

VI. CHINESE AGRICULTURAL REFORM, THE WORLD TRADE ORGANIZATION AND PREFERENTIAL TRADE NEGOTIATIONS

*By Shunli Yao**

Introduction

China,¹ as a member of WTO, has become part of the multilateral trade negotiations. At the regional level, China has also entered into negotiations with ASEAN, Australia, New Zealand and Chile on FTAs. Agriculture is a contentious issue in all those talks. China is the largest developing member country of WTO and a key trader in agricultural products; thus, its positions on, and their implications for WTO agriculture negotiations and regional FTA talks have received much attention.

To understand all those issues, it is also necessary to have a clear understanding of the role of Chinese agriculture in the country's national economic development as well as the economic and political factors that help shape Chinese agricultural trade policy. Section A reviews the Chinese industrialization process and identifies major distortions created under central planning. Section B compares Chinese agricultural and industrial reforms with the focus on agricultural trade. Section C discusses the political economy of Chinese agricultural trade policy and speculates about its future development. Section D explains Chinese negotiation positions on agricultural issues in WTO and evaluates the China-ASEAN FTA. Section E provides the conclusion.

A. Distortions in the pre-reform Chinese economy

During the mid-twentieth century, when the People's Republic of China was founded, China was an agrarian economy with an underdeveloped industrial sector. Eager to catch up with the Western powers, like most developing countries at that time, China adopted

* The author is grateful for the research assistance provided by Cao Lijuan in carrying out this study. The technical support of the United Nations Economic and Social Commission for Asia and the Pacific and additional support from the AusAID China Australia Governance Programme is gratefully acknowledged. This chapter benefited from discussions with Colin Carter and participants at a series of Beijing Agricultural Trade Policy Dialogues, which were inaugurated in September 2003. The author is also grateful to Dr. Mia Mikic, Zhong Funing, Zhu Jing and an anonymous expert for their valuable comments.

¹ Throughout this chapter, China refers to mainland China (excluding Hong Kong, China and Macao, China) as a customs entity. Hong Kong, China as well as Macao, China and Taiwan Province of China are identified as independent customs entities.

a strategy that emphasized the development of the industrial sector.² Agriculture, as in many countries pursuing fast industrialization, was given a role to support this development strategy. Nationalization of the fledging industrial and commercial enterprises, together with collectivization of the rural economy, made it possible for the Government to carry out that strategy effectively, following the Soviet model of central planning in its management of the national economy.

Except for the early 1950s, when the country received aid from the former Soviet Union, China was isolated from rest of the world until 1979. As a result, China's early industrialization had to be internally financed. In addition to budget outlay, the bulk of which went to industrial investment, the Government set low wage levels for industrial workers, high prices for industrial products and low prices for agricultural products as an implicit tax aimed at diverting agricultural revenues and private savings into the industrial sector. As a result, the agricultural sector became disadvantaged.

To develop the industrial infrastructure at the expense of agriculture was a common practice in most post-Second World War developing countries. However, in China, it was not just a matter of economic policy or development strategy. At play was also the way political status was granted to various social groups. According to the Constitution of China, it was not peasants but workers in the mostly state-owned industrial sector who were given the leading class status in the Chinese political establishment. It was customary for communist countries to regard proletariat workers as the vanguard of the regimes, because most revolutions took place in cities and industrial workers formed the backbone of the communist military forces. Therefore, orthodox communist ideology commends proletariat workers. In China, however, the rural-based Chinese Communist Party was supported by the peasants in the civil war against the city-based Nationalists. Yet, surprisingly, the Constitution of China put proletariat workers above peasants in Chinese political life. This can be seen as being a convenient way for the Government to lend its political support to the industrialization campaign while, at the same time, aligning itself with orthodox communist ideology.

At that time, wages for Chinese workers were low by international standards, yet enviable in the eyes of the peasants. Workers in state-owned enterprises (SOEs) also enjoyed free housing and health care as well as guaranteed job security. Later in the reform era, when laid-off workers lost those benefits, there was a widespread outcry and the pace of SOE reform had to be slowed. In contrast, the under-represented Chinese peasants have never received the same treatment, a situation for which there is ample anecdotal evidence. In one incident, a rural housewife resorted to seeking the personal intervention of the Chinese prime minister (through an accidental encounter) to help her husband, who was a migrant worker at an urban construction site, to get his (and a million others) long overdue wages. The Chinese legal system itself should have been able to

² See Yifu Lin, Cai Fang and Li Zhou (2003), *China's Miracle: Development Strategy and Economic Reform*, for a thorough analysis of this "catch-up" strategy.

handle such a case, but obviously it did not live up to the expectations of “justice for all”, including the under-represented.

Biased resource allocation between agriculture and manufacturing at the national level was only one of many pervasive distortions in China’s central planning system at that time. Within the manufacturing sector, priority was given to heavy industries that produced investment goods at the expense of light industries that produced consumer goods. Within the agricultural sector, grain production was emphasized to ensure an adequate food supply for the country.

Normally, a catch-up strategy also requires an import-substitution trade policy that effectively prevents a country from engaging in international trade to its fullest potential. In China’s case, the United Nations embargo led by the United States of America against the then-new communist regime in the 1950s forced the country to make “self-reliance and self-sufficiency” the cornerstone of its foreign trade policy. In agriculture, a policy-induced 1958-1960 famine further reinforced the conviction of the Chinese leadership that “grain self-sufficiency” should become the principle of utmost importance in agricultural trade policy-making.

In order to build up an industrial infrastructure in a short period, this development strategy had its own merit. However, given China’s scarce capital and land resources but abundant supply of labour, the strategy was not in line with that country’s comparative advantages and was only viable when foreign trade was restricted.

Emphasis on heavy industries and grain production did help boost production, although apparently at levels that were far below potential.³ However, intrinsic flaws in central planning also created severe problems, such as a structural imbalance in the national economy and a lack of incentives for producers. By the end of the 1970s, the economy was such a shambles that it prompted the Government to embark on reforms that profoundly transformed the Chinese economy.

B. Chinese reform and agricultural trade

Chinese reform has been a gradual process. At the beginning, the reform was aimed at improving the efficiency of the system within the central planning framework, and market elements were introduced as supplements. Since the early 1990s, the market economy approach has been increasingly gaining legitimacy in the official reform blueprint and bold initiatives have been introduced to correct various distortions. The result has been economic growth both in the agricultural and industrial sectors.

Agricultural reform in China has resembled industrial reform in many aspects. The “household responsibility system” was introduced in the early 1980s to boost farmers’

³ The high growth rate under central planning was mainly due to greater inputs but often with low productivity gains, a point that was made popular by Paul Krugman, in his article, “The myth of Asia’s miracle” in *Foreign Affairs*, November 1994.

incentives in agricultural production, and a similar responsibility system was later applied to enterprises. As a quasi-privatization measure, the land tenure system was instituted to ensure the rights of farmers to keep their land for 20 years; in enterprise reform, the shareholding system gave workers a stake in production performance. Most commodity prices were freed up, subject only to market forces. Grain production was still the priority in agriculture. But instead of mandatory production quotas to be sold to the Government at lower than market prices (the procurement practice during most of the reform years), a price support programme has been put in place to encourage grain production even though market prices are often higher than the minimal procurement prices. For Chinese peasants, this change in procurement policy has helped to transfer grain revenue from grain marketing bureaus to grain growers, and is a positive move as far as peasants' income is concerned.

Liberalization has unleashed the potential of labour-intensive production in both agriculture and industry. In agriculture, the development of the horticulture, poultry, dairy and animal husbandry subsectors has helped to diversify the diet of the population, and has increased peasants' income. In industry, the development of the consumer goods sector and integration with the international production chain through foreign trade, particularly under the processing trade regime, has changed the Chinese industrial makeup. As a result, within both agriculture and industry, distortions due to overemphasis of grain production and heavy industry during the pre-reform era have been substantially reduced; however, more needs to be done to the factor markets.

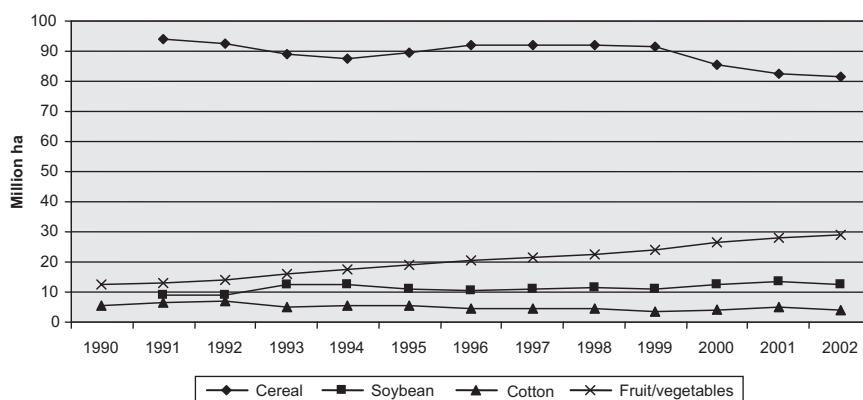
Yet, despite extensive liberalization of the Chinese economy throughout the reform era, the practice of taxing agriculture to subsidize industry did not change until 2006. Notwithstanding the overall economic growth, the rural-urban divide has further increased (the urban-rural per capita income ratio increased to more than 3:1 in 2005). To correct this disparity, China's eleventh Five-Year Plan includes the New Rural Development (NRD) programme in its platform, which is aimed at giving rural development a higher priority.

One immediate policy reform has been the abolition of all fees and taxes associated with agricultural production. This is a highly significant move because, for the first time in several thousand years of Chinese history, no taxes and fees are being imposed on peasants. This reflects the determination of the Chinese leadership to deal with rural backwardness, which is a long overdue task. However, it remains to be seen how far the NRD campaign can go, as it is a top-down approach. It is not initiated, monitored or run by rural residents, who are the potential beneficiaries, and it may therefore deviate from its original objectives during the course of its implementation. After all, NRD supporters have to compete for resources with other more politically powerful constituencies.

In China, arable land and capital are scarce. However, unlike arable land, capital can be borrowed from abroad. This simple fact explains the different ways in which structural adjustment has been achieved in both agriculture and industry. In agriculture, with a slight increase in total sown area, additional land use for horticulture has been met mainly by a smaller sown area for grain (figure 1). This is a reflection of China's changing policy on "grain self-sufficiency" (down from 100 per cent to 95 per cent). The declining

grain acreage has been met by simultaneous gains in productivity. The household responsibility system gave a boost to grain production in the early 1980s. Agricultural research and development investment, mostly in the grain sector (some of which was during the pre-reform era), started to show its impact in the reform years. However, since the 1990s, grain yield has been mainly fuelled by more inputs rather than by productivity improvement, a reflection of the grain sector's fatigue.

Figure I. Sown area of major crops in China, 1990-2002



Sources: *China Statistics Yearbook* and the Food and Agriculture Organization of the United Nations database, various years.

The correction of distortions within Chinese industry has taken a different route. While many small SOEs have been privatized, medium and large-sized SOEs are mostly intact and continue to receive generous state subsidies. Without substantial reform of SOEs, the makeup of Chinese industry has been transformed by the emergence of a vibrant non-state sector that includes private, collective and foreign-funded industrial enterprises. While the private and collective enterprises are struggling to raise money for their operations, foreign-funded enterprises have brought in huge amounts of capital in the form of foreign direct investment. Today, China is the world's top recipient of foreign direct investment. Of course, the release of rural surplus labour has also contributed to the development of labour-intensive industries. As a result, in 2005, SOEs contributed only one third of the total industrial gross domestic product in China. In contrast, because agricultural production solely relies on local factors (such as land and labour), its structural makeup has not changed very much compared to industrial production. The share of grain and other land-intensive crops (soya and cotton) in China still made up as much as 70 per cent of sown areas in 2002.⁴

⁴ If measured in terms of actual arable area, this number will be smaller as sown areas shown in Chinese statistics are based on single cropping for horticulture and multiple cropping for grains.

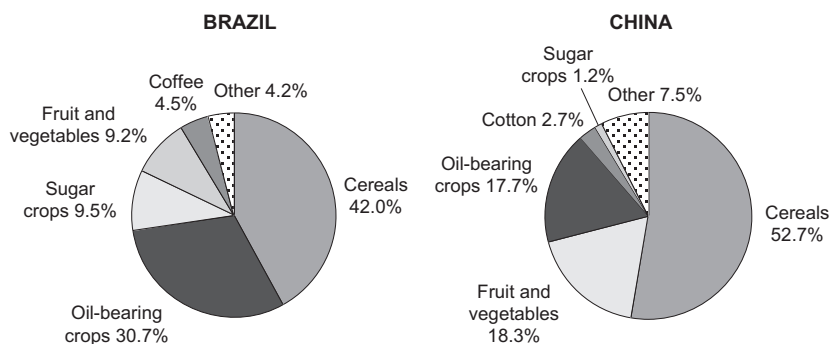
How far has the correctional process progressed in Chinese agriculture? To answer this question, an international comparison can be made with Brazil, a country of similar size but a quite different labour/land endowment ratio. As discussed by Jales and others (2005), in the past 30 years, the reduction of state intervention, market deregulation and trade liberalization, combined with research and development investment and macro stabilization, have helped modernize Brazilian agriculture and agribusiness. Brazil now has one of the most liberalized agricultural trade regimes in the world (table 1). China is also quite liberalized as far as tariffs are concerned, but its agricultural trade patterns are also determined by other factors, as will be discussed below.

Table 1. Applied tariff structures for Brazil, China and other countries

| | Brazil 2003 | China 2002 | United States 2003 | EU 2003 | India 2002 |
|---------------------------|------------------------|-----------------------|-------------------------------|--------------------|-----------------------|
| Mean | 10.2 | 15.3 | 12.3 | 29.3 | 36.9 |
| Median | 10.0 | 13.0 | 4.4 | 14.4 | 30.0 |
| Standard deviation | 6.0 | 11.5 | 29.6 | 40.2 | 25.8 |
| Variation coefficient | 0.58 | 0.75 | 2.40 | 1.37 | 0.70 |
| Maximum tariff | 55.0 | 71.0 | 350.0 | 277.2 | 182.0 |
| No. of tariff lines | 959 | 1 044 | 1 829 | 2 091 | 690 |
| No. of tariff lines = 0 | 79 | 80 | 388 | 403 | 17 |
| No. of tariff lines > 30% | 4 | 130 | 167 | 633 | 108 |

Sources: Ministério do Desenvolvimento, Indústria e Comércio Exterior-Brazil, United States International Trade Commission, integrated tariff of the European Communities-European Union and the World Trade Organization, cited in Jales and others, 2006, p. 7.

China has 154.6 million hectares of arable land compared to 54.5 million ha in Brazil. At the same time, China's total employment is 737.1 million while that of Brazil is 66.2 million (Jales and others, 2006). These numbers suggest that if Chinese agriculture were sufficiently open to international trade, production of its labour-intensive versus land-intensive agricultural products should have exhibited a pattern that is in sharp contrast to that of Brazil. In fact, figure II, which depicts the composition of total Brazilian and Chinese planted area in 2002, shows striking similarities in farmland composition for land-intensive versus labour-intensive crops (7:3 for cereals and oil-bearing crops versus horticulture etc.) in the two countries. This simple comparison suggests that Chinese agriculture has not been fully integrated into the world economy. Barriers to trade in various forms, either policy-induced or natural, are to blame. Chinese agriculture mainly consists of smallholders on subsistence farms who have not been brought into the domestic market. Obviously, there is still a long way to go to complete the integration of Chinese agriculture into the domestic and international markets.

Figure II. Composition of planted area in Brazil and China, 2002

Sources: Brazilian Institute of Geography and Statistics, China Statistics Yearbook, and the Food and Agriculture Organization of the United Nations as cited in Jales and others, 2006, p. 15.

The various ways in which the Government supports the grain sector and SOEs have ramifications for trade reform. With a broad tax base including non-state sectors (and until recently, agriculture) and the dwindling share of SOEs in the national economy, subsidizing SOEs through easy loans and enabling them to survive competition from non-state sectors as well as imports is financially manageable for the Government. Trade liberalization in the manufacturing sector can make the life of SOEs miserable but does not necessarily threaten their existence. In contrast, the viability of the price support programme instituted to ensure grain self-sufficiency as well as the grain self-sufficiency target itself requires a grain-trade protectionist policy. The economic logic is that liberalizing border measures (improved market access, in China's case) would make it financially infeasible to maintain the price support programme, given the large size of the Chinese grain sector and very limited budget for agricultural domestic support. (This is especially true when the inefficient SOEs keep siphoning off financial resources from banks and the state budget).

It is true that, as far as tariffs are concerned, Chinese agricultural trade is also quite liberalized as illustrated by table 1. However, key Chinese agricultural imports, including grains, are also subject to tariff rate quota (TRQ) restriction (table 2). While TRQs have been expanding over the years, Jales and others (2005), citing Bryan Lohmar and David Skully (2003), observed that:

"The implementation of China's TRQ commitments, however, has proved to be rather problematic. Those who export to China express concerns as to the lack of transparency in the quota allocation process, since no information on the quantities and destinies of the TRQs is provided. Another problem reported is that TRQs allocated to some commodities are too small to be commercially viable. A potential importer holding a quota for a few thousand metric tons of grains has to pool the quota with other shipments in order to

fill a large grain cargo ship (which generally holds between 10,000 and 55,000 mt). Such practice adds transaction costs and could be further complicated if the Government imposes restrictions on pooling.”

Obviously, Chinese TRQs are more binding on imports than they are meant to be.

Table 2. China's tariff rate quota commitments for agricultural products

| Agricultural product | Initial quota quantity (million mt) | Final quota quantity (million mt) | Date reaching quantity | In-quota tariff (%) | Out-of-quota tariff (%) | Schedule for increasing TRQ quantity (million mt) |
|--|-------------------------------------|-----------------------------------|------------------------|-----------------------------|---|---|
| Wheat (6 products) | 7.884 | 9.636 | 2004 | 1-10 (depending on product) | 74 (accession); 65 (final) | 2002:8.468 2003:9.052 2004:9.636 |
| Corn (5 products) | 5.175 | 7.2 | 2004 | 1-10 (depending on product) | 64 (accession); 51 (final) | 2002:5.85 2003:6.525 2004:7.2 |
| Rice-short and medium grain (7 products) | 1.6625 | 2.66 | 2004 | 1-9 (depending on product) | 57 (accession); 46 (final) | 2002:1.995 2003:2.3275 2004:2.66 |
| Rice, long grain (7 products) | 1.6625 | 2.66 | 2004 | 1-9 (depending on product) | 57 (accession); 46 (final) | 2002:1.995 2003:2.3275 2004:2.66 |
| Soybean oil (2 products) | 2.118 | 3.5871 | 2005 | 9 | 63.3 (accession); 9 (final by 2006) | 2002:2.518 2003:2.818 2004:3.118 2005:3.5871 |
| Palm oil (2 products) | 2.1 | 3.168 | 2005 | 9 | 63.3 (accession); 9 (final by 2006) | 2002:2.4 2003:2.6 2004:2.7 2005:3.168 |
| Rapeseed oil (2 products) | 0.7392 | 1.243 | 2005 | 9 | 63.3 (accession); 9 (final by 2006) | 2002:0.8789 2003:1.0186 2004:1.1266 2005:1.243 |
| Sugar (6 products) | 1.68 | 1.945 | 2004 | 20 (initial); | 68.6 (accession); 15 (final) 50 (final) | 2002:1.764 2003:1.852 2004:1.945 |

Table 2 (continued)

| Agricultural product | Initial quota quantity (million mt) | Final quota quantity (million mt) | Date reaching quantity | In-quota tariff (%) | Out-of-quota tariff (%) | Schedule for increasing TRQ quantity (million mt) |
|------------------------|-------------------------------------|-----------------------------------|------------------------|---------------------|------------------------------------|---|
| Wool (6 products) | 0.25325 | 0.287 | 2004 | 1 | 38 (accession); 38 (final) | 2002:0.2645 2003:0.27575 2004:0.287 |
| Cotton (2 products) | 0.78075 | 0.894 | 2004 | 1 | 61.6 (accession); 40 (final) | 2002:0.8185 2003:0.85625 2004:0.894 |

Source: United States General Accounting Office, "Report to Congressional Committees: Analysis of China's commitments to other members," GAO-03-04, October 2002, in Jales and others (2006), p. 8.

Note: Elimination of TRQs on soybean oil, palm oil and rapeseed oil were planned for 1 January 2006.

Thanks in part to its protectionist grain trade policy, different patterns exist in Chinese foreign trade in agriculture and manufacturing. Figure III shows that while overall Chinese foreign trade is growing at an exponential rate, the country's agricultural trade remains flat. Although the share of agriculture in global commerce declined during the past decade, in 2003 it still accounted for as much as 9 per cent of total world trade and 11 per cent of total trade by developing countries. In comparison, the share of agriculture in Chinese foreign trade was below 4 per cent for the same year. Even more striking is the fact that today the share of agriculture has fallen to one-thirtieth of global GDP and to 1.8 per cent of developed countries' GDP. However, as recently as 2002, in China the share was as high as 14.5 per cent. In terms of the share of agriculture in total employment, the comparison is even sharper – 43.4 per cent in China compared with less than 2 per cent in developed countries.⁵

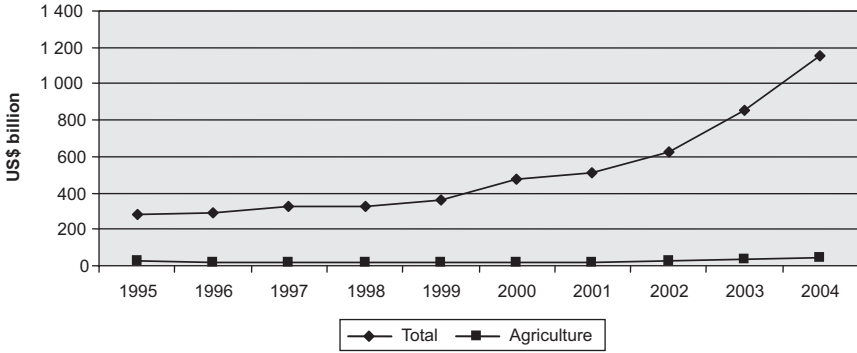
Earlier, a widely circulated graph indicated a significant expansion of Chinese agricultural trade along the lines of its comparative advantage (e.g., Rosen and others, [2004], figure 3.1, page 38). However, in contrast to that graph, when trade data are carefully grouped into various agricultural products (figure IV), they show that Chinese agricultural trade patterns changed very little in the past 10 years as far as trade balance was concerned. The exception is a sharp rise in soya and cotton imports in recent years,⁶

⁵ Agricultural products for China are defined in the Annex to the Uruguay Round Agreement on Agriculture. Except for China, all numbers in this paragraph come from Kym Anderson and Will Martin (2005).

⁶ A graph of this type first appeared in C.A. Carter and X. Li (2002), using inflation-adjusted data for 1980-1997.

Figure III. Agriculture in total trade

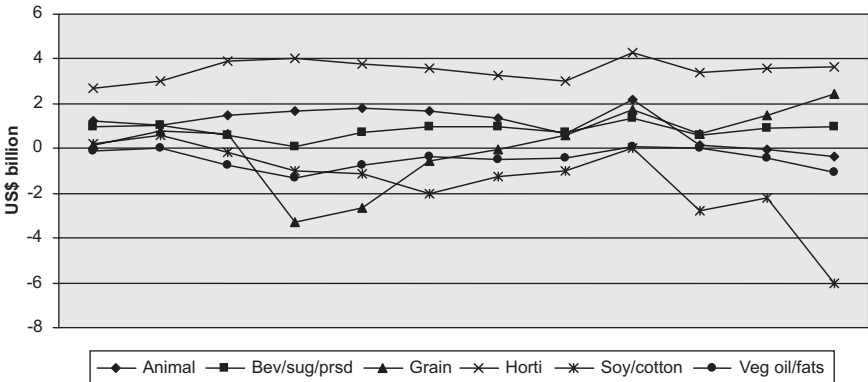
Chinese foreign trade, 1995-2004



Sources: China Customs statistics (various years) and calculations by the author.

which is discussed in the following section. Histogram analysis over a span of 18 years (1980-1997) finds stronger evidence of persistent trade patterns in agriculture than in manufacture and primary products (Carter and Li, 2002). Of course, in addition to a protectionist grain trade policy in China, barriers to Chinese horticultural exports – which are often disguised protectionism in the form of sanitary and phytosanitary (SPS) and technical barriers to trade (TBT) measures – also contribute to the slow improvement in Chinese agricultural trade patterns along the lines of its comparative advantage. This occurs despite the fact that, through intra- and intersectoral adjustment, there has been much domestic market liberalization in the Chinese agricultural sector.

Figure IV. Chinese agricultural trade balance, 1992-2003



Sources: China Customs statistics (various years) and calculations by the author.

As part of its WTO accession commitment, China was opening up its grain trade through the lowering of tariffs and the expansion of TRQs up until 2006. However, in the initial years following accession, bad weather in North America reduced grain exports to China; at the same time, China began releasing the grain reserve that had been built up during the late 1990s into the domestic and even international markets. That helped to ease the pressure of grain imports. As a result, a surge in grain imports was not seen until 2005, when import pressure began to be felt.

A poor transportation infrastructure has often been cited as a reason for the lack of an integrated domestic agricultural market. Cotton producers in north-western Xingjian autonomous region faced difficulties in shipping their produce to the textile and clothing factories in the eastern region, and the transportation subsidies they received became a controversial issue in the WTO agriculture negotiations. Similarly, soybeans produced in China's north-eastern provinces have a hard time reaching the coastal oil crushing facilities. The weak transport infrastructure also serves as a natural barrier to the expansion of Chinese agricultural trade, as do the grain reserve system and the low degree of commercialization in Chinese agriculture.

C. Political economy of Chinese agricultural trade policy

Differing patterns of agricultural protection in rich and poor countries can be explained based on economics as well as the unique political system of each country. Rich countries, such as the United States and Japan, as well as the European Union have a small number of farmers compared with the total population, and it is easier for them to form a united front to lobby for agricultural protection. Fluctuations in agricultural harvests due to weather dependence, food shortages or famine in recent history, and the not-so-justifiable "multi-functionality" argument⁷ all help to attract public sympathy for farmers and the imposition of protectionist agricultural policies and support programmes in those countries. Total expenditure on agricultural subsidies may not be small, but it is much more affordable for rich countries, given the relatively small share of agriculture in the economy and the number of farmers in the total population. Although taxpayers and consumers have to foot the bill, they are generally tolerant of the small per capita burden imposed on them (Anderson, 1995). Political systems also play a role. For example, under the electoral system in the United States, farmers are over-represented in Congress, which helps to perpetuate the government farm support programmes.

The opposite is true in the case of China. The large peasant population makes it virtually impossible to overcome the "free rider" problem in forming a farm lobby and it is financially infeasible to subsidize agriculture, which currently accounts for more than 40 per cent of total employment in China. Economics aside, China's official ideology traditionally favours proletariat workers in SOEs over peasants simply because the latter

⁷ In "Agriculture's 'multifunctionality' and the WTO," Anderson (2000) refutes the claim that agriculture deserves greater price support and import protection than other sectors because of the non-marketed externalities and public goods it produces jointly with marketable food and fibre.

as private citizens own property or a means of production. Furthermore, China does not have a law that legitimizes a nationwide independent trade union, and any trade associations have to be affiliated with a government agency. A farmers' union or association is no exception. As a result, Chinese peasants have very limited influence on agricultural trade policy-making. Unlike agricultural protection in the United States, which has become deeply embedded in the economic and political establishments, Chinese emphasis on "grain self-sufficiency", the cornerstone of its agricultural policy, has much weaker institutional underpinnings and is susceptible to the influence of many interest groups.

However, the official attitude towards private ownership is changing, and to own a property is less politically incorrect than before. The most significant change in official ideology towards private ownership is the "Three Represents Theory", the masterpiece of former Communist Party Secretary-General Jiang Zemin under which successful private businessmen are welcome to join the ruling party and business interests are given a bigger say in policy-making.

The grain self-sufficiency policy was the product of the Cold War era, which was punctuated by embargoes on, and famines in China. However, China now as a completely new international environment and the grain self-sufficiency doctrine is facing challenges both from within and outside China. The Chinese policy community is debating whether it is justifiable to pursue this costly doctrine. However, because the embargo and famine scene is still all too near in memory, it takes time for the leadership to change their perception of the evolving grain security issue.

Domestic liberalization has left the market as the sole regulator of grain production. However, WTO accession commitments have opened the door (up to TRQ limits) for imports, making it difficult to maintain sufficiently high domestic grain prices. Boosting grain production through farm subsidies, although allowed under China's accession protocol, is not a financially viable option given its sheer size and the large number of farmers engaging in grain production. Water shortages in China's grain belt and the excessive use of farm chemicals are also raising environmental concerns over grain production (Murphy, 2004).

Chinese peasants are in no position to influence agricultural policy-making in the same way that their United States and European Union counterparts are able to do. Nevertheless, the urban-rural divide and the plight of the Chinese peasants do pose a threat to social stability, which is the overwhelming concern of the leadership. In addition, the need to create a rural market for the demand-driven economic growth has resulted in the Chinese leadership taking rural development seriously in an unprecedented manner by including the NRD programme in the eleventh Five-Year Plan.

The NRD programme will certainly inject more investment into rural areas and the agricultural sector, but its impact on grain production would be ambiguous. First, the NRD programme may have positive effects on grain production by helping improve the rural infrastructure, but funds available to the ambitious programme will be limited. The politically powerful SOEs still receive huge amount of subsidies through easy loans and from the

state budget, leaving the Government with little room for financial maneuvering. Foreign direct investment has played a vital role in Chinese urban and industrial development; however, as a commercial operation, little has been earmarked for the rural areas. Second, the NRD programme comprises a long list of projects (for example, rural infrastructure, and health-care and education projects) that will compete for funds with the shoestring operation of grain production subsidies. Finally, with better infrastructure, education and health-care services, factor mobility will be improved, which will accelerate the process of factor (and product) market integration and production adjustment away from grain production (Zhong and others, 2006). Therefore, the net effects of NRD on grain production would be undetermined.

To raise the income of farmers is a key goal of the NRD programme. Given the limited resources, one feasible approach is to correct the remaining distortions within agriculture. This includes providing equal opportunities in accessing credit, inputs, research, and development funds and logistic support etc. for all agricultural production, in addition to price liberalization. Resources devoted to the grain support programme should be redirected to more productive or profitable use in agriculture. This would certainly boost horticultural and other types of labour-intensive production, and it would draw resources from the grain sector as the correction progresses. Since Chinese agricultural liberalization has proceeded in this direction for almost 30 years, this intra-agricultural correction alone may not suffice to raise the income of farmers significantly. From a global point of view, Chinese farmers could benefit enormously from the expansion of labour-intensive production, most notably horticulture wherein its comparative advantage lies. However, the comparative advantage of Chinese agriculture cannot be exploited to its fullest potential unless land and other resources, which are limited, are released from the grain sector. This is possible only if the grain trade is liberalized.⁸

The rising living standards of the Chinese population (particularly city dwellers) require the availability of more processed, convenient and better-packaged quality food rather than raw farm products. In response, food processing industries and agribusinesses are flourishing. At the same time, global trade liberalization in manufactures creates plenty of room for the expansion of the Chinese textile and clothing sector, which uses cotton as the major input. In some cases, however, their interests may not be consistent with those of domestic producers of primary agricultural inputs.

Soya was once among the strategic commodities whose self-sufficiency was encouraged. The Chinese Ministry of Science and Technology also made huge investments in research and development of genetic modification technology to boost soya production. To meet the rising domestic demand for quality cooking oil, many crushing facilities had been established in the coastal region of China by the late 1990s. Unable to access domestic soya supplies, most of which was produced in north-eastern China, the

⁸ An increase in horticultural production may result in a domestic price decline or terms of trade deterioration. This problem could be solved by upgrading the products for high-end domestic or international markets. However, this requires other inputs in addition to unskilled labour.

crushing industry successfully lobbied the Government in 2001 for opening up to soya imports despite opposition from domestic stakeholders. A similar idea is being floated for opening up to imports of corn feed in order to meet the demand in the livestock raising, dairy and meat industries.

Cotton is another strategic commodity. Chinese negotiators worked very hard to secure a quota limit in the accession negotiations in order to protect the cotton sector. However, China's textile and clothing industry was under expansion in anticipation of the expiry of the Multi-Fibre Arrangement by 2004 and was in need of cheap cotton, a key input for the industry. As a result, the National Development and Reform Commission allowed cotton imports that were well above the quota limit at the in-quota tariff rate, starting in 2003.

WTO negotiations are cross-sectoral in nature and agricultural trade agreements are often linked with the negotiation outcomes in other areas. When presented with a possible trade deal, the top leadership will weigh the agricultural interests against other more powerful constituencies (for example, those of the telecom, banking and insurance sectors) if a trade-off has to be made.

Pressure to liberalize the grain trade can also be felt from outside China. The Uruguay Round Agreement on Agriculture has a built-in agenda for trade talks on the three pillars of agricultural support, i.e., market access, domestic support and export assistance. At the Hong Kong Ministerial Conference in 2005, significant progress in modality talks on the last two issues was achieved and negotiations on market access are ongoing. Among the three pillars, China has no export assistance and almost zero, if not negative,⁹ domestic support. Market access is the only defence interest for China in the negotiations. Among the five interested parties that lead the agriculture negotiations, the United States, Brazil and Australia all have an ambitious market access agenda, and the United States and Australia are the top source countries of Chinese grain imports. In the ongoing China-Australia FTA talks, Australia is insisting on a comprehensive FTA, i.e., free trade for all commodities with no exceptions for wheat, barley and other grain products. Pressure to import more rice from ASEAN exists, although China has successfully had rice excluded from the China-ASEAN FTA.

D. China in the WTO and FTA negotiations

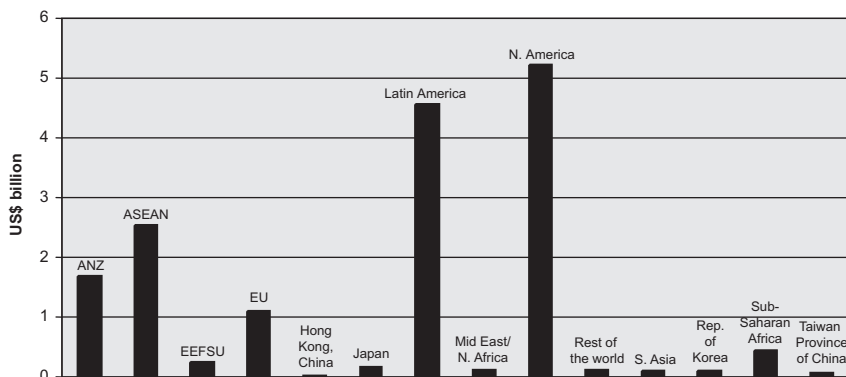
Having brought Chinese agricultural trade policy into perspective, this discourse now turns to Chinese foreign trade relations, with particular focus on agriculture, followed by a discussion of the Chinese positions in WTO agriculture negotiations and China's FTA talks with ASEAN and Australia.

⁹ Because of various fees and taxes imposed on farmers, Chinese agriculture in fact was receiving negative overall support for years until recently, according to Sun Dongsheng in his presentation at the conference on "Globalization, Market Integration, Agricultural Support Policy and Smallholders," Nanjing, China, 8-9 November 2004.

1. Agriculture in Chinese foreign trade relations

Chinese agricultural trade relations can be well understood from the viewpoints of labour/land endowment, climate, geography and cultural proximity with its neighbours. Figure V shows the distribution of Chinese agricultural imports by region. North America has traditionally been the most important source of Chinese agricultural imports, followed in 2003 by Latin America, ASEAN, Australia and New Zealand, the European Union and sub-Saharan Africa. There has been a sharp rise in imports from Latin America since 2000, largely because China opened up its soya imports in 2001, and because Brazil and Argentina have been major soya exporters to China. This policy alone has boosted Latin America to the rank of second-largest source of Chinese agricultural imports, closely following first-ranked North America.

Figure V. Chinese agricultural imports by region, 2003



Sources: China Customs statistics, calculations by the author and data as shown in the table 3.

On the export side, Japan was the top destination, followed by ASEAN, Hong Kong, China, the Republic of Korea, the European Union and North America in 2003 (figure VI). In the case of Hong Kong, China, it is important to remember that it is a major gateway for Chinese exports to the world; goods recorded as exports to Hong Kong, China may actually be destined for a third country. Since 1993, Chinese Customs has been trying to identify the final destinations of Chinese exports. However, the effort cannot be exhaustive because Chinese exporters and even the Hong Kong, China traders who run the re-export business do not really know the final destination when the goods clear the Chinese Customs as exports and the Hong Kong, China Customs as imports. It is only when goods are further processed and sorted in Hong Kong, China that the traders know exactly to where the goods will eventually be shipped. That is why Hong Kong, China import data do not include information on final destinations. This information can only be obtained from re-export data (Feenstra and others, 1998). It is clear that ASEAN occupies a solid second place among China's agricultural export destinations.

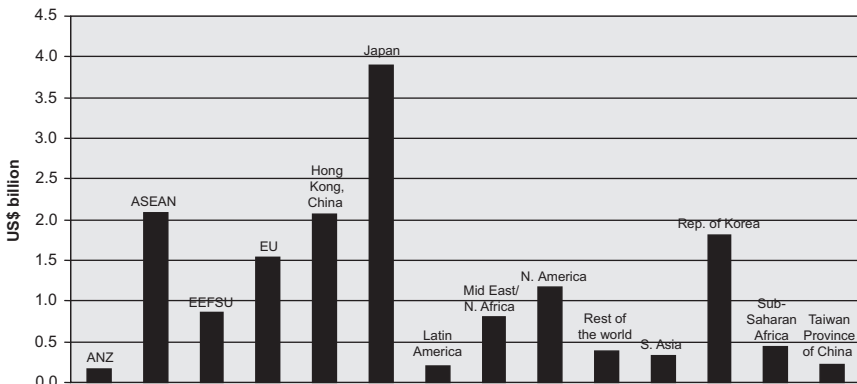
Table 3. Chinese agricultural imports and exports by region, 2003

(Unit: US\$ million)

| Origin/destination | Imports | Exports |
|--|---------|---------|
| Australia and New Zealand | 1 687 | 163 |
| ASEAN | 2 530 | 2 089 |
| Eastern Europe and former Soviet Union | 233 | 852 |
| European Union | 1 097 | 1 543 |
| Hong Kong, China | 28 | 2 063 |
| Japan | 167 | 3 889 |
| Latin America | 4 554 | 209 |
| Middle East and North Africa | 110 | 808 |
| North America | 5 229 | 1 176 |
| Rest of the world | 115 | 383 |
| South Asia | 98 | 324 |
| Republic of Korea | 103 | 1 811 |
| Sub-Saharan Africa | 428 | 438 |
| Taiwan Province of China | 83 | 224 |

Sources: China Customs statistics and calculations by the author.

When comparing figures V and VI, it can be seen that they are in sharp contrast and that, with the exception of ASEAN, China has a trade imbalance with all other major agricultural trading partners. Imports are mainly from North America and Latin America while exports are mainly to neighbouring Asian countries.

Figure VI. Chinese agricultural exports by region, 2003

Sources: China Customs statistics, author's calculations and data given in the annex to this chapter.

Chinese agricultural trade relations shown in figures V and VI can be easily understood in terms of resource endowments in China and those other countries. China has abundant labour but is land-scarce relative to North America and Latin America. This explains the level of Chinese imports of wheat, barley, maize, soya and cotton from those regions. If a comparison is made between labour/land resources and capital, China certainly has comparative advantages in agriculture. It is for that reason that China exports mainly agricultural products (as well as labour-intensive manufactured goods) to Japan, Hong Kong, China and the Republic of Korea while importing capital- and technology-intensive industrial goods from those countries.

ASEAN is the only region that has a balanced agricultural trade with China. These two regions do not differ distinctly in relative factor endowments. Rather, climate makes a difference in determining bilateral agricultural trade patterns. China exports temperate horticultural products and grains (except rice), soya and cotton to ASEAN, and imports mostly tropical products and rice from ASEAN.

Geographical proximity makes it easier for China to export perishable horticultural products to its neighbours. Historically, those countries have been influenced by Chinese culture and some even have large ethnic Chinese populations. Chinese-made agricultural products are particularly in demand in those regions. Finally, stringent SPS rules in the European Union and the United States result in China looking to its neighbouring developing countries for export markets. The success of Chinese horticultural exports to Japan is largely due to Japanese investment in China in horticultural production and processing, which helps in improving the quality of Chinese exports to Japan and in meeting stringent Japanese SPS requirements (Wu Huang, 2002).

2. China in WTO agricultural negotiations

Since China began participating in the WTO agriculture negotiations, much of the attention in the international trade policy area has been on the role the Chinese will play in those negotiations. Interest in China intensified after the country joined the G20 at the Cancun WTO Ministerial Meeting in September 2003. So far, China has given the impression that it is a low-key player and lacks a clear position. This subsection attempts to explain why China chose to maintain a low profile, compared to Brazil, the leader of the G20 and one of the "Five Interested Parties" dominating the agriculture negotiations.¹⁰

China is a net importer of cotton and soya, and a potential net importer of grain. These products are subsidized in the United States, which is the major destination for Chinese exports. Subsidized exports benefit China as a whole and are very much welcomed by China's textile, clothing and oil-crushing industries. However, they run contrary to the grain self-sufficiency policy of China, which has been the primary reason for Chinese opposition to agricultural subsidies in developed countries. China's ambiguity in agriculture

¹⁰ For a comparative study of the Brazilian and Chinese agriculture sectors, see Jales and others (2006).

negotiations reflects this dilemma; this raises the question as to whether China, as a net grain importer, will stay in the G20. This question is considered at the end of this subsection.

As for market access, which is one of the three pillars in agriculture negotiations, the grain sector has most of China's defence interest, which is limited but sensitive. China's offence interest includes tariff cuts in overseas markets for its horticultural exports. Although there is room for further tariff reductions in export markets, barriers of the first order to Chinese horticultural exports are not tariffs, but disguised protectionism in the forms of SPS and TBT, which are not on the negotiation agenda of the Doha Round. As a result, there is no strong incentive for China to push for liberalization in market access. Of course, as a new member, weak negotiating capacity is also a reason why China is not pushing as hard as Brazil for agricultural trade reform.

In contrast, Brazil is a net exporter of many agricultural products and is in direct competition with exporters in the United States and the European Union. Subsidies in developed countries hurt the Brazilian soya, cotton, sugar and beef industries. Furthermore, the European Union, which zealously guards its domestic market through various border measures, is the top destination for Brazilian agricultural exports. As such, Brazil has every reason to push very hard for liberalization in all three pillars of agriculture negotiations, which will unambiguously benefit Brazilian agriculture as well as its national economy.

Will China stay in the G20? While it would be possible in theory to have all Chinese sectors benefit from foreign-subsidized grain imports through a carefully defined taxation and transfer payment scheme, it would be politically infeasible for the Ministry of Agriculture (which is in charge of agriculture negotiations) to give concessions to foreign countries and seek concessions from other Chinese ministries. After all, negotiations at home are the most difficult part of the overall trade negotiations, a sentiment shared by many negotiators. For this reason, the author believes that China will choose to stay in the G20.

3. China in FTA negotiations

Immediately after China became a WTO member in 2001, the Government of Hong Kong, China proposed the establishment of a Closer Economic Partnership Arrangement with China. Shortly afterwards, the Government of Macao, China made a similar proposal. The two Closer Economic Partnership Arrangements were the first bilateral FTAs for China. Since then, China has successfully negotiated three more BTAs, two of which are in force, and it is currently considering a number of other BTAs.¹¹

The idea for a China-Japan-Republic of Korea FTA has long been entertained among scholars but has never entered the negotiation phase. Political tension between China and Japan is an often-cited reason as to why no progress has been made so far.

¹¹ The China – Pakistan FTA is pending country ratification, while BTAs with Chile and Niger are in implementation. China also negotiated accession to APTA and concluded an FTA with ASEAN. More information of these agreements can be found at the APTIAD website, www.unescap.org/tid/aptiad.

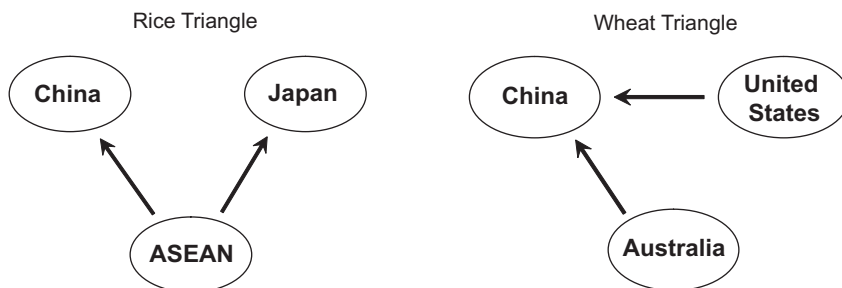
However, protectionist agricultural trade policies in the Republic of Korea and Japan are also to blame. On the other hand, some progress has been made in China's FTA talks with Australia and New Zealand, while FTAs with ASEAN and Chile are in force.

This subsection explores the relationship between FTAs and the WTO multilateral negotiations, with particular reference to the China-ASEAN and China-Australia FTAs. One frequently asked question concerning this issue is whether the former helps the latter, or whether an FTA is a building block or a stumbling block multilateral negotiations. Literature on this topic is abundant but there is no definite answer (Winters, 1996). Instead of attempting to answer such a general question, two specific questions are posed here:

- (a) Will FTA-induced production adjustment in the grain sector be consistent with that potentially induced by future multilateral liberalization?
- (b) Will the China-Japan rivalry in their FTA negotiations with ASEAN or a possible China-Australia FTA generate any positive dynamics for WTO agriculture negotiations?

With regard to the second question, figure VII illustrates the trade patterns of key grains among China, ASEAN, Australia, Japan and the United States.

Figure VII. Rice versus wheat triangle



(a) *China-ASEAN FTA*

As discussed in section D1, ASEAN is the only trading partner of China that has significant agricultural trade in both imports and exports. The China-ASEAN FTA, which entered into force on 1 July 2003, is designed to eliminate 99 per cent of tariffs and is considered as one of a few quality FTAs characterized by comprehensive market access liberalization and manageable provisions on rules of origin (Cheong, 2006). In this regard, it is only second to the Australia-New Zealand Closer Economic Relations, the only FTA in the world under which all tariffs and quantitative restrictions on trade in goods are eliminated. Indeed, unlike the many other FTAs negotiated in recent years in which agriculture has been excluded, agriculture was negotiated upfront in the China-ASEAN FTA and is the key component of its Early Harvest Programme. Most agricultural trade, except for a few

sensitive aspects such as ASEAN rice exports to China, has been granted duty-free access in China (Pasadilla, chapter III, this publication).

The answer to the first question above is “no”. With regard to ASEAN, China has a regional comparative advantage in non-rice grain, but globally it has a comparative disadvantage in the same agricultural products. Chinese exports of non-rice grains to ASEAN will expand as a result of the FTA. However, if a breakthrough is achieved in the WTO agriculture negotiations in the area of market access, China would certainly import more grain, which would depress Chinese grain production. The opposite movement of resources in the grain sector represents the elements in the China-ASEAN FTA that are not consistent with multilateral liberalization.¹²

As for the second question, the focus is on rice, which is the only crop both sensitive in the WTO talks and significant for all three parties involved. In this sense, rice is the only agricultural product that would, if liberalization is achieved in FTA talks, have a positive impact on the multilateral negotiations. As shown in figure VII, in the rice triangle, China and Japan are on the defensive while ASEAN is on the offensive.

However, in the China-ASEAN FTA deal, rice is exempt from liberalization. Thus, with this precedence on the part of China, it is not surprising to see that Japan has also excluded rice from its FTA with Thailand. For the same reason, it is very unlikely that Japan will make any concessions in rice market access in FTA negotiations with ASEAN in order to compete with China.

On the other hand, trade diversion for Japan as a result of the China-ASEAN FTA may pressure Japan to seal its FTA deal with ASEAN as soon as possible; however, there is no indication that Japan will have to resort to rice liberalization to convince ASEAN. In fact, ASEAN 6 exports twice as much to Japan as it does to China, and Japan has enough chips in its hand in the talks.

Furthermore, the swift FTA deal between China and ASEAN benefits from the fact that the two regions have quite similar economic structures. Both are emerging markets with a significant agricultural sector and a mostly labour-intensive manufacturing sector. Therefore, politically sensitive products were very few and the FTA negotiations encountered little domestic opposition. However, trade between Japan and ASEAN is more of a complementary nature; therefore, issues that are more contentious will arise in the negotiations. For example, in addition to rice, Japanese luxury cars are also a sensitive issue for Thailand, which has been excluded from the deal, as noted by Pasadilla (chapter III, this publication). Trade talks are about reciprocity. In the light of this situation, rice liberalization cannot be placed on the agenda in the Japan-ASEAN FTA talks before many other sticking points are cleared. In short, with rice as an untouchable issue, China-Japan rivalry in their FTA negotiations with ASEAN can hardly generate any positive dynamics for WTO agriculture negotiations.

¹² A similar case for Viet Nam is provided by the World Bank (2005), in *Global Economic Prospects: Trade, Regionalism and Development*, box 6.2, p. 132.

(b) *China-Australia FTA*

The proposed China-Australia FTA is significant for both countries. For China, it will be the first FTA with a developed country. Since China's accession to WTO, anti-dumping investigations of Chinese products in the United States and the European Union have often been conducted with invocation of the clause concerning non-market economy status in China's accession protocol. Seeking recognition of its market economy status has been a top priority in Chinese foreign trade diplomacy, and it is part of the FTA deal with Australia. Strengthening trade relations with Australia also conforms to China's need for secured energy supplies to fuel its fast-growing economy.

To have unfettered access to the Chinese market is the primary motivation for the FTA on the part of Australia, and is of particular importance to Australian mineral, energy and agricultural exports. Talks with China have gained momentum since Australia reached an FTA agreement with the United States in February 2004, partly in response to criticism at home that an FTA with the United States would isolate Australia from the booming East Asian economies.¹³

Given the enormous economic benefits from a potential FTA (Mai and others, 2005) and the strategic importance of mutual engagement between these two large countries in the Asian-Pacific region, the FTA initiative enjoys high-level political support by the two Governments. However, negotiations have been stalled over the treatment of Australian grain exports to China; while Australia aims for a comprehensive FTA, China insists that grain should be considered a sensitive product and exempted from liberalization. Although it is beyond the scope of this chapter to speculate on the negotiation outcomes, some analysis of the grain issue in a possible comprehensive China-Australia FTA can be made here in an attempt to answer the two questions raised at the beginning of this subsection.

The answer to the first question is "yes". A comprehensive FTA with Australia will increase Chinese grain imports, as Australia has a comparative advantage in grain production in relation to China. From a global perspective, Chinese agriculture does not have a comparative advantage in grain production, and with the progress in agricultural market access negotiations at WTO, China will certainly increase grain imports. Adjustment of Chinese grain production in response to trade liberalization induced by a comprehensive China-Australia FTA will be an intermediate step towards multilateral liberalization in agriculture.

Again, as figure VII indicates, a comprehensive China-Australia FTA would give Australia a preferential margin over the United States in access to the Chinese grain market. Given its credentials as the champion of global agricultural trade reform, Australia will not stop pushing for the multilateral process at WTO. On the other hand, the United States would be disadvantaged in its grain exports to China. Formation of a United

¹³ For example, Ross Garnaut, who is a prominent critic of the Australia-United States FTA and is politically allied with the opposition party, often uses the "stumbling block" concept (Bhagwati, 1993) in formulating his argument in the popular media.

States-China FTA is almost impossible in the near future, and a comprehensive China-Australia FTA will only pressure the United States to pursue agricultural reform at WTO more actively, particularly with regard to market access, which is the area most critical to the WTO agriculture negotiations.

E. Conclusion

Chinese agricultural reform has made much progress in the past but there is still a long way to go before full integration with the world trading system is achieved. Analysis of the political economy of Chinese agricultural trade policy indicates that, although a strongly held belief, the “grain security” perception is changing as a result of the evolving political and economic environments, both at home and abroad. China’s unique trade patterns and its emphasis on grain self-sufficiency can explain the ambiguity of its positions in the WTO agriculture negotiations.

There is no clear indication as to whether the China-ASEAN FTA will help with the multilateral progress or not; however, the FTA deal is resulting in the movement of resources into China’s grain sector (except rice), which is not the same direction that multilateral liberalization would take. However, a China-Australia FTA, if it is comprehensive, would have a different impact in terms of grain production adjustment. It would also generate pressure to speed up the WTO agriculture negotiations.

References

- Anderson, K., 1995. "Lobbying incentives and the pattern of protection in rich and poor countries", *Economic Development and Cultural Change*, January 1995, vol. 43, No. 2; pp. 401-423
- _____, 2000. "Agriculture's 'multifunctionality' and the WTO", *Australian Journal of Agricultural and Resource Economics*, vol. 44, No. 3, p. 475, September.
- Anderson, K. and W. Martin, 2005. "Agricultural trade reform and the Doha Development Agenda", *The World Economy*, vol. 28, No. 9, September.
- Bhagwati, J., 1993. "Regionalism and multilateralism: An overview", in Jaime de Melo and Arvind Panagariya (eds.), *New Dimensions in Regional Integration*, pp. 22-51.
- Carter, C.A. and X. Li, 2002. "Implications of WTO accession for China's agricultural trade patterns," *Australian Journal of Agricultural and Resource Economics*, vol. 46, No. 2, June.
- Cheong, Inkyo, 2006. "Assessing the quality of FTAs and implications for East Asia", paper presented at the conference on Asian Cooperative Strategy: Opportunities and Obstacles, 23-24 March, Beijing.
- Feenstra, R., Wen Hai, Wing Woo and Shunli Yao, 1998. "The US-China bilateral trade balance: Its size and determinants", *NBER Working Paper No. 6598*, June, National Bureau of Economic Research, Cambridge, MA, United States.
- Jales, M., Jank, M.S., Yao, S., and Carter, C., 2006. "Agriculture in Brazil and China: Challenges and Opportunities," *INTAL/ITD Occasional Paper Series*, No. 44, Buenos Aires: Institute for the Integration of Latin America and the Caribbean (INTAL) http://www.iadb.org/intal/detalle_publicacion.asp?idioma_pub=eng&tid=8&idioma=eng&pid=345&cid=234
- Krugman, P., 1994. "The myth of Asia's miracle", *Foreign Affairs*, November.
- Lin, Yifu, Cai Fang and Li Zhou, 2003. *China's Miracle: Development Strategy and Economic Reform*, Chinese University of Hong Kong Press.
- Lohmar, B. and D. Skully, 2003. "China's TRQ administration after one year: Crossing the river by feeling for stones", paper prepared for the 2003 Annual Meeting of the International Agricultural Trade Research Consortium, 17-19 June, Capri, Italy.
- Mai, Y., P. Adams, M. Fan, R. Li and Z. Zheng, 2005. *Modelling the Potential Benefits of an Australia-China Free Trade Agreement*, independent report prepared for the Australia-China FTA Feasibility Study, Centre of Policy Studies, Melbourne.
- Murphy, D., 2004. "A fearsome thirst", *Far Eastern Economic Review*, 22 July.
- Pasadilla, G., 2007. "Preferential Trading Agreements and Agricultural Liberalization in East and Southeast Asia", in "Agricultural trade: Planting the seeds of regional liberalization in Asia", *Studies in Trade and Investment*, No. 58, Economic and Social Commission for Asia and the Pacific, Bangkok.

- Rosen, D., S. Rozelle and J. Huang, 2004. *Roots of Competitiveness: China's Evolving Agriculture Interests*, Policy Analyses in International Economics 72, Institute for International Economics, Washington, D.C.
- Winters, A., 1996. "Regionalism versus multilateralism", Policy Research Working Paper No. 1867, World Bank, Washington, D.C.
- World Bank, 2005. *Global Economic Prospects: Trade, Regionalism and Development*, Washington, D.C.
- Wu Huang, Sophia, 2002. "China increases exports of fresh and frozen vegetables to Japan", USDA/ERS Electronic Outlook Report, August 2002, Washington, D.C.
- Zhong Funing, Zhu Jing and Xie Zhengqin, 2006. "How mobile are resources in Chinese agriculture? – Implications for Chinese agricultural trade policy", *China and World Economy*, vol. 14, No. 6; pp.1-19.