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world trade organization

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03-11

THE AUSTRALIAN NATIONAL UNIVERSITY

Asia Pacific School of Economics and Government
THE AUSTRALIAN NATIONAL UNIVERSITY

http://apsem.anu.edu.au

ISSN 1447-9486

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This paper was presented at a workshop 'WTO: issues for developing countries' at the 46th Annual Conference of the Australian Agricultural and Resource Economics Society (AARES) in Canberra, 13– 15 February 2002.

Key to symbols used in tables

n.a.	not applicable
..	not available
-	zero
.	insignificant

Abbreviations

GM	genetically modified
SPS	sanitary and phytosanitary
SSG	special safeguard
STE	state trading enterprise
TRQ	tariff rate quota
WTO	World Trade Organization

China's WTO entry and its impact on the agricultural sector

On 11 November 2001, China acceded to the World Trade Organization (WTO), becoming its 143rd member. The implications of China's accession to the WTO have attracted enormous attention and caused widespread speculation. Of particular concern is the Chinese agricultural sector, which employs some 900 million people. Within this sector, the prevailing expectation in China is that while labour-intensive endeavors like horticulture, livestock and fisheries will be affected positively, others such as grain, soybeans and cotton will—at least in the short term—be adversely affected.

This paper begins with a summary of concessions made by Chinese negotiators and their implications for trade and domestic policy changes, it then attempts to predict the impact of China's WTO entry on its agricultural sector. Finally, it suggests possible development strategies and policy reforms.

Major accession commitments

Like other countries, China had to make certain concessions in order to gain WTO membership. Thus, it made changes to its trade and domestic policies, changes that will come to have direct and indirect impact on the structure of its agricultural sector and thus rural development in general. What follows is a summary of the concessions made by China and their likely impact on its agricultural sector.

Market access: tariff reduction

China has agreed to substantially cut import tariffs for fruit, alcoholic drinks, meat, dairy products and other agricultural commodities. The average tariff rate of all agricultural commodities will be reduced from 21 per cent to 15 per cent by 2004. For the 80-odd agricultural products of special interest to the United States, the average tariff will be lowered to 14.5 per cent. For major agricultural products, including meat, fruit and wine, the cut is even greater, from 30–65 per cent to 10–20 per cent (Table 1).

Generally speaking, tariff reductions will directly strengthen the price competitiveness of imported products. The reductions will have only limited effects, however, on the volume of imports. This is because most of the commodities in the tariff reduction group

Table 1 **China's tariff reduction commitments for WTO accession (per cent)**

Commodity	2001	2004
Beef	45	12
Pork and poultry	20	12
Oranges and grapes	40	12
Apples	30	10
Wine	65	20
Cheese	50	12
Ice-cream	45	19

(for example, fruit and meat) are labour-intensive products, in which China enjoys comparative advantages. Even after tariff reduction, imported products will still be more expensive, though their quality will probably be higher than that of their domestic counterparts. Expensive imported goods are largely consumed by the wealthy, who make up just a small fraction of the population, or are paid for from the public purse.

Market access: tariff rate quota (TRQ)

For bulk products (such as food grain and feed grain), cotton, edible oil, sugar and wool, the TRQ regime is to be applied. China considers these five product groups to be of fundamental importance for national food security and sovereignty.

The two factors crucial to the functioning of the tariff rate quota in the promotion of free trade are the TRQ level, or volume, and TRQ management. Volume for the five TRQ product groups is shown in Table 2. For in-quota imports, the low tariff (1–3 per cent) will be applied. The over-quota tariff is prohibitively high, in some cases higher than 70 per cent.

The tariff rate quota regime requires that

- a certain fraction of the TRQ be designated for non-state trading enterprises (non-STEs, or private traders);
- the unused tariff rate quota of state trading enterprises (STEs) be redistributed to private traders, with the quota-fill status being determined by mid September each year and
- the allocation of TRQ to exporting countries be based on past trade of all bulk products, except for wool (for wool, a first-come first-served principle will apply, and the TRQ will be twice as high as domestic production for China).

On the basis of these high tariff rate quotas and low in-quota tariffs, it has been argued that China's TRQ commitment will have a greater impact on its agriculture than its tariff reduction commitment, especially for cash crops such as cotton, sugar and oilseed. TRQs for cash crops come to about 20 per cent or more of domestic production, while the in-quota tariff is only 1–3 per cent, implying a greater degree of market openness.

Table 2 **TRQs for selected products in China**

	Wheat	Corn	Rice	Cotton	Vegetable oil	Sugar
2002 TRQ (million tonnes)	8.47	5.85	3.99	0.819	5.80	1.76
2004 TRQ (million tonnes)	9.63	7.20	5.32	0.894	8.00 (2005)	1.94
Non-STE share (per cent)	10	32–40	50	67	66–90	30
In-quota tariff (per cent)	1	1	1	1	9	20
Over-quota tariff (per cent)	71–65	71–65	71–65	54–40	75–25	70–65
Actual annual import 1986–88 (million tonnes)	11.30	-3.74	-0.78	-0.60	0.23	1.92
Actual annual import 1996–98 (million tonnes)	3.90	-3.59	-1.21	0.34	1.97	0.35
Production 1998–2000	107.75	122.34	136.52	4.249	7.43	7.96
TRQ as per cent of production	8–9	5–6	3–4	19–21	77–108	22–24

Furthermore, domestic prices for many cash crops are higher than world market prices, thus the effects on cash crops will not only be quite serious but also immediate. Price differentials will be discussed in more detail below.

Export subsidy

China has agreed not to provide export subsidy, in fact it announced the abolition of export subsidy as early as 1994, when it unified its two-tier exchange rate system. Only recently did it subsidise corn and cotton exports in order to reduce the huge surpluses in these products.

Because most of the current subsidies benefit STEs rather than farmers, the adverse effects of the abolition of export subsidy will be only limited, regional and short-term. Needless to say, only major corn-producing regions will be affected (particularly Jilin province in the northeast). In addition, because of the increasing demand for livestock products in China, demand for corn and other feed grain will soon exceed domestic production capacity, and, in the mid to long term, China will become a net corn importer.

The abolishment of export subsidy would be in the interest of Chinese farmers in the long term if the funds saved could be used for other agricultural support purposes, for example agricultural R&D and improved provision of market information.

Domestic support

Domestic support was one of the last issues addressed during the negotiation process. China insisted that it should be treated as a developing country, thus it asked for a de minimis of 10 per cent for Amber Box measures. The United States and other parties, however, demanded that China be treated as an industrial country and thus be allocated a de minimis of 5 per cent. In the end China got a de minimis of 8.5 per cent.

China has also given up the right to forgo the domestic support reduction commitments identified in Article 6.2 of the Agreement on Agriculture (AoA). Article 6.2 states that developing countries may forgo reduction commitments for domestic support for three special purposes—investment subsidy, input subsidy and diversification away from illicit narcotic crops.

The de minimis level is not generally expected to have much real impact on Chinese agriculture. Estimates based on WTO definitions and methodology indicate that domestic support for China's agricultural sector could be negative. Government payments to state grain and cotton marketing agencies are regarded by many as the most important aspect of Amber Box support. However, this is not a subsidy to farmers but is mainly used for maintaining food security reserves and subsidising inefficient state marketing enterprises. Only about 10 per cent of total grain production actually enjoys state-set support prices, while at the same time, at various levels of government, certain taxes and fees are collected from farmers, often creating very heavy financial burdens for them. In a pilot program designed to reduce these taxes and fees by 20 per cent, farmers have been paying 8.5 per cent of their gross revenue as uniform agricultural tax. All factors considered, the current agricultural support level in China should be between –5 and –10 per cent.

In the central and western parts of China, local governments often find it difficult to pay the salaries of local officials and teachers. The problem lies in equitably and efficiently

utilising scarce resources. There is room in the Green Box areas for China to increase public expenditure, but often it does not have the funds to do so, and neither now nor in the next two decades will it be able to support its agricultural sector at the 8.5 per cent level.

Sanitary and phytosanitary measures

WTO rules regarding sanitary and phytosanitary (SPS) measures will affect Chinese agriculture on both import and export sides, and pose real challenges to China. On the other hand, in the past, other countries' SPS measures have acted as major barriers to Chinese agricultural exports, and it is hoped that China's WTO membership will bring it fairer treatment in this respect.

On the import side, China has already eased restrictions on TCK wheat, fruit and meat from the United States, thus strengthening the the position of the United States and weakening the positions of other exporting countries. However, total trade volume change will not change, since it will be regulated by tariff or tariff rate quota. As a WTO member, China must develop a transparent system of formulating the necessary regulations.

Another issue that may lead to trade disputes is that of Genetically Modified (GM) crops. Generally speaking, China has adopted a positive attitude toward GM crops, and public investment in research on genetically modified organisms has been increasing steadily. Research in biotechnology is seen as one of the fundamental technical requirements for the long-term development of Chinese agriculture, particularly in the light of inevitable population increase and growing scarcity of land and water resources. BT cotton, which was first introduced into China a few years ago by Monsanto, is so far the only product widely adopted by Chinese farmers. There are still no genetically modified food crops planted in China, though a number of GM food crops such as delayed-ripening tomato and virus-resistant tomato, virus-resistant green pepper, disease-resistant wheat, Bt hybrid rice and Bt corn are currently in different phases of development. Imported GM foods (for example, soybeans from the United States) do currently exist on the Chinese market.

Recently, however, policymakers have begun to take a more cautious approach to GM crops. On the one hand, they fear the damage cheap imports of GM crops might cause to the domestic market. On the other hand, food exports, especially to the European Union and Japan, may be affected negatively if China produces GM crops. In the face of this dilemma, in late 2001, a regulation was issued concerning the approval of the development and import of genetically modified products. The regulation requires the labelling of GM products, though guidelines as to the details of the labelling are yet to be issued.

Special safeguards

China is committed not to use special safeguard measures to protect its domestic market. This is one of several issues that are difficult to comprehend for outsiders, even for Chinese analysts. The special safeguard clause (SSG) only applies to commodities with ordinary customs duties. In some cases, this may be particularly important. A recent example is soybean imports to China. Soybean imports have soared in recent years, from almost nil in 1995 to over 10 million tonnes in 2000, or 70 per cent of domestic production. Given China's commitments, the resultant damages will not be alleviated by SSG measures.

Table 3 **Estimated WTO entry impacts on Chinese agriculture by concessions**

Concession domains	Impact on imports	Impact on exports
Tariff reduction	+	..
Tariff rate quota (TRQ)	+ + +	..
Export competition		-
Domestic support	Nearly nil	Nearly nil
Sanitary and phytosanitary (SPS)	+	- - -
Special safeguard (SSG)	..	- - -
Antidumping, safeguards and anti-subsidy	..	- - -

Note: - negative effects, + positive effects; severity of the effects is indicated by the number of + and - signs.

Anti-subsidy, antidumping and safeguards

In a working, free and fair trade system, subsidy and anti-subsidy, antidumping, and safeguard measures are of particular significance, since they can be used as a disguise for protectionism. For China, the export of labour-intensive commodities could be subject to such protectionism, and this could lead to more trade disputes. A recent example is Japan's protection against Chinese exports of fresh mushrooms, green Chinese onion and rush. The likely impacts on agriculture of the concessions are summarised in Table 3.

Impact estimates: commodity perspectives

This section explores the effects of China's WTO accession on various commodities. A regional perspective is presented in the next section.

Cotton

Cotton will be the commodity most adversely affected by China's WTO entry, because

- the tariff rate quota for cotton is very high, at about 22 per cent of domestic production, and
- the non-STE share in the TRQ is also very high at 67 per cent of the total.

These two factors combined will lead to virtually free trade of cotton. Furthermore, the tariff rate quota for China amounts to about 15 per cent of world cotton trade, far exceeding any other cotton importer's quota.

In Figure 1, which compares domestic and world cotton prices, it can be seen that the price disparity has widened over time. China will soon begin to import cotton rather than export subsidised cotton as in the last two years, and the tariff rate quota will be filled by market mechanism. This shift from exporting to importing and the large volume of imports will pose enormous pressure on the domestic market and the already high stockpiles of cotton in China. The adverse impact will be especially severe for major producing regions, such as Xinjiang in the remote western interior.

Figure 1 **Comparison of China's domestic and world market prices**

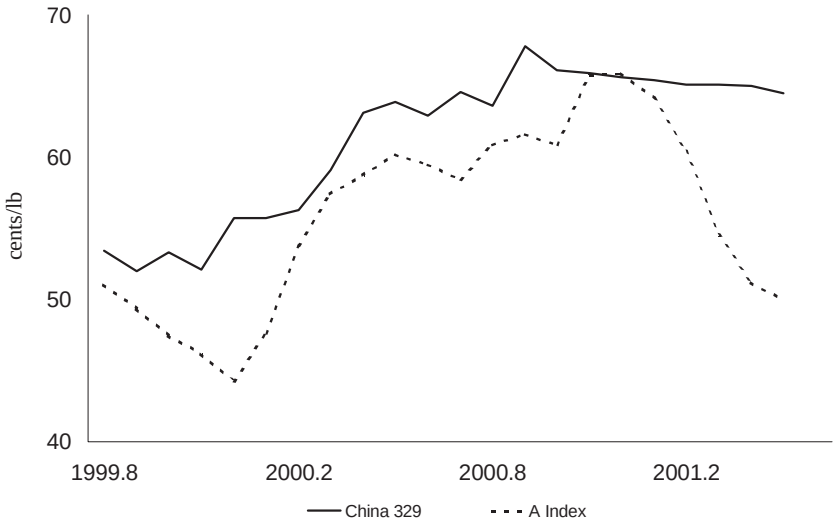


Table 4 **Cotton production and trade in China, 1995–2000** (million tonnes)

	Production	Exports	Imports	Net exports
1995	4.77	0.02	0.74	-0.72
1996	4.20	0	0.07	-0.07
1997	4.60	0	0.78	-0.78
1998	4.50	0.05	0.21	-0.16
1999	3.83	0.24	0.05	0.19
2000	4.42	0.29	0.05	0.24

Sources: Ministry of Agriculture, n.d. *China Agricultural Yearbook*, Various issues, China Agricultural Press, Beijing; Chinese Customs Bureau, n.d. *China Custom Statistics*, Various issues, Chinese Customs Bureau, Beijing; and Ministry of Agriculture, n.d. *China Agricultural Development Report*, Various issues, China Agricultural Press, Beijing, various years.

Table 5 **Sugar production and trade in China, 1995–2000** (million tonnes)

	Production	Exports	Imports	Net exports
1995	5.59	0.48	2.95	-2.47
1996	6.40	0.67	1.25	-0.58
1997	7.03	0.38	0.78	-0.40
1998	8.26	0.44	0.54	-0.10
1999	8.61	0.37	0.42	-0.05
2000	8.00*	0.41	0.64	-0.23

Note: * = estimate.
Sources: Ministry of Agriculture, n.d. *China Agricultural Yearbook*, Various issues, China Agricultural Press, Beijing; Chinese Customs Bureau, n.d. *China Custom Statistics*, Various issues, Chinese Customs Bureau, Beijing; and Ministry of Agriculture, n.d. *China Agricultural Development Report*, Various issues, China Agricultural Press, Beijing, various years.

As already mentioned, the cotton industry group most affected by accession may be not the farmers but the quasi-state marketing enterprises. The government has recently carried out profound cotton industry reforms. Former state cotton purchasing enterprises are now independent companies, responsible for their own economic performance. Other enterprises, including private traders and cotton users, are allowed to purchase cotton directly from producers or sign production contracts with farmers. The price pressure exerted by the world market may be mitigated to some degree by the more efficient domestic marketing promoted by these reforms.

Sugar crops

Sugar is another crop that will be profoundly affected by China's WTO accession, basically for the same reasons as cotton—high TRQ and high non-STE share—as indicated in Table 2.

The domestic sugar price has fluctuated greatly in recent years. There was a time when the domestic price was lower than the world price, however since early 2001 it has remained high, fetching $500 per tonne in the third quarter of 2001, or 80 per cent higher than the world price. Even with the 20 per cent in-quota tariff and other marketing costs, imported sugar will still be markedly cheaper than domestic sugar. China's net imports of sugar have recently declined to nearly zero (Table 5), but WTO accession will certainly change this situation.Since over 80 per cent of Chinese sugar comes from sugarcane, the region hardest hit by imports will be the southern provinces, Guangxi in particular.

Corn and wheat

Corn will be the grain crop most affected by accession. Since China unified its two-tier exchange system in 1994, domestic corn price has remained higher than the world price (Table 6). Only in 1995 and 1996 did China import corn, while in the other years it was a net exporter, exporting a near record amount of 10 million tonnes in 2000. These exports were subsidised, which will not be the case in the future, thus China will become a net importer.

The tariff rate quota of 6–7 million tonnes alone will not produce significant effects on China's domestic market. However, taking into account previous exports, a change of about 15 per cent of domestic production is foreseeable—large enough to unsettle the domestic market and affect farmers in major growing regions like Jinlin.

Table 6 **China's corn production, trade and price comparison, 1995–2000** (US$/million tonnes)

	Production	Exports	Imports	Net exports	Domestic price	US price
1995	111.99	0.11	5.18	-5.07	189	110
1996	127.47	0.16	0.44	-0.28	151	145
1997	104.30	6.61	-	6.61	140	108
1998	132.95	4.69	0.25	4.44	152	99
1999	128.08	4.31	0.07	4.24	139	84
2000	106.00	10.47	-	10.47	115	89

Note: Prices are not fully comparable.
Sources: Ministry of Agriculture, n.d. *China Agricultural Yearbook*, Various issues, China Agricultural Press, Beijing; Chinese Customs Bureau, n.d. *China Custom Statistics*, Various issues, Chinese Customs Bureau, Beijing; and Ministry of Agriculture, n.d. *China Agricultural Development Report*, Various issues, China Agricultural Press, Beijing, various years.

Table 7 **China's wheat production, trade and price comparison, 1995–2000** (US$/million tonnes)

	Production	Exports	Imports	Net exports	Domestic price	US price
1995	102.21	0.02	11.59	-11.57	202	155
1996	110.57	-	8.31	-8.31	197	176
1997	123.29	-	1.86	-1.86	176	132
1998	109.73	-	1.49	-1.49	157	110
1999	113.88	-	0.45	-0.45	155	103
2000	99.64	-	0.88	-0.88	135	109

Note: Prices are not fully comparable.
Sources: Ministry of Agriculture, n.d. *China Agricultural Yearbook*, Various issues, China Agricultural Press, Beijing; Chinese Customs Bureau, n.d. *China Custom Statistics*, Various issues, Chinese Customs Bureau, Beijing; and Ministry of Agriculture, n.d. *China Agricultural Development Report*, Various issues, China Agricultural Press, Beijing, various years.

In the long term, China will remain deficient in corn because of increasing domestic demand for corn as feed grain. China had been expected to start importing large volumes of corn by 2000, however demand for feed has been temporarily postponed because of a slower than projected improvement in income.

The situation for wheat will be similar to that for corn, but the effects will extend over broader geographical areas due to wheat's relatively dispersed production patterns (Table 7).

Rice and soybeans

The tariff rate quota for rice is low, thus the rice industry will not be greatly affected by accession. Moreover, the TRQ is divided into two rice categories, and this will also have mitigating effects. Finally, domestically produced rice, stands quite well in terms of competitive pricing.

Soybean imports have soared in recent years, to over 10 million tonnes—equal to two-thirds of domestic production—in 2000 (Table 8). Since the current 3 per cent tariff will remain as the only border measure, the domestic soybean market will be able to integrate fully into the world market, meaning that China will continue to import large volumes of soybeans in the future.

In June 2001, China issued a regulation on food safety management of genetically modified crops. Many traders fear that this regulation will harm the soybean trade, however a close look at the WTO rules on SPS and the regulation itself indicates that this fear is not well founded.

The adverse effects of increased soybean imports on the domestic market have been partially offset in recent years by reductions in soybean oil and soybean meal imports. Since 1998, the domestic soybean price has declined by 20 per cent. Because China's accession to the WTO promises a continuation of existing practice, no significant changes to the domestic market are foreseeable, although because of the substitution relationship the soybean market may be indirectly affected by the market for other oilseeds.

Oilseeds (edible vegetable oil)

China's TRQ for oilseeds is about 7 million tonnes (Table 2)—equal to almost the entire domestic production—while in the past imports of oilseeds have usually only amounted to

about 2 million tonnes a year. The high TRQ means that China will actually open its edible vegetable oil market to the world with only a 9 per cent tariff border measure.

Horticulture and livestock products

Chinese horticultural and livestock producers are generally expected to benefit from accession, the major reason being that fruit, vegetables, meat and poultry are labour-intensive products for which China enjoys cost competitiveness. Potential, however, does not necessarily become reality, and realisation of the possible gains requires much work on product quality standards.

Horticultural and livestock products are prone to protectionism in the disguise of food safety concerns, thus it is also possible that other countries will unfairly use SPS measures against imports from China. Other countries' misuse of anti-dumping provisions, subsidy and countervailing measures, and SSG measures may also set barriers to imports of labour-intensive products from China. If China is not treated fairly, disputes will occur, and China might not be able to realise its potential in these areas.

Table 10 gives an overview of the possible impact of China's WTO entry on its domestic production, market and producers of major crops.

The above analyses are of a cross-sectional and static nature and therefore do not account for the dynamism of domestic and world markets, nor do they say anything about the reaction of the domestic Chinese market to the world market. These two factors must be kept in mind when estimating the overall and long-term effects of accession. In the past, both domestic and world agricultural commodity prices have fluctuated greatly, with world prices at times reaching much higher than prices in China. As far as individual products are concerned, such fluctuations are still possible. The volume of China's trade in many commodities is great enough to strongly influence the world market. When a commodity's domestic price rises and China begins to import, the world price also rises and the domestic price gets depressed, thus the price gap soon narrows to such an extent that further import is no longer profitable. Import volumes are therefore, smaller than original price gaps might suggest. China's sheer size weighs heavily on the prices of bulk products like cotton, corn, wheat, rice and oilseeds. These dynamic factors mean that any conclusions made will always be debatable.

Impact estimates: regional perspectives

Broadly speaking, at least in the short term, China's WTO entry will present more challenges than opportunities to the vast western and central parts of China, while the eastern coastal provinces will benefit from it. The main reason for this is that the production of disadvantaged commodities mainly takes place in the former areas, while the latter are the main suppliers of horticultural and livestock products (Figures 2–8).

As mentioned above, cotton will be most adversely affected by accession, however the effects will vary greatly among regions. For example, because of diversification and a high proportion of off-farm income in the eastern coastal provinces, cotton growers there will not be greatly affected. On the other hand, the northwestern region of Xinjiang is the biggest cotton producer in China, accounting for over one-third of national cotton output, and for many of its farmers, cotton is almost the only crop (Figure 2). Small changes in cotton price mean big changes in income, thus the price of cotton has special social and

Figure 2 **Cotton production per farm by province in China, 2000**

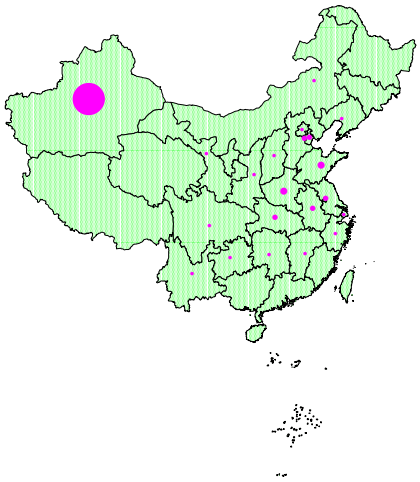


Table 8 **China's soybean production, trade and price comparison, 1995–2000** (US$/million tonnes)

	Production	Exports	Imports	Net exports	Domestic price	US price
1995	13.50	0.38	0.29	0.09	290	201
1996	13.22	0.19	1.11	-0.92	351	247
1997	14.73	0.19	2.79	-2.60	373	270
1998	15.15	0.17	3.20	-3.03	341	238
1999	14.25	0.20	4.32	-4.12	303	181
2000	15.41	0.21	10.42	-10.21	297	170

Note: Prices are not fully comparable.
Sources: Ministry of Agriculture, n.d. *China Agricultural Yearbook*, Various issues, China Agricultural Press, Beijing; Chinese Customs Bureau, n.d. *China Custom Statistics*, Various issues, Chinese Customs Bureau, Beijing; and Ministry of Agriculture, n.d. *China Agricultural Development Report*, Various issues, China Agricultural Press, Beijing, various years.

Table 9 **Edible vegetable oil production and trade in China, 1995–2000** (million tonnes)

	Production	Export	Imports	Net exports
1995	11.44	0.50	3.73	-3.03
1996	9.47	0.47	2.64	-2.17
1997	8.94	0.86	2.86	-2.00
1998	6.02	0.31	2.06	-1.75
1999	7.34	0.10	2.23	-1.98
2000	8.00*	0.11	2.02	-1.91

Note: * = estimate.
Sources: Ministry of Agriculture, n.d. *China Agricultural Yearbook*, Various issues, China Agricultural Press, Beijing; Chinese Customs Bureau, n.d. *China Custom Statistics*, Various issues, Chinese Customs Bureau, Beijing; and Ministry of Agriculture, n.d. *China Agricultural Development Report*, Various issues, China Agricultural Press, Beijing, various years.

Table 10 **China's WTO entry: estimated impacts on agricultural commodities**

Commodities	Positive effects	Negative effects
Wheat	..	*
Corn	..	* *
Rice	..	*
Soybeans	..	* *
Cotton	..	* * *
Sugarcane	..	* * *
Oilseeds	..	* * *
Horticulture	* *	..
Livestock	* *	..

political implications for the region. As in most of the western half of China, farmer income in this region is already much lower than in the east (Figure 9). Moreover, many of the farmers in Xinjiang are from ethnic minority groups, and they play a crucial role in the region's social and political stability, which is of great concern to the central government.

Another especially vulnerable region is Guangxi, where ethnic minorities comprise the majority of the population. This region is the major sugar crop producer, accounting for 40 per cent of total national production (Figure 3). Guangxi's western neighbour, Yunnan, is in a similar position, and the farmers of both provinces belong to the poorest group in the country (Figure 9).

Heilongjiang province is China's largest producer of soybeans, contributing 30 per cent of total national production, thus its agricultural sector will be damaged by fast-growing cheap soybean imports, and its farmers, whose income is already only about half that of their counterparts in the coastal provinces, will suffer greatly.

Jinlin province, China's leading commercial corn supplier, will also be negatively affected by accession (Figure 5). Since early 2001, the price of corn in China had been improving, however China's shift in trade position from corn exporter to big importer will halt, if not reverse this positive development.

In contrast to the inland provinces, the eastern coastal regions, the major producers of labour-intensive livestock and horticulture commodities (Figures 6–8), are potential gainers with better export prospects. It remains to be seen, however, how fully these regions can realise their potential.

In summary, it is likely that the already wide income gap between the poor western and relatively wealthy eastern regions will become even wider after China's WTO entry, with farmer income in the adversely affected provinces falling by as much as 10–20 per cent in the short term. This likelihood must be borne in mind when ways of mitigating the adverse impacts of China's accession to the WTO on vulnerable groups are being considered.

Figure 3 **Sugar crop production per farm by province in China (2000)**

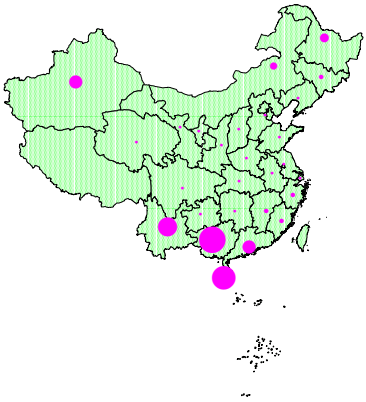


Figure 4 **Soybean production per farm by province in China (2000)**

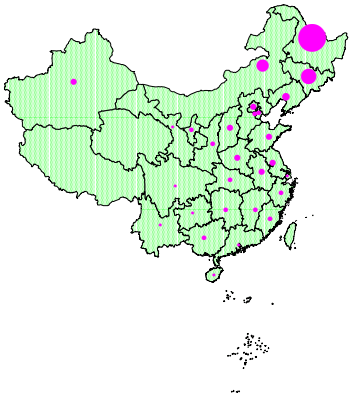


Figure 5 **Corn production per farm by province, 2000**

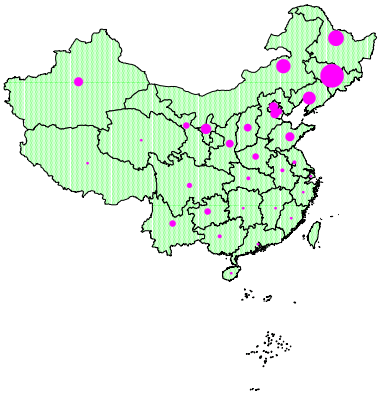


Figure 6 **Total fruit production by province, 2000**

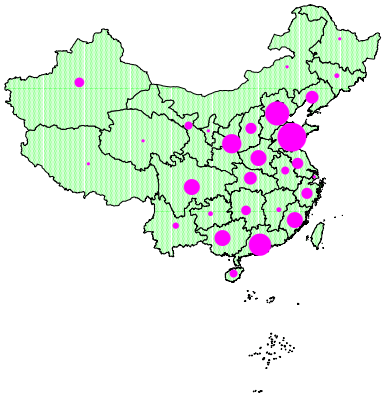


Figure 7 **Total vegetable production by province, 2000**

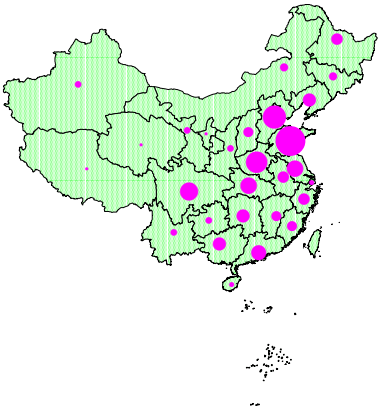


Figure 8 **Total meat production by province, 2000**

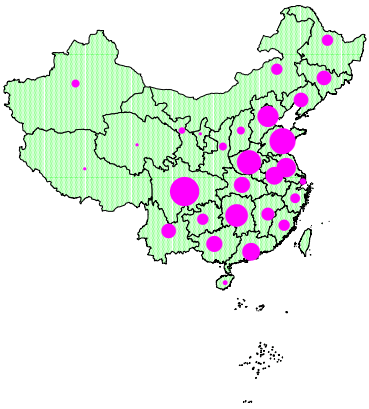
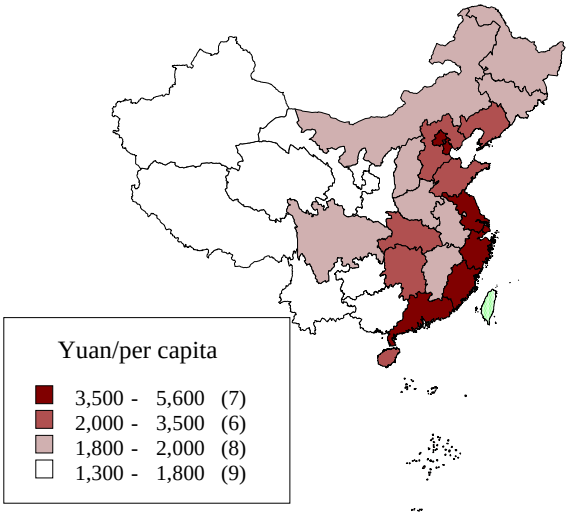


Figure 9 **Farmer income by province, 2000** (yuan/capita)



Impact estimates: a broader perspective

Beyond the commodity and regional issues just addressed, China's accession to the WTO also requires it to make fundamental changes to its agricultural trade system, domestic marketing policy and production structures. These changes will have far-reaching impacts, most of them beneficial to the national economy in general and to farmers in particular, especially in the mid and long terms.

First, WTO entry will force decision makers and government officials to become more market oriented and legally responsible in their thinking. This applies to all levels of the economy, including local levels. The WTO is a rules-based international organisation, and its rules are market based. China is in a transitional period from planned economy to market economy. Though great progress has already been made, the planned economy ideology seems to be rooted firmly in place. Even just the need to understand the negotiation results may help many in China better appreciate the language, ideology and mechanisms of a market economy.

The slow pace of trade policy reform so far has hindered the healthy development of the national economy. The monopoly position and excessive power of State Trading Enterprises, boosted by a non-transparent decision-making process, has lead to low efficiency and widespread corruption and market manipulation on behalf of small interest groups. The tariff and licensing regime has also encouraged smuggling and bribery, as revealed in a number of cases by the media. WTO entry should greatly increase transparency and predictability in trade practice, and also improve the position of non-STEs. In fact, positive moves in this direction have already been made. Within three years, the controlled licensing regime will be replaced by one of free licensing, requiring only registration and allowing all trading enterprises, regardless of their ownership status, to trade on the condition that they meet certain minimum financial and business standards.

This new system will promote trade efficiency and competition, and thus strengthen Chinese farmers' marketing position.

WTO entry will also provide an impetus to domestic marketing reforms, recently introduced for example into grain and cotton marketing. The cotton marketing reform plan represents a real step towards full liberalisation. On the one hand, existing quasi-state cotton marketing enterprises are detached from government departments and become independent commercial companies. On the other hand, cotton mills and other cotton users are allowed to engage in cotton purchasing, cotton processing and cotton marketing activities. With the establishment of a direct connection between cotton producers and cotton users, producers have a wider range of potential customers for their cotton, and cotton users don't have to rely on inefficient and expensive quasi-state marketing enterprises for their raw material supplies, thus marketing costs and marketing margins are lowered, and both producers and users benefit.

The new arrangements for grain marketing reform seem complicated at first glance, however in essence they represent a healthy correction to the 1998 grain policy changes, which aimed to bring grain marketing back under direct government monopoly. The 1998 policy changes failed to reduce state budget outlays and farm price support, and China's WTO accession now gives policymakers the chance to repair correct the changes and return policy to the previous road towards market liberalisation.

Another possible benefit of accession is a more efficient use of scarce budgetary resources. The WTO requires member countries to reduce production and trade-distorting subsidies to agriculture. The Amber Box measures, which include export subsidy and price support, are not only distorting but also inefficient, and inefficient in terms not only of agricultural resource use but also of governmental spending. The huge subsidies provided to the state grain and cotton marketing agencies are more or less a waste of scarce and valuable public resources, which could better promote farmer income and food security if channeled through Green Box measures (for example research, education, extension, animal disease prevention, plant protection, food quality and safety control, infrastructure, marketing infrastructure and environmental protection).

China's WTO accession is also expected to lead to improvements in food safety and food quality standards, since such improvements are necessary if export opportunities for labour-intensive products are to be exploited. As farmers use more chemical fertiliser, pesticide, other chemicals and feed additives, consumers around the world are becoming increasingly concerned about the safety and quality of labour-intensive products like vegetables, fruit and meat.

Farmers of land-intensive crops like cotton, oilseeds, feed and food grains will have to increase productivity and efficiency, or restructure their production profiles. These farmers' fundamental disadvantage lies in the very small scale of their operations—on average they own less than one hectare per household. Chinese farmers have no hope of competing with farmers in Australia, North America or even Europe, however the expected increase in imports of certain agricultural products may have a beneficial side effect, that is it may enable China to return ecologically vulnerable lands to their natural state, thus promoting sustainable resource utilisation and agricultural development in the long term.

Table 11 **China's WTO entry: estimated effects on Chinese agriculture**

Effect domains	Promoting effects	Adverse effects
Market-conform thinking	* * *	..
Trade policy transparency	* * *	..
Domestic policy reform	* * *	..
Food safety	* *	..
National food security	* long-term	* short-term
Marketing efficiency	* * *	..
Production efficiency	* *	..
Resource sustainability	* *	..
Farmer's income		* widening gap
Rural migration	* *	..

Last but not least, China's accession to the WTO will have a significant impact on rural labour migration, with rural labourers from the western inland provinces increasingly leaving home to pursue work and income opportunities in the eastern coastal areas, in either the farming sector or the cities. The forces behind this move will be both 'pushing' and 'pulling'. It has been predicted that accession will cause additional unemployment of 4–9 million in rural China. Although the pain is inevitable, it is beyond doubt that the rural labour force must be reduced if labour productivity is to be improved and competitiveness increased. Opportunities for higher income and better jobs in the coastal regions will serve as the pulling force to attract migration from the western regions.

All of the policy and institutional changes discussed here will have positive impacts on farmer welfare (Table 11) and, combined, will serve to mitigate the adverse effects of accession identified in the above commodity analysis. Some of the changes will be immediate, others gradual, but all will profoundly influence national ideology, and this may very well be the most important consideration in any evaluation of WTO accessions' impacts on the vast rural population of China.

One more point must be made, that is that farmers will benefit from increased competition in other sectors of the economy, particularly the agricultural material and service input sectors. A more detailed discussion of this topic, however, is beyond the scope of this paper.

Concluding remarks and policy recommendations

In summary, of all the commitments made by China in its accession to the WTO, the tariff rate quota will have the most impact on its agricultural sector. Tariff rate reduction will have a relatively small impact, and WTO rules on domestic support hardly any impact at all. On the export side, misused SPS, SSG, antidumping and antisubsidy measures may present the biggest barriers to Chinese labour-intensive products.

Farmers of land-intensive products—particularly cotton, sugar crops, oilseeds, corn and soybeans—will be among the most adversely affected, at least in the short term. On

the other hand, horticulture and livestock farmers are potential gainers, however realisation of their potential gains depends on their efforts to meet market needs and play fair in relation to trade with importing countries.

Regarding regional impacts, the eastern coastal provinces will be the major beneficiaries of accession, while their counterparts in the vast western inland regions will be the major losers. This will further widen the already wide regional income gap.

From a broader perspective, China's WTO entry will bring about fundamental changes in its agricultural trade system, domestic marketing policy and production structures. These changes will have a positive impact on farmer welfare and thus partly mitigate some of the adverse impacts of accession. Other induced changes, in ideology and political system, will be fundamental, profound and far-reaching.

In meeting the challenges of WTO accession, China must not turn back to protectionism. Protectionism is not a real solution. Some protective measures may have short-term benefits, but they will do more harm in the long term. To overcome the difficulties and mitigate the adverse effects of accession to the WTO, particular efforts should be made in the several areas.

First, the processes of market-oriented reform must be speeded up. This applies to both trade policy and domestic market policy. As the government has already committed itself to establishing a market economy, policy reforms are of utmost importance. Recent decentralisation has given rise to regional protectionism by local governments, posing a significant problem in the marketing of agricultural products. A thorough reform of STEs, involving the severing of their direct links with the government, is crucial. Inefficient Amber Box expenditure should be reduced to a minimum or eliminated altogether.

Support for farmers needs to be more effective and efficient. The current rural and agricultural taxation reforms need to take a new direction. According to our calculations, United States farmers receive about US$150 for each hectare of farmland, whether cultivated or fallow, and European Union farmers about twice as much. Their Chinese counterparts, on the other hand, have to pay about US$100 per hectare in various agricultural taxes, levies and fees, which constitute a large part of local government revenue, especially in poor inland regions. The existing taxation arrangements should be abolished. Government revenue losses in the inland provinces can be compensated for by reallocation of the savings from the abolishment of marketing subsidies. Local governments in the eastern coastal regions can do without taxes and levies from farmers. Moreover, more targeted support needs to be provided to poor regions—at the regional and household levels—to increase production and improve living conditions. In the longer term, after the existing taxation system is abolished, direct payment to farmers as in the United States can be considered.

The next key areas are market information and transparency, along with food safety and quality standards. For the agricultural sector, in particular for many small farmers, market information is a public good of great value, however currently no individual producers possess good market information. It is the government's responsibility to build up a good system of agricultural market information and make it accessible to farmers. Food safety and quality standards must also be established. This will be in the interests of

not only consumers but also producers, and will help China meet the challenges and take the opportunities of accession to the WTO.

Finally, the government needs to increase expenditure on agricultural research, education, extension and infrastructure. It has already increased its budget for these purposes, but far more is needed. For example, the total budget of the Chinese Academy of Agricultural Sciences—the national agricultural research team—is only about US$30 million, or one-fifth the annual expenditure on corn research of the Pioneer Company in the United States. The agricultural infrastructure situation is similar. Government investment in this area needs to be greatly increased. This sort of expenditure needs to be increased not only because they are included in the Green Box measures allowed by the WTO, but also because they are crucial to increasing the productivity and quality of Chinese agriculture, and providing the huge and ever-expanding Chinese population with long-term food security.

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