nonetheless, China's population is expected to reach 1.5 billion by 2020, a number that requires a continuous supply of grains (Ministry of Agriculture, 2004). The Chinese government has not overlooked this situation: it has pledged to maintain or increase rice production, and state-owned enterprises maintain control over 90 percent of the Tariff Rate Quota (TRQ) allocation of wheat imports. Also, while increased diversification in diet is considered healthy, increased urbanization often leads to dietary convergence and dietary adaptation— in other words, diets around the world are beginning to look similar, and households rely more on meals from outside the home and processed foods (FAO, SOFI, 2004). Still, the most likely source of food insecurity for China will come from too many unemployed rural workers moving to cities and straining the food distribution system, rather than from insufficient grain production and reserves.

The Chinese Ministry of Agriculture says domestic supplies of rice, corn and wheat are adequate, with only soybeans required as a major import (Ministry of Agriculture,

2004). In addition, researchers recently announced that the Northeastern provinces of Heilongjiang, Jilin and Liaoning have untapped growing potential for corn, soy and other crops (AsiaPulse, 2005). A fertile land of black soil and good climate, the region is already a major grower of maize for the country, but researchers say that new output of grain could reach 10 million metric tons by 2010.

Meanwhile, increases in GDP and above all consumer purchasing power are increasing domestic demand for all food products. While maize was a major export in 2002 and 2003, exports dropped to 2.3 million tons in 2004, an 86 percent decline from the previous year (Gale, 2005b). Domestically produced rice previously met demand, but 2004 imports tripled—albeit to a modest 0.7 million tons—while exports fell from 2.6 million in 2003 to 0.9 million in 2004 (Gale, 2005b). Wheat production has decreased from a peak of 114 million tons in 1999 to only 86 million in 2003, though this number swung back up to 91 million tons in 2004 (FAOSTAT, 2005). Despite the upturn, enough reserves had been used that the state-owned enterprises holding 90 percent of China's wheat TRQs increased wheat imports to around 7.2 million tons in 2004, around 7.8 percent of domestic output (Gale, 2005b).

On the other hand, China has been self-sufficient in its supply of vegetables and fruit, with exports of these products rising even as the Chinese diet diversifies and domestic consumption increases (Ministry of Agriculture, 2004). Fruit output surpassed domestic consumption by 6.5 million tons in 2002, while vegetables have had between a 2.5 and 5 million ton surplus every year from 1996 to 2002 (Ministry of Agriculture, 2004). Output of meat (beef, pork, mutton and poultry) has also increased—from 45.8 million tons in 1996 to 65.8 million tons in 2002.

In the words of the Ministry of Agriculture, China has “done the wonder of supporting 21 percent of the world's population with less than 9 percent of the world's arable land.” However, since population growth is still significant, continued planning and policy implementation are essential to ensure future food security. In addition, the Ministry of Agriculture has noted that the urbanization rate is increasing, and is expected to reach 60 percent in 2020, making the food distribution system a key issue in food security.

According to the Food and Agriculture Organization, in the past decade the child mortality rate has dropped from 49 per thousand births to 38 per thousand births, the percentage of children under five who are underweight dropped from 17 percent to 10 percent, and the proportion of China's population which is undernourished went from 16 percent to 11 percent (FAO, SOFI, 2004). Moreover, as previously mentioned, the diet is diversifying: whereas only 20 percent of the diet came from non-starchy foods in 1980, 42 percent of the diet came from non-starchy foods in 2000-2002. Nonetheless, the task of feeding the world's most populous country remains a formidable one, particularly in light of the challenge posed by heightened urbanization and food distribution. Currently, urban residents make up only 26 percent of the total population, but amount to 43 percent of the undernourished population (FAO, SOFI, 2004).

To ensure continued grain distribution, the Chinese government has pledged to cultivate and develop qualified grain distribution organizations, accelerate the building of wholesale markets for grains, and complete an improved grain market network, in part by developing and standardizing futures markets (Ministry of Agriculture, 2004). Chinese officials also plan to strengthen the rules and regulations for grain markets, including legal standardization, mostly in order to facilitate regional cooperation and regulate inter-regional surplus grain.

China's rural residents are largely self-sufficient in grain production and consumption, and have only a limited dependence on the markets. With both state-owned and private grain sellers, the Ministry of Agriculture claims that the grain sales market is quite "brisk" and that urban residents have no difficulty locating or purchasing grain when needed. In addition, there are safety nets, such as the minimum subsistence guarantee and the government relief fund for low-income citizens. Urban residents can receive disaster relief, unemployment and a living subsistence allowance. However, because of the peculiarities of China's registration system (Hukou system), rural migrants in urban areas are not always eligible for assistance (Wang, 2004).

According to the Ministry of Agriculture, technology and science inputs to agriculture are to be augmented in order to improve unit yield (yield per hectare) (2004). A few of the technology and science inputs identified include organic fertilizers, improved plowing techniques,

dryland nursing of paddy rice, and paddy rice seedling throwing (a process by which young seedlings are thrown into a puddled area randomly to maintain a consistent density. The process is thought to increase yield and decrease labor input.) (Ministry of Agriculture, 2004).

The potential of enhanced irrigation as an input has been particularly stressed, and efforts will focus on medium and low yielding farmland for rice, wheat and corn. Policies to reduce the rural tax burden by around 30 percent in 2003 while providing direct subsidies to farmers (up to 8.5 percent of the total value of domestic production is allowed as part of China's *de minimis* provisions under WTO commitments) are expected to provide farmers with incentives to increase grain production. Officials also hope to strengthen investment and financing systems for inputs. Finally, the Ministry of Agriculture has plans to create what it describes as a thorough and reliable grain surveillance and early warning system to assess plant health risk (Ministry of Agriculture, 2004).

Though the ministry has said that they will continue to use international markets to regulate crop species varieties and local surplus/deficiency, they have also firmly stated that China can continue to be fully self-reliant to meet grain demand, and that they "will not leave the food issue to the world." Still, the ministry's report noted initial shortages and continued degradation of agricultural resources, such as polluted rivers and land designated to return to forest, which constrains overall productivity. The ministry has reported China's arable land at less than 10 percent of the world total and water at only 7 percent, with droughts and floods a regular occurrence. While per capita water consumption in China is a mere quarter of the world's average, 70 percent of water in China goes to irrigation, and, of this, it is estimated that over 70 percent is wasted (Li, trans., 2003).

### **Rural incomes and employment**

Chinese urban dwellers not only make more money than their rural counterparts, but their incomes are increasing twice as fast—at a rate of 8 percent annually, compared to 4 percent in rural areas, from 1996-2002 (Ministry of Agriculture, 2004). The Chinese government has introduced measures such as lowered agricultural taxes, direct subsidies to wheat and soybean producers for the production of good varieties, and increased spending on rural infrastructure to combat income inequities and the ensu-

ing social unrest (Gale, 2005a). The central government has also introduced the Western Regional Development Program, a much needed policy of investment in the west of the country after decades of encouraging growth along the southern and eastern coasts. Infrastructure growth, including airports, railways and roads, natural gas pipelines, electricity, and telecommunications, is the focus, along with investment in human capital via science and technology education (Zhu, Taylor and Fen).

Due in part to such measures, the Engel Coefficient, a ratio of income spent on food to total income, has been converging for rural and urban China (Rosen, 2005). In 2002, the Xinhua News Agency reported that the centuries-old tax on farmers, which previously averaged 130 yuan a year (compared to farm earnings of 120 yuan or \$14 per month), was reduced for some by as much as 30 percent. In addition, rural workers unemployed due to the closing of state-owned firms are eligible for re-employment assistance (Gale, 2005a). The state-owned enterprises (SOEs) do not have quotas on grain purchases and the Ministry of Agriculture has stated that SOEs will continue purchasing at “protective prices” (Ministry of Agriculture, 2004). Despite such measures, the health of the rural economy will depend on how much agricultural producers receive for their goods when exposed to foreign competition, and whether trade liberalization will lead only to changes in income, or to loss of jobs as well.

China’s official unemployment statistics have traditionally excluded rural unemployment, assuming that rural citizens unable to find other work can always resort to subsistence farming (*The Economist*, Nov 11, 2004). This makes the actual rural unemployment rather difficult to calculate. *The Economist* magazine puts the figure at 150 million. Elizabeth Tang of the Hong Kong Confederation of Trade Unions has written that Chinese officials revised previous estimates of between 9 and 10 million jobs lost after WTO accession closer to 20 million jobs, bringing the total number to 120 million in rural areas that are referred to as ‘surplus labor’ (Tang, 2005).

There are possible scenarios in which farmers, and with them demand for farm labor, could benefit from more open borders. For example, the export of products that had previously saturated the domestic market could be beneficial for the farm labor market. It is also possible that a more open Chinese economy will stimulate increased domestic demand as new businesses develop and

higher average income levels change dietary patterns and agricultural input needs (for example, new markets for cereals as animal feed are likely to continue to grow).

On the other hand, there are real risks associated with increased competition. Producers from around the world have found the first and most important impact of opening markets to foreign trade is the arrival of more competition on local markets, with a tendency for prices to fall. While in some cases these lower prices can benefit the consumer, if imports compete with local production, then the imports also depress farm income and can even put some farmers out of business. The experience from other countries suggest that food processors and large retailers will benefit the most, while producer and consumer benefits will be far less certain.

None of these scenarios is likely to have a strong impact on farm income if the inland markets and coastal markets are not integrated. If the market is integrated nationwide, the price changes brought on by WTO accession will indeed impact rural farmers. If policy or infrastructure results in a separation between these two markets, inland prices may feel only residual effects of international price changes. However, research points to a marriage of the markets in inland and coastal areas (Huang and Rozelle, 2002b).

Table 1: Price changes since accession

Product	% increase import price (2002-2004)	2001 domestic price RMB	2005 domestic price RMB	Median change (%)
<b>Soybeans</b>	57%	1950	2740-2850	43%
<b>Wheat</b>	34%	1250	1460-1580	21%
<b>Cotton</b>	59%	9500	11,431-13,329	30%
<b>Soybean oil</b>	31%	-	-	-
<b>Palm oil</b>	25%	-	-	-
<b>Rice</b>	-2%	1954	1398-1523	-25%
<b>Natural rubber</b>	64%	-	-	-
<b>Hides</b>	24%	-	-	-
<b>Maize</b>	-	1150	1147-1350	8.7%

8.3 RMB/USD



Sources: Import prices: Fred Gale (b), 2001 Prices: Huang and Rozelle (b), 2005 Domestic Prices: Shanghai JCI webpage, Median % change: author's calculation.

So far, it appears that China is indeed increasing exports of the products that play to its comparative advantage, particularly vegetables, fruits, meat and fish (ERS, 2005). Also, since accession, Chinese imports of wheat have soared from between 1 and 2 million metric tons (Mt) to 7 million Mt (2004), soybean imports from 12.7 Mt (2000) to 23.2 Mt (2004), and cotton from 0.17 million (2002) to 1.9 million Mt (2004) (Gale, 2005b). Chinese producers of soybeans, wheat and cotton now have strong competition. Yet, the import prices of these products have increased 57 percent, 59 percent and 34 percent respectively and domestic producers are also receiving prices higher than can be accounted for by inflation alone (See Table 1). Inflation was negative in 2002 and minimal in 2003, but 4.1 percent in 2004 (Goldstein, 2005). It is rice farmers that have thus far suffered the greatest downturn in price.

Though the Ministry of Agriculture reported that overall grain prices were reduced 21.4 percent, the reduction could have been heavily influenced by the decrease in rice prices (Ministry of Agriculture, 2004). In 2002, Huang and Rozelle forecasted that with WTO accession, prices of wheat, soybean and cotton will eventually fall between 2 and 4 percent. As exports of labor-intensive foods increase, they also estimated that the domestic price for vegetables could increase 4-6 percent between 2005 and 2010 over what it would have been without China's accession, while pork and poultry prices were estimated to increase 14 percent by 2010, and fish by almost 10 percent (2002b). Indeed, already as higher exports of vegetables reduce domestic supply, domestic prices have risen 9.97 percent (Ministry of Agriculture, 2004). However, the Ministry of Agriculture reports that prices of meat have fallen by 15.16 percent and that of aquatic products by 15.11 percent (Ministry of Agriculture, 2004).<sup>2</sup> Reduced prices for cereals such as rice favor domestic urban consumers but not producers. The net effect of rises in grain or vegetable markets for producers also depends on whether the price of inputs change. Many producers in different countries have found that higher prices for their products are more than off-set by higher costs for inputs, as when governments open markets to increased

trade they often also dismantle state interventions that controlled input costs.

There are also distinctions in the distribution of potential benefits to Chinese farmers. Because import crops are grown in the north and west and export crops in the south and east of the country, it is the farmers in the already-better-off coastal areas who are set to most benefit by trade liberalization. Of the two 2005 prices shown in Table 1, the lower one is almost always from either the north or west of the country while the higher price is from a region in the east or south (JCI, 2005). In addition to the challenges posed by rural unemployment, the Chinese government now faces the difficulty of finding ways to distribute new wealth evenly.

### **Domestic policy effects**

It is generally assumed that WTO accession will result in increased mechanization of farming in China and increased food imports. Both of these factors will cause a decline in the number of farmers and laborers needed to maintain food security, and the already notable exodus from rural to urban areas of China will continue, possibly leading to downward pressure on unskilled wages in urban areas. For China to lower farm employment to around 10 percent of the total population (the level of South Korea and Taiwan) from its current level of around 50 percent, officials will have to create around 15 million jobs each year for three decades (Gale, Somwaru, Diao, 2002).

The bureaucratic ease with which this transformation takes place hinges on China's Hukou (registration) system. Under the Hukou system citizens are required to register in the province of their birth and face difficulties in migrating from rural to urban areas (Rosenthal, 2001). Chinese rural laborers who chose to move without authorization to the city are often "considered illegal immigrants in their own country" (Rosenthal, 2001). They are denied social services such as medical expenses and university tuition, while having to pay taxes on land they no longer farm. The system was originally used in Mao's China to control the flow of labor, but is now used to prevent a "brain drain" by requiring rural residents who leave to attend school to return to their place of birth. Smaller cities are beginning to open their gates to skilled workers and wealthy immigrants, but the process, con-

sidered by many to be crucial for both rural and urban development, is incomplete (Wang, 2004).

While the Hukou system clearly affects the welfare of rural inhabitants who leave rural areas, it also has a strong impact on those who remain. As processed food exports grow, Chinese food processors will require a continuous supply of uniform foods (Gale, 2001). This will be difficult to accomplish without technical inputs and farming that attains a certain minimum size. Currently, farmers manage less than one acre of land and in many areas still farm by hand (Gale, Somwaru, Diao, 2002). Generally, land is still owned by villages or small groups, and is rented by farmers. Under the "household responsibility system," production quotas are contracted not to the collective, but directly to families or "work units." Because the land is owned by the collective, it can be reallocated by village leaders if left unused, meaning workers who migrate to the city may or may not be allocated land to farm should they return (Lomar, Somwaru, Wiebe, 2002).

There is a rosy scenario for Chinese agriculture envisioned by those who would have China emulate a model of U.S. agricultural and economic policy in the post World War II period. In that model, embraced by China's Ministry of Agriculture, urbanization, coupled with changing land tenure policies, could raise rural incomes (Huang and Rozelle, 2002a). In theory, as workers leave agriculture for work in the towns and cities, those left in the villages should be able to expand their plots, moving from subsistence to more profitable farming. Many farmers are engaged in off-farm work, which, along with private banks or credit unions, could offer the capital needed for such expansion (Gale, Somwaru, Diao, 2002). Land tenure reform, coupled with changes to the registration system could positively impact the rural economy.

Such improvements resulting from altered land tenure and migrant registration policy are linked to financial policy. Greater productivity can best be sought through capital inputs, mostly made available via financial reforms. Hopefully, these inputs will involve mechanization of labor despite the current ceilings on fertilizer and pesticide prices that make chemicals a tempting alternative to other inputs (*China Chemical Review*, 2004). The environmental impact of these inputs is exacerbated by the 65 percent of producers who use coal as raw material for pesticide production (*China Chemical Review*, 2004). Due to the current land tenure policy, farmers have little

inclination or incentive to mitigate negative impacts on land that is not theirs in perpetuity.

Both the environmental issues and China's comparative labor advantage could be addressed by responding to the growing demand for organic foods. It is estimated that only 0.06 percent of Chinese farmland is now dedicated to organic farming, though the worldwide market is \$23 billion and growing (Willer and Yussefi, 2004). Through WTO accession, market incentives and direct trader-producer market access opportunities are in place. The process could be helped by the encouragement of farmer organizations that can explore and share market information. Indeed, as econometrically modeled by Ianchovichina and Martin, increases in education alone could be enough to offset the 0.7 percent decline in real farm wages estimated by a GTAP<sup>3</sup> model that examined the removal of protectionist measures resulting from WTO accession estimates (2003). Ianchovichina and Martin estimate post-accession increases in education could raise wages 1.6 percent (2003). With the removal of the Hukou system and increases in education, they estimate a wage increase of 19.4 percent.

More comprehensive rural education generally would create larger quantities of skilled workers. While this may lower the incomes of skilled workers nationally, it would be raising the incomes of those on the lowest part of the income scale, who are almost uniformly from rural areas (Ianchovichina and Martin, 2003). Further, by making it very difficult for Chinese to move around the country, the Hukou system prevents rural Chinese from migrating to non-farm work, usually in urban areas. Were such movement freely allowed, both the number of agricultural producers and the real rental price of farmland would decline, allowing greater returns for each producer. Nonetheless, the same model estimates that these policy changes would be accompanied by a 32 million-person migration from farm to non-farm employment (2003). The unenviable task of managing such massive job creation makes it clear that domestic policy will have to carefully complement the shifts expected after accession in order to maximize the benefits for rural China.

There is nothing in WTO accession itself that will guarantee such an outcome, of course. Education is a matter of domestic social policy and choices about production methods are decisions for the Chinese government and the private enterprises that increasingly play a role in

Chinese agriculture. Many countries have found the transition from a centrally managed economy to an economy that fits the parameters of the General Agreement on Tariffs and Trade (GATT) and the Uruguay Round agreements on intellectual property rights and agriculture to be complex and hard to sequence. Imports are quicker to arrive than exports to leave, because global agribusiness is well placed to take advantage of the new market opening while domestic firms do not always

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find it easy to operate in a new export environment. Obviously, China has many advantages to manage this transition, since the country is well capitalized, is heavily courted by foreign investors and its government has the capacity to understand and work in a global context. Nonetheless, the need to create some 15 million jobs a year for 30 years is going to put tremendous strains on China's economy.

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## China's compliance with its agriculture and services commitments

After 15 years of arduous negotiations, and particularly intense wrangling over agriculture, China joined the WTO in December 2001. In order to join, Chinese officials reformed domestic and foreign trade policy extensively to make commitments to the WTO that exceeded those of longer-standing WTO members (USTR, 2004). However, accession does not mean immediate and full compliance with the WTO agreements because new members implement changes gradually, according to a schedule, whereby each year brings more liberalized trade.

### Commitments

Aside from the bilateral agreements undertaken with individual trading partners, China's WTO accession included multilateral trade agreements covering all sectors. Accession to the WTO means China must comply with some basic principles, first introduced under the General Agreement on Tariffs and Trade (GATT). These include the principle of most favored nation (MFN), which means any trade advantage conferred by China on one WTO member must be extended to all other WTO members. A second principle is that of national treatment, which requires that foreign products must be treated equally to their domestically-produced equivalents.

Upon accession, China's agricultural tariffs were lowered from an average of 22 percent to an average of 17.5 percent, and have since been further reduced for most commodities (Washington Council for International Trade (WCIT), 2005). Both state-trading firms and private enterprises in China are allocated control over a volume of imports which are subject to much lower tariffs than those normally applied. For most commodities, these so-called Tariff Rate Quotas (TRQs), will gradually shift to the control of privately-owned firms, with the notable exception of wheat, for which the state retains 90 percent of the TRQ allocation (Lomar, 2005). China's other agricultural trade commitments include the elimination of export subsidies and the *de minimis* exemption of 8.5 percent of the total value of production for domestic support to agriculture (WCIT, 2005)

China is now required to apply transparent and scientifically sound Sanitary and Phytosanitary (SPS) measures. The Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) also requires WTO members to respect the principle of equivalence, meaning that members are encouraged to negotiate bilateral agreements with their trading partners that recognize each others' SPS measures as equivalent in effect to their own.<sup>4</sup>

China's accession agreement includes specific measures that make it easier for WTO members to limit Chinese imports if they consider the import volume to be disrupting their market. These safeguards were justified as way to deal with the state-controlled (non-market) aspects of the Chinese economy. The provisions expire 15 years after accession, i.e. in December 2016 (Accession of the PRC, para. 15 (d)). Though there is no specific definition of a non-market economy in the protocol on the Accession of the People's Republic of China, the textbook definition is an economy in which the government controls supply and demand through central planning, often with monopolies and price controls. When a WTO member is concerned that another country's imports are disrupting its market, the normal WTO procedure is to request consultations with China. Should consultations not resolve the dispute within 60 days, the member (or members) concerned file a dispute in the dispute settlement system.

According to the Protocol on China, however, if the dispute is not resolved in the 60 days after the request for consultations, the complaining member is free to withdraw concessions to Chinese exporters or to limit imports to the extent necessary to prevent or remedy any market disruption (Cuddy, 2003). To escape this consequence, the burden of proof is on the Chinese government or producers to convince trading partners that market conditions prevail in their industry (Accession of the People's Republic of China, para. 15(a)(i), (ii), and 15(d), 2001).

At the insistence of the United States, the standards for market disruption were set very low. As written in the Protocol, market disruption occurs whenever "imports of an article, like or directly competitive with an article produced by the domestic industry, are increasing rapidly, either absolutely or relatively, so as to be a significant cause of material injury, or threat of material injury to the domestic industry." Before taking action, however, WTO members are encouraged to consider "objective factors,

including the volume of imports, the effect of imports on prices for like or directly competitive articles, and the effect of such imports on the domestic industry producing like or directly competitive products” (Accession of the People’s Republic of China, 2005).

The theory and practice of safeguards against market disruption are not always coherent. A paper by Dr. Yang Guohua points out that in the first six cases in which China challenged the application of safeguards, the WTO dispute system ruled the measures were in violation of the WTO Agreement on Safeguards (Charnovitz, 2003). However, recently the number of safeguard actions has proliferated. Should the trade liberalization trend of denying permission to use safeguards be reversed among WTO members, China may find its exports blocked by safeguards that do meet the terms of the Protocol for Chinese accession (Cuddy, 2003).

When considering whether to impose a safeguard to counter China’s non-market economy, the United States uses a surrogate market methodology. Under this approach, the U.S. looks at a country that is a significant producer of the product in question and which is economically comparable to China. This provides the U.S. with the price it uses to determine whether Chinese exporters are selling below their cost of production plus a normal level of profit. Though this methodology is not required by the protocol, Section 15 does state that “the importing WTO Member may use a methodology to establish dumping and dumping margins that is not based on a strict comparison with domestic prices or costs in China,” and that the Member is required to notify the Committee on Anti-Dumping Practices or Committee Subsidies and Countervailing Measures of methodologies used (2001). Article VI of the GATT includes a provision of this kind, for use in cases where markets are not market based. For the United States, after a suitable surrogate economy has been determined, the International Trade Commission then rules on whether the product is being sold in the U.S. market at prices below production costs. The choice of surrogate market matters. When the the U.S. Department of Commerce switched from India to Turkey as the surrogate market for a comparison of apple juice concentrate prices in 2002, duties on Chinese apple juice concentrate imports went down (Fruitgrowers, 2002).

## Historical context

In 2002, the U.S. Chamber of Commerce’s subgroup on agriculture noted that U.S. producers, hoping for reductions in Chinese tariff and non-tariff barriers along with more predictable agriculture trade policy, had strongly supported China’s WTO accession. However, after China joined the WTO at the end of 2001, producers expressed concerns over China’s compliance with WTO commitments (U.S. Chamber of Commerce, 2002). In the report, the subgroup on agriculture noted that the Chinese Ministry of Agriculture, Ministry of Health, and State Administration of Quality Supervision and Inspection and Quarantine (AQSIQ) delayed the issuance of certifications necessary to facilitate trade, neglected to notify new import safety regulations to the WTO as is required by the SPS Agreement, and arbitrarily enforced regulations, including SPS measures.

The delays ranged from slow quota allocations, making it difficult for Chinese traders to import fertilizer before the growing season, to delayed issuance of licenses to import meat, to delays in pest risk analysis, which must be reported to WTO if SPS-related import bans are put in place. Biotech food safety and labelling regulations created by the Ministry of Health were also not reported to the WTO. Finally, Chinese officials had declared zero tolerance for pathogens, a standard not required for domestic producers, and thus in violation of the WTO’s principle of national treatment. The U.S. Chamber of Commerce report claimed that meat imports standards were unjustifiable and discriminating against U.S. exporters.

## Current analysis

More recently, the U.S. Chamber of Commerce has noted that China had fulfilled its commitments in tariff reductions and has addressed a range of problems in the implementation of Tariff Rate Quotas (TRQs). These problems included a lack of transparency in the allocation of quotas, delays in announcing quotas, and “uneconomic” quota allocation, meaning that some firms feel the current process of allocating quotas leaves them with volumes too small to warrant shipments (USCC, 2004).

The Chamber of Commerce’s September 2004 report on China’s WTO Implementation also noted, however, that SPS measures continued to act as barriers to trade. First, the quarantine agency, AQSIQ, has blanket authority to annul or void Quarantine Import Permits (QIP),

making it possible for this agency to control imports. Further, QIPs must be approved prior to importers signing contracts with foreign producers. This prior approval requirement was perceived as a barrier due to the time pressures on importers to sign contracts while prices are low. In Decree 73, however, AQSIQ increased the length of import permits from 90 days to six months as well as eliminating the requirement to obtain an import permit prior to contractual agreement for 15 categories of plants and animals. The U.S. Chamber of Commerce recommends transparent requirements and clear time lines for the approval of import permits.

In the online newsletter *Truth About Trade*, run by the U.S. farmers' and agribusiness advocacy group of the same name, Ross Korves noted that the "zero tolerance for pathogens in poultry and meat" policy does not have a domestic equivalent (2004). The Chamber of Commerce report reiterates its concern over the meat hygiene policy, which goes back to 2002 (Brilliant and Waterman, 2004). The Chamber claims that the policy lacks a scientific basis, is not practical, and, as it is not applied to domestic producers, is an unfair barrier on imports of meat and poultry to China.

Korves also highlights the issue of China's arbitrary application of a maximum residue level for selenium and vomitoxin in wheat, although China continued to import U.S. wheat to meet demand (2004). Selenium is a natural element found in fertilizers and irrigation water which can be poisonous to both humans and animals if ingested in high quantities (Lenntech Water & Luchtbehandeling Holding B.V., 2005). Vomitoxin is a fungus found, *inter alia*, on soybeans, wheat, and corn, which leads to lower yields. The fungus can develop while the crop is still in the field or later, during transport (Jacobsen, et al, 1993). Both selenium and vomitoxin are common in grains, and the level set by the Chinese was stringent enough to threaten U.S. imports (USTR, 2004). Nonetheless, imports tripled in 2004, suggesting the standards are not being enforced (Lomar, 2005).

The U.S. Chamber of Commerce 2004 report claimed biotechnology was "One of the most contentious... issues that arose during China's first year of WTO membership" (U.S. Chamber of Commerce, p. 52, 2004). The U.S. Chamber of Commerce was especially concerned due to the high volume of genetically modified soybeans entering China from the U.S. Just before accession in July of 2001, China adopted a law requiring shipments of GMO

soybeans to be accompanied by safety certificates, but did not spell out clearly what those certificates were to include (U.S. Chamber of Commerce, 2002). Inclusion of GM soybeans in soy-made products could threaten exports of such products to the EU. After much haggling, interim measures allowing cargo-by-cargo shipments were adopted (US Chamber of Commerce, 2002). However, according to Duan Wude, domestic demand is too great to deny GM imports. An established Chinese bean crushing sector would be in danger should China switch imports to oils or bean cakes. Duan says the large rise of husbandry and increased demand for vegetable oil are partly responsible in driving up demand (Xinhua, 2004).

On April 27, 2005, the State Council of China ratified the UN's Cartagena Protocol, which addresses concerns over biodiversity by attempting to ensure, "adequate protection in the field of safe transfer, handling, and use of Living Modified Organisms (LMOs)" (Xinhua, 2005). The Protocol employs the precautionary approach, stating that lack of scientific certainty (due to insufficient scientific evidence regarding the extent possible harm from an LMO) "... shall not prevent a party of import from taking a decision, as appropriate, with regard to the import of the LMO..." (Cartegena Protocol on Biosafety, articles 10.6 and 11.8, 1992). Annex III of the Protocol provides rules and regulations for risk assessments of LMOs to be carried out on a case-by-case basis (Cartegena Protocol on Biosafety, Annex III, 1992). According to China's State Environmental Protection Agency "The ratification of the protocol demonstrates China's commitment to enhancing management on biosafety is in line with international law," (Xinhua, 2005).

A final issue is the question of the value of China's currency, the yuan. The U.S. has repeatedly charged that the yuan is undervalued, which has the effect of making Chinese exports cheaper. In turn, this aggravates the size of the U.S. trade deficit with China. On May 17, 2005, the Bush administration, prompted by U.S. manufacturers claiming that China has artificially undervalued its currency, warned China that its currency policy was highly distortionary and posed a risk to China's economy and that of its trading partners (Andrews, 2005). The strong words came despite the fact that an undervalued currency is a bonus to foreign investors in China and that economists seem to

think that a revaluation will do very little to improve the U.S.-Sino trade deficit in the short-run (Martinez, 2005).

### **The Chinese Response<sup>5</sup>**

The Chinese trade representative responded in November 2004 to U.S., EU and Japanese questions concerning its trade practices by means of the Transitional Review Mechanism that assesses WTO members' compliance with their commitments. In response to allegations of a lack of transparency, the Chinese representative provided the English version of the Rules of Registration of Foreign Trade Operators for the meeting, and drafted a notification of Quantitative Restrictions to submit to the Committee on Import Licensing. He also mentioned that final versions of Chinese laws should be published on the Announcement of the National People's Congress or by its Standing Committee, and that administrative measures should be made and published by the relevant authorities. It was noted that the *Foreign Trade and Economic Cooperation Gazette of MOFCOM* published all laws and regulations concerning foreign trade and investment.

In response to questions on SPS measures, the Chinese Government pointed to the published Management Practices of Risk Analysis on Imported Plant and Plant Products and Management Practices of Risk Analysis on Imported Animals. However, the main website given for such publications, [www.ccg.gov.cn](http://www.ccg.gov.cn), is in Chinese. He further mentioned that China had established the China Risk Analysis Commission, an inter-agency body to coordinate risk analysis. As mentioned above, trading partners have raised concerns over the fact that China has set more stringent limits on the levels vomitoxin and selenium than international norms. At the meeting, the Chinese representative said for some products moisture or temperature would cause microbes to propagate, so China made requirements with the purpose of protecting human health.

On the subject of import permits, the Chinese representative explained that the reason certain information about a commodity was necessary before signing a contract or after any changes to the product, volume, or import order has taken place, was to facilitate risk assessment of the product to be imported. He further stated that Decree 73 only reiterated the requirements of Article 11 of the Border Animal and Plant Quarantine Law, of which the WTO had been previously notified. The representative said obtaining an import quarantine permit before signing

a contract allowed both importers and exporters to clarify whether their products were permitted under the law and to identify quarantine requirements, thereby ensuring informed decisions.

Despite the fact that both the Chinese trade representative and other Chinese leaders have repeatedly said their currency is a matter of national sovereignty, the yuan was revalued on July 21, 2005, seemingly in response to U.S. pressure (JCI, 2005). The announcement signified a shift from a yuan fixed at 8.3 to the U.S. dollar to a managed floating exchange where its value is determined in reference to a basket of currencies. The basket, determined by trading partners, is led by the U.S. dollar, the euro, South Korean won, and Japanese yen, but also includes the Thai baht, UK pound and Russian rouble (BBC News, 2005). Each day the People's Bank of China announces a central parity for the yuan from which the yuan is allowed to float 0.3 percent up or down. On the first day of the announcement, the yuan was revalued upward with a central parity of 8.11 to the dollar (JCI, 2005).

### **Services**

The General Agreement on Trade in Services (GATS) is one of the Uruguay Round Agreements. Among the links between the provisions of GATS and agriculture are two general service areas: first, the more traditional extension services including advice on farm management, veterinary services, crop marketing and supplies of inputs and technology, which are usually provided by government or research facilities such as universities. Secondly, "agricultural trade related services" include more peripheral, but still important legal, transport, and financial services. GATS is somewhat different from most WTO agreements in that each country is expected to create and comply with its own services schedule. In the schedule, countries can also list exemptions from GATS for specific service sectors, can name the trading partners to which the exemptions apply, and can determine the length of the exemption (not to exceed 10 years) (WTO, 2005).

China's services schedule indicates that for cross-border trade of distribution services and for presence of foreign nationals working in those services, the market access and national treatment are unbound, meaning China is free to introduce or maintain regulatory measures inconsistent with market access or national treatment. Regarding

the commercial presence of a foreign firm in distribution services, there are no restrictions for national treatment, but some for market access. Specifically, a year after accession, foreign service suppliers can establish joint ventures to engage in the commission agents' business and wholesale business of all imported and domestically produced products, with the exceptions of books, newspapers, magazines, pharmaceutical products, pesticides and mulching films, chemical fertilizers and oil. Restrictions on food distribution are not mentioned. In addition, foreign enterprises with investments in China are permitted to distribute the products they manufacture in China, as well as to provide the full range of related subordinate services, including after sales services, for the products they distribute. Beyond the restrictions noted here, all services may be subject to the "horizontal," i.e. cross-sectoral, commitments made in the schedule.<sup>6</sup>

The EU, U.S., and separate customs territories of Taiwan, Penghu, Kinmen and Matsu have voiced concerns over various regulations that appear to be inconsistent with the concessions listed above. Industries in question included transportation, telecommunications, distribution, legal and education services. Of these, distribution and legal or financial services are most likely to impact the agricultural sector.

For distribution services, the April 2004 legislation *Measures for the Administration of Foreign Investment in the Commercial Sector* raised questions on whether Chinese firms were subject to the same administration requirements (i.e. whether they received national treatment). For example, the legislation established that provincial authorities authorize 100 percent of the distribution for chains with over 30 stores of 3000 square meters each or 300 stores with 300 square meters each, and that when service suppliers apply to open new stores 100 percent of existing capital must be paid in (Communication from EC, 2004). Similarly, the separate customs territories of Taiwan, Penghu, Kinmen and Matsu noted that there are restrictions to chain stores with over 30 outlets selling certain products. The United States charged that the legislation did not provide regulations for implementing the new procedures on chain store licensing. (Communications from separate customs territories of Taiwan, Penghu, Kinmen and Matsu and the United States, 2005). The licensing procedures would presumably apply to retail food distribution and sales.

On the subject of legal services, the EU also noted that, in conflict with China's services schedule, there are several conditions imposed on foreign law firms for which there is no comparable national treatment: foreign firms must perform a feasibility study, fulfill a nine month examination approval period, complete three years of practice before opening a second office, and maintain at least one partner per office.

There is already a strong presence of foreign suppliers in China's food distribution. The American discount store Wal-Mart currently has 40 supercenters (Wal-Marts with groceries) in operation in China. France's Carrefour anticipates opening 59 hypermarkets (department stores which also retail food) and another eight supermarkets by March 2005 (Wal-Mart and Carrefour, 2005). These retailers stand to gain substantially if they can integrate their supply chain management in China—if they can control their distribution services. For non-perishable items, particularly pre-wrapped processed foods, it is possible for these mammoth stores to skip wholesalers and transport directly from producer to retailer. Though trucking is contracted out, Wal-Mart already manages most of its supply chain directly (Huffman, 2003).

In the case of China, it is likely that the expansion of foreign direct investment in the financial, legal and transport services could have a large impact on the rural and farm economy. As noted by the USDA, "An efficient financial sector helps deploy resources where they bring the highest return within the food production sector... Shippers need access to short-term credit to facilitate the flow of food products from one market to another. Farmers need credit to modernize their equipment. Business services such as legal advice and market analysis can reduce costs of penetrating new food markets" (Coyle and Wang, 2002). For farm capital and land tenure policies, changes to the structure of the service sector could have positive effects for Chinese farmers and rural inhabitants. In many areas of the country, farmers work with their hands or non-mechanized tools on small plots of land. Increased access to capital may allow them to invest in the technology to become more productive. Unfortunately, legal services will be of little help without first introducing national policies to ensure farmers' land tenure.

Given the size of China's population and its rapid urbanization, however, changes to the services sector must be carefully implemented, for the changes will not only



affect consumer convenience but food security as well. This is particularly true in the transportation and food distribution industries. Foreign companies may have the capital, experience and management skills to build an efficient food distribution network within China. However, their decision on whether to respond to existing markets or instead create demand for foreign, processed foods will have a dramatic affect on the health of the nation.

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In addition, though expanded infrastructure and logistics may allow producers to reach new markets, distribution systems may or may not be implemented with the intention of or ability to protect rural economies. The Chinese government bears the responsibility of balancing local needs and foreign expertise to create policy that will allow both rural and urban China to flourish.

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1. Of course, most developed countries spend far more than their *de minimis* spending levels, but countries that did not declare spending as part of an aggregate measure of support (AMS) when they signed the Agreement on Agriculture cannot subsequently introduce such support for agriculture. In theory, AMS spending should be dropping to zero, although the Doha Round proposals are not suggesting this will happen soon. Note that in the Doha negotiations, there is a proposal to reduce developed country *de minimis* to 2.5 percent of the value of production and developing country support to 5 percent. What would happen to China's *de minimis* if these proposals are adopted is not clear.

2. In 1990, the aquatic products category included fresh and salt water fish, naturally cured or artificially cultured, seaweed, shellfish, mollusk and Crustacea, but not water plants, such as chestnuts or lotus roots (SEDAC, 2005).

3. The GTAP model is a collection of data, models and utilities which can be applied in quantitative multi-region economic analysis. The model allows researchers to track value flows from production to final demand, with careful attention paid to distortions. More information can be found at <https://www.gtap.agecon.purdue.edu/> The model, like any model, has its limitations and an important debate is in progress among economists and others about how accurately the model captures such factors as imperfect competition due to concentrated ownership of processing capacity in global commodity markets.

4. In acknowledgment of China's status between a developing and developed economy, some measures noted here included transition periods. The complete schedule is available on the WTO website: [http://www.wto.org/english/tratop\\_e/schedules\\_e/goods\\_schedules\\_e.htm](http://www.wto.org/english/tratop_e/schedules_e/goods_schedules_e.htm)

5. The responses of the Chinese trade representative listed here are a summary of the proceedings from the Transitional Review Mechanism, available at <http://docsonline.wto.org>

6. China's complete services schedule is available online at <http://tsdb.wto.org/wto/WTOHomepublic.htm>

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