China's Agricultural Trade After WTO Accession*

Chunlai Chen
The Australian National University

1. Introduction

With China's entry into the World Trade Organisation (WTO) in December 2001, China's economy has been growing very rapidly. The average annual growth rate of China's GDP was more than 9.8% in 2002-05.[1] China's foreign trade has been expanding even more rapidly than its overall economic growth. The total value of China's foreign trade increased from US$456.74 billion in 2001 to US$1263.09 billion in 2005, with an annual growth rate of 28.6% as compared with 9.4% during the 1990s.[2] Undoubtedly, China's economy has benefited from the entry into the WTO, especially from a more open and liberalised international trade regime.[3]

The impact of China's entry into the WTO on agricultural sector has been the major concern of the Chinese government and has been the hottest topic among policy makers and academics in and outside China (For example, Anderson, 1997; Cheng, 1997; Development Research Centre, 1998; Huang, 1998; Huang and Chen, 1999; Wang, 1997). In general, experts argued that based on China's resource endowments and comparative advantage, after the entry into the WTO, China's land-intensive farming sector will shrink but labour-intensive horticultural sector, animal husbandry sector and processed agricultural product sector will expand. As a result, China will import more land-intensive agricultural products, like grains and vegetable oils, and will export more labour-intensive agricultural products, like vegetables and fruits, animal products and processed agricultural products.

What has actually happened in China's agricultural trade since China's entry into the WTO in 2001? Have there any changes in the pattern of China's agricultural trade and in China's revealed comparative advantages in agriculture? What factors have driven these changes? This paper intends to analyse and answer these questions.

* I would like to thank Professor Christopher Findlay for his initial stimulus to write this paper and his valuable suggestions and comments on the paper. I also would like to thank Shiro Armstrong for helping to collect the trade data.

[1] China revised its GDP growth rate for the period of 1979-2004 in January 2006. The revised GDP growth rate from 2002 to 2004 was 9.1%, 10.0% and 10.1% respectively, and the GDP growth rate in 2005 was 9.9%.

[2] All the trade values used in this paper are at 2000 constant US$ price.

[3] China's average tariff level has dropped to 9.9% in 2005 as against 15.6% in 2000. The average tariff on industrial products dropped to 9.3% as against 14.8 in 2000, and that for agricultural products was 15.3% as against 23.2% in 2000.

2. The classification of agricultural commodities and sources of data

To analyse agricultural trade, the first step is to identify the coverage of agricultural commodities in international trade. In this paper, the classification of agricultural commodities in international trade is based on the Harmonised System (HS) of Trade Classification 1992. Table 1 presents the product coverage used in this paper and the product coverage in the Uruguay Round Agreement on Agriculture (URAA). In general, the product coverage in this paper and in the URAA is very similar. However, as compared to the URAA product coverage, the differences in the coverage of agricultural products in this paper are that it includes fish and fish products, but excludes HS Code 2905.43 (mannitol), HS Code 2905.44 (sorbitol), HS Heading 33.01 (essential oils), HS Headings 35.01 to 35.05 (albuminoidal substances, modified starches, glues), HS Code 3809.10 (finishing agents) and HS Code 3823.60 (sorbitol n.e.p.). The main reason for the inclusion and exclusion is that fish and fish products are very important agricultural products in China's international trade while the trade value of those excluded in the product coverage are negligible in China's agricultural trade.

Table 1 Comparison of Agricultural Product Coverage

Product coverage in this paper	Product coverage in the URAA
• HS Chapters 1 to 24, plus • HS Headings 41.01 to 41.03 (hides and skins) • HS Heading 43.01 (raw furskins) • HS Headings 50.01 to 50.03 (raw silk and silk waste) • HS Headings 51.01 to 51.03 (wool and animal hair) • HS Headings 52.01 to 52.03 (raw cotton, waste and cotton carded or combed) • HS Heading 53.01 (raw flax) • HS Heading 53.02 (raw hemp)	• HS Chapters 1 to 24 less fish and fish products, plus • HS Code 2905.43 (mannitol) • HS Code 2905.44 (sorbitol) • HS Heading 33.01 (essential oils) • HS Headings 35.01 to 35.05 (albuminoidal substances, modified starches, glues) • HS Code 3809.10 (finishing agents) • HS Code 3823.60 (sorbitol n.e.p.) • HS Headings 41.01 to 41.03 (hides and skins) • HS Heading 43.01 (raw furskins) • HS Headings 50.01 to 50.03 (raw silk and silk waste) • HS Headings 51.01 to 51.03 (wool and animal hair) • HS Headings 52.01 to 52.03 (raw cotton, waste and cotton carded or combed) • HS Heading 53.01 (raw flax) • HS Heading 53.02 (raw hemp)

Sources: The Uruguay Round Agreement on Agriculture and author's own classification.

The agricultural trade data from 1992 to 2004 are from the United National Statistics Division, Commodity Trade Statistics Database, COMTRADE. Data for 2005 are from China Customs Statistical Monthly Report.[4] All the values of agricultural trade data presented in this paper are at 2000 constant US$ price.

For the purpose of analysing the pattern of China's agricultural trade, we grouped the agricultural trade data in two ways.

[4] Data for 2005 are preliminary statistics subject to final revision.

First, the agricultural trade data are divided into five categories based on the nature of commodities:

- the group of cereals, edible vegetable oilseeds and vegetable oils
- the group of horticultural products
- the group of animal products (including fish)
- the group of processed agricultural products (including processed fish products)
- the group of raw materials for textiles

Second, the agricultural trade data are grouped into two categories based on the factor intensity of production:

- the group of land-intensive agricultural products
- the group of labour-intensive agricultural products

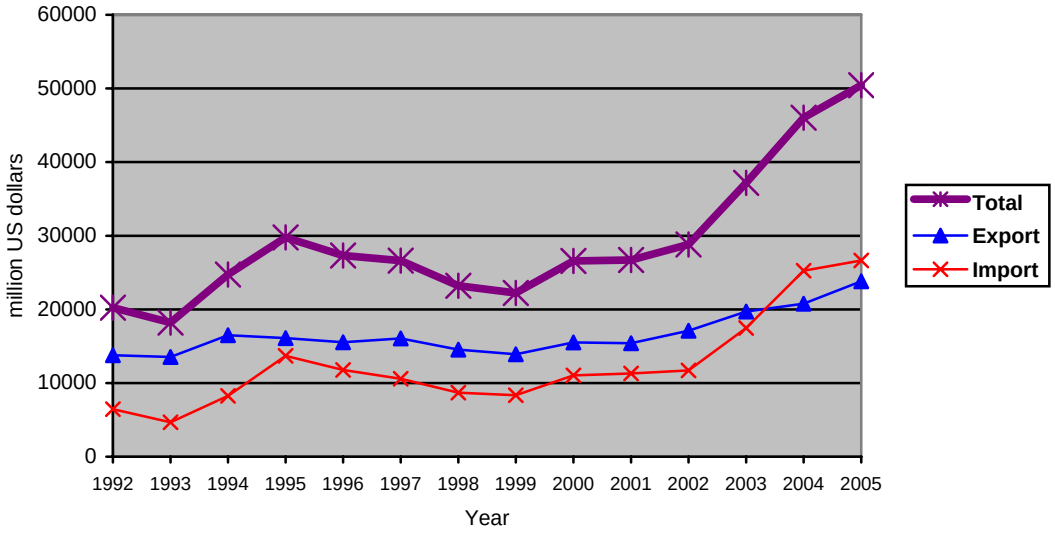
Agricultural trade data for the period of 1992-2005 based on the above classifications are presented at the appendix Table 1 and Table 2.

3. Trend of China's agricultural trade after WTO accession

3.1 Aggregate trend of agricultural trade

As shown in Figure 1, before the entry into the WTO between 1992 to 2001, China's agricultural trade was stagnated with large fluctuations. After the entry into the WTO, the value of China's agricultural trade increased dramatically up to US$50.44 billion in 2005, an increase of 90% than that of 2001.

Figure 1 China's Agricultural Trade
(at constant 2000 US$ price)



Sources: Data from 1992 to 2004 are from the United Nations Statistics Division, Commodity Trade Statistics Database, COMTRADE. Data for 2005 are from China Customs Statistical Monthly Report.

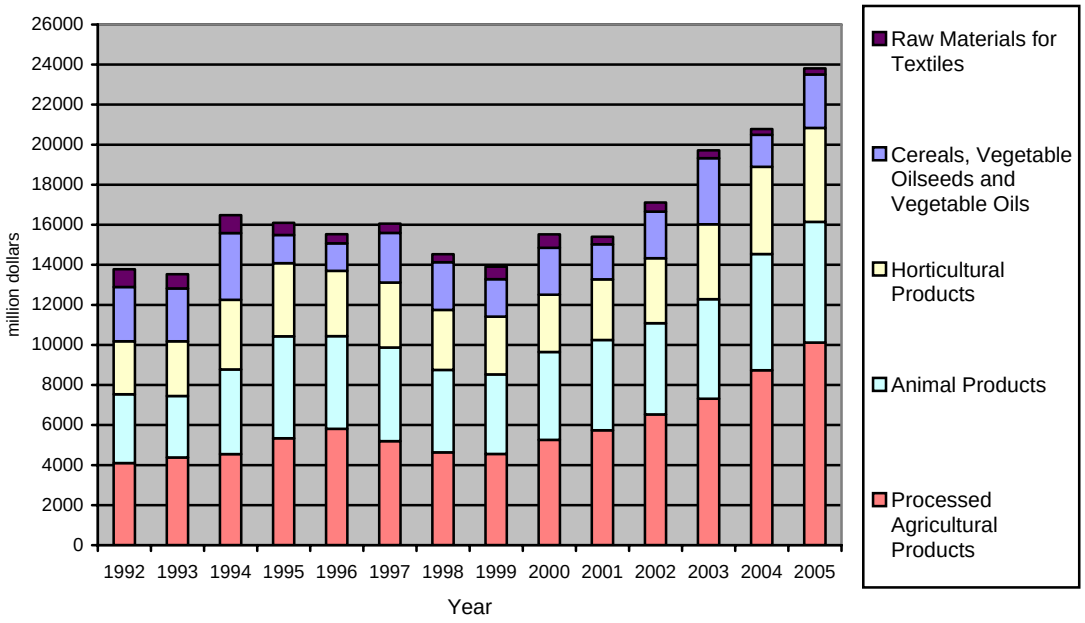
In terms of export and import of agricultural trade, the trends were similar to that of total agricultural trade during the period of 1992 to 2001. However, after the entry into the WTO, agricultural import increased more rapidly than agricultural export. From 2002 to 2005, the annual growth rate of agricultural import was 31.53%, while that of agricultural export was 11.65%. As a result, in 2004 and 2005 agricultural import exceeded agricultural export and China has had two consecutive years of agricultural trade deficit since the 1990s. It is expected that the higher growth of agricultural import will continue.

3.2 Trend of agricultural trade by commodity groupings

3.2.1 Agricultural exports by commodity groupings

Figure 2 presents China's agricultural exports based on commodity groupings for the period from 1992 to 2005. As Figure 2 shows, China's agricultural exports are dominated by processed agricultural products, followed by animal products and horticultural products. The export values of cereals, vegetable oilseeds and vegetable oils and, in particular, raw materials for textiles are small.

Figure 2 China's Agricultural Exports by Categories (at constant 2000 US$ price)



Sources: Data from 1992 to 2004 are from the United Nations Statistics Division, Commodity Trade Statistics Database, COMTRADE. Data for 2005 are from China Customs Statistical Monthly Report.

The group of processed agricultural products has been the largest commodity group in China's agricultural exports. After the entry into the WTO in 2001, the export value

of processed agricultural products jumped dramatically from US$5.74 billion in 2001 to US$11.12 billion in 2005, with an annual average growth rate of 15.26%. As a result, its share in China's total agricultural export increased from 32.86% in the period of 1992-01 to 40.16% in the period of 2002-05.

Within this group, the export has been dominated by two product categories, namely the preparations of meet and fish, and the preparations of vegetables and fruits. After the entry into the WTO, the export of these two categories of processed agricultural products increased dramatically. The export value of the preparations of meet and fish increased from US$1.99 billion in 2001 to US$3.88 billion in 2005, increasing by 95%. While the export value of the preparations of vegetables and fruits increased from US$1.46 billion in 2001 to US$2.75 billion in 2005, increasing by 88%. As a result, their combined share in the export value of processed agricultural products increased from 48.82% in the period of 1992-01 to 63.01% in the period of 2002-05. In other words, their combined share in China's total agricultural export increased from 16.04% in the period of 1992-01 to 25.31% in the period of 2002-05.

The group of animal products has been the second largest commodity group in China's agricultural exports. After entering into the WTO in 2001, the export of animal products has been increasing gradually. The export value of animal products increased from US$4.51 billion in 2001 to US$6.02 in 2005, with an average annual growth rate of 7.48%. However, because of the larger and faster growth of the export of processed agricultural products, the export share of the animal products in China's total agricultural exports declined marginally from 27.92% in the period of 1992-01 to 26.22% in the period of 2002-05.

In this group, aquatic products have been the most important component in the export of animal products, followed by meets, products of animal origin, and live animals. After 2001, the export of aquatic products increased very fast. Consequently, the share of aquatic products in the total export of animal products increased from 48.23% during 1992-01 to 62.49% during 2002-05. On the other hand, the shares of meets, products of animal origin, and live animals have declined during the same periods.

The group of horticultural products has been the third largest commodity group in China's agricultural exports. After the entry into the WTO, the export of horticultural products increased relatively quickly from US$3.03 billion in 2001 to US$4.70 billion in 2005, with an average annual growth rate of 11.59%, similar to the annual growth rate of total agricultural export. As a result, the share of horticultural products in China's total agricultural exports stayed around 20% during the two periods of 1992-01 and 2002-05.

Within the group of horticultural products, vegetables are the most important export commodities, followed by fruits and the product category of tea, coffee, mate and species. After 2001 the export of vegetables and fruits increased more rapidly than other commodities in this group. As a result, the share of vegetables in the total horticultural export increased from 52.37% during 1992-01 to 55.25% during 2002-05, and the share of fruits in the total horticultural export increased from 14.70% during 1992-01 to 18.81% during 2002-05.

The group of cereals, edible vegetable oilseeds and vegetable oils ranked the fourth place in China's agricultural exports. The annual export value of cereals, edible vegetable oilseeds and vegetable oils fluctuated largely and frequently during 1992 to 2005. In general, after the entry into the WTO, the importance of cereals, edible vegetable oilseeds and vegetable oils in China's total agricultural export declined. The export share of cereals, edible vegetable oilseeds and vegetable oils declined from 14.78% during 1992-01 to 12.15% during 2002-05.

Within the group, corn has been the single most important export commodity. The annual export of corn was US$0.8 billion in 1992-01, then it increased to US$1.1 billion in 2002 and US$1.7 billion in 2003. In 2004, because of several economic and policy factors, including changes in the relationship between domestic prices and world prices,[5] and the cut of export quotas on corn export by the Chinese government (Gale, 2005), China's corn export declined sharply to US$0.3 billion. However, corn export increased again in 2005, reaching US$0.98 billion. On average, corn export accounted for 40% of the total export of this group in the period of 2002-05.

Finally, the exports of ***the commodity group of raw materials for textiles*** have been small. After the entry into the WTO, both the export value and the export share of this commodity group in China's total agricultural export declined substantially. The export value of this commodity group declined from around US$0.6 billion annually in 1992-01 to around US$0.35 billion annually in 2002-05. As a result, the export share of this commodity group in China's total agricultural export declined from 4.04% in 1992-01 to 1.75% in 2002-05.

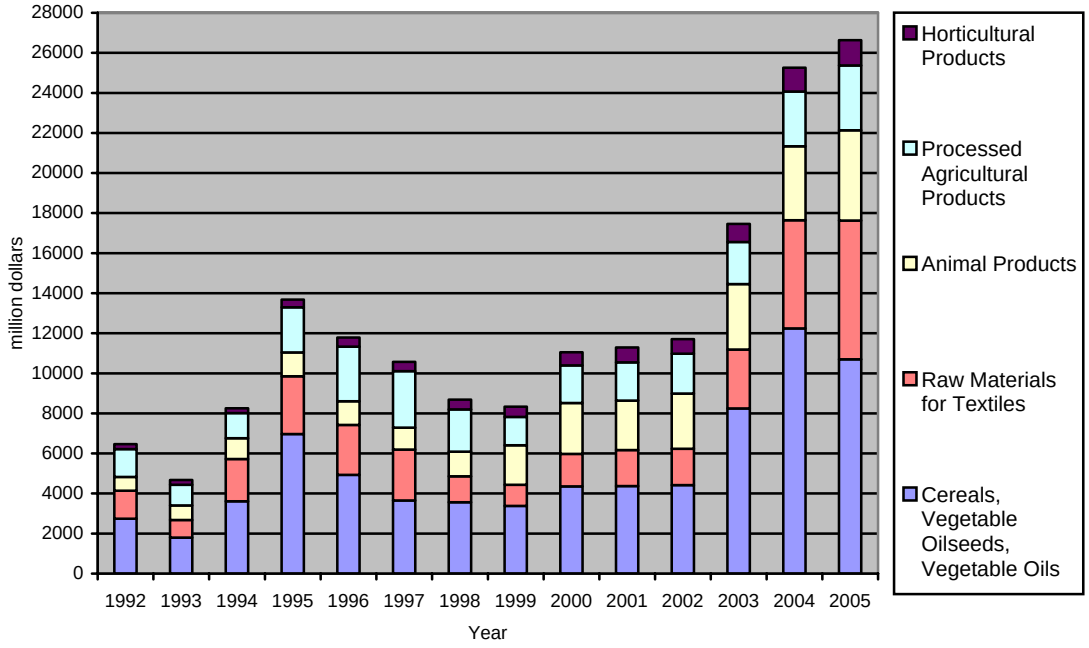
Within this group, silk has been the traditionally largest export commodity. However, silk export has been declining since the mid 1990s. The export value of silk declined from around US$0.34 billion annually in 1992-01 to US$0.23 billion annually in 2002-05. The export value of cotton and raw hides also declined substantially after the entry into the WTO in 2001.

3.2.2 Agricultural imports by commodity groupings

In terms of imports, as Figure 3 shows, China's imports of agricultural products are overwhelmingly dominated by cereals, vegetable oilseeds and vegetable oils, followed closely by raw materials for textiles. The imports of animal products, processed agricultural products, and horticultural products are relatively low but have been rising rapidly especially since 2003.

[5] China's domestic grain prices increased sharply in the last quarter of 2003. From September to December 2003, rice prices increased by 27%, wheat prices increased by 37%, and corn prices increased by 14%.

Figure 3 China's Agricultural Imports by Categories (at constant 2000 US$ price)



Sources: Data from 1992 to 2004 are from the United Nations Statistics Division, Commodity Trade Statistics Database, COMTRADE. Data for 2005 are from China Customs Statistical Monthly Report.

The group of cereals, edible vegetable oilseeds and vegetable oils is the largest group in China's agricultural import. However, as the figure shows, the import of these commodities presented large fluctuations. In general, from 1992 to 2005, the import of this commodity group presented two distinguishing periods. The average annual import of this commodity group was around US$3.94 billion in 1992-01 but it increased sharply to US$8.91 billion in 2002-05. As a result, the share of cereals, edible vegetable oilseeds and vegetable oils in China's total agricultural import increased from 41.55% in 1992-01 to 43.93% in 2002-05.

Within the group, cereals dominated the imports of this commodity group from 1992 to 1996. However, from 1997 to 2003, the import of cereals declined continuously, reaching the lowest level of US$0.44 billion in 2003. In 2004, cereals import jumped to US$2.02 billion and then dropped to US$1.24 billion in 2005. Wheat has been the overwhelmingly dominating commodity in the import of cereals. Wheat import rose to above US$2 billion in 1995-96 because of a sharp increase in China's domestic grain prices in 1994. However, from 1997 wheat import declined continuously, reaching the lowest import level of US$0.07 billion in 2003. The low level of wheat import during this period was mainly caused by a consecutive bumper grain harvest in China during 1996 to 1999. After 2000 grain production in China declined continuously and government had to use state grain reserves to fill up the gap between grain demand and supply. In late 2003, China's domestic grain prices began to increase sharply. In 2004 the Chinese government implemented a series of policies, including direct subsidy to farmers in grain production and gradually abolishing

agricultural taxes,[6] aiming to increase grain production and farmers' income. At the same time, China started to increase wheat import. As a result, China imported US$1.5 billion of wheat in 2004 and US$0.7 billion of wheat in 2005 mainly to fill state grain reserves.

In the early 1990s, China imported a limited amount of edible vegetable oilseeds. However, since 1997, the import of edible vegetable oilseeds has increased rapidly and dramatically, jumping from US$1 billion in 1997 to US$3.2 billion in 2001. After the entry into the WTO, the import of edible vegetable oilseeds has been increasing even more rapidly, jumping to US$5.27 billion in 2003, US$6.68 billion in 2004 and US$7.25 in 2005. As a result, the share of edible vegetable oilseeds in the total import of cereals, edible vegetable oilseeds and vegetable oils reached 61.22% during 2002-05. Within the edible vegetable oilseeds, soybean has been the overwhelmingly largest import commodity, accounting for 95% of the total import of edible vegetable oilseeds during 2002-05.

Edible vegetable oils are the next important commodities in the import of cereals, edible vegetable oilseeds and vegetable oils. China imported US$1.33 billion of edible vegetable oils annually during 1992-01. However, the import of edible vegetable oils increased dramatically during 2002-05, jumping to US$2.42 billion annually. Soybean oils and palm oils are the most important commodities in the import of edible vegetable oils. Their combined share was 88% of the total import of edible vegetable oils during 2002 to 2005.

The commodity group of raw materials for textiles is the second large group in China's agricultural imports. Since 2003 the import of raw materials for textiles increased sharply to US$2.94 billion in 2003, US$5.40 billion in 2004 and US$6.93 in 2005. As a result, the share of raw materials for textiles in China's total agricultural import increased from 19.05% in 1992-01 to 21.07% in 2002-05. The dramatic increase in the import of raw materials for textiles during 2003 to 2005 was mainly driven by the large expansion of China's textile industry as the Agreement on Textile and Clothing (ATC) was phased out at the end of 2004 and the import quota on textile and clothing to be abolished in 2005.

Within the group, wool is a very important import commodity. The import of wool was relatively stable with an average annual import value around US$0.65 billion during 1992 to 2001. However, in 2004 and 2005, wool import increased to above US$1 billion. The share of wool import in the total import of this group was 35.81% during 1992 to 2001. However, its share declined to 21.24% during 2002 to 2005 due to the large increase in import of cotton and raw hides and skins.

Cotton is another important import commodity in this group. The import of cotton fluctuated largely. It was around US$1.3 billion during 1994 to 1997, and then declined to less than US$0.2 billion during 1998 to 2002. During 2003 to 2005, cotton import increased largely to US$1.11 billion, US$2.91 billion and US$2.87 billion respectively. As a result, cotton became the largest import commodity in this group during 2002 to 2005, accounting for 41.41% of the total import of this group.

[6] China abolished agricultural taxes at the beginning of 2006.

Raw hides and skins are also important commodities in the import of this group. The import of raw hides and skins has been increasing gradually and continuously since 1992. However, since 2003, the import of raw hides and skins has increased dramatically and quickly. It increased from US$0.93 billion in 2003 to US$1.37 billion in 2004 and further jumped to US$2.76 billion in 2005. As a result, its share in the total import of raw materials for textiles increased to 33.33% during 2002 to 2005.

The commodity group of animal products ranked the third place in China's agricultural imports. The import value of animal products increased gradually from 1992 to 1998, then it increased rapidly during 1999-2001. After the entry into the WTO, the import of animal products increased even faster, rising from US$2.75 billion in 2002 to US$4.51 billion in 2005. As a result, the share of animal products in China's total agricultural imports increased from 14.93% in the period of 1992-01 to 17.56% in the period of 2002-05.

Within the group, fish and other aquatic products are the most important import commodities. The import of fish and other aquatic products has increased particularly quickly since the entry into the WTO. The import value of fish and other aquatic products increased to US$2.56 billion in 2005, nearly doubling that in 2001. As a result, the import share of fish and other aquatic products in China's total import of animal products increased to 55.74% during 2002-05.[7]

Meet and dairy products are the next relatively important import commodities in this group. In the 1990s China imported very limited amount of meet and dairy products. However, since 1999 and particularly since 2001 the import of meet and dairy products has increased relatively quickly. The import value of meet increased from US$0.26 billion annually in 1992-01 to US$0.57 billion annually in 2002-05, while the import value of dairy products increased from US$0.12 billion annually in 1992-01 to US$0.35 billion annually in 2002-05. The import of other animal products has also presented an increasing trend since 2001.

The group of processed agricultural products is at the fourth place in China's total agricultural imports. The import value of processed agricultural products fluctuated largely during 1992 to 2005. It increased largely in the mid-1990s, reaching the highest level of US$2.82 billion in 1997. Then it declined to US$1.41 billion in 1999. In the early 2000s, the import of processed agricultural products recovered to around US$2 billion, and then jumped to US$2.73 billion in 2004 and US$3.24 billion in 2005. However, because of the larger increase in the import of other agricultural products, particularly the import of edible vegetable oilseeds, vegetable oils, and raw materials for textiles, the import share of processed agricultural products in China's total import of agricultural products actually declined from 19.82% in 1992-01 to 12.40% in 2002-05.

The import of processed agricultural products has been dominated by the import of animal feed (residues of food industry and feed). China imported large amount of animal feed during 1996 to 1998. The import value of animal feed reached the historical level of US$1.9 billion in 1997. During 1999 to 2004, the import of animal

[7] According to a Chinese customs official, a large amount of the imported fish was actually processed for export, which contributed to the dramatic increase in the export of processed fish and aquatic products.

feed has been around US$0.7 – 0.8 billion. In 2005, the import of animal feed increased to US$1.16 billion. Another important import commodity in this group is sugar. China imported large amount of sugar in the mid-1990s, reaching the highest level of US$1.1 billion in 1995. Since then sugar import declined and was around US$0.3 billion. The import of tobacco, miscellaneous edible preparations, and beverage and spirits has been small, but presented a slightly increasing trend after 2002.

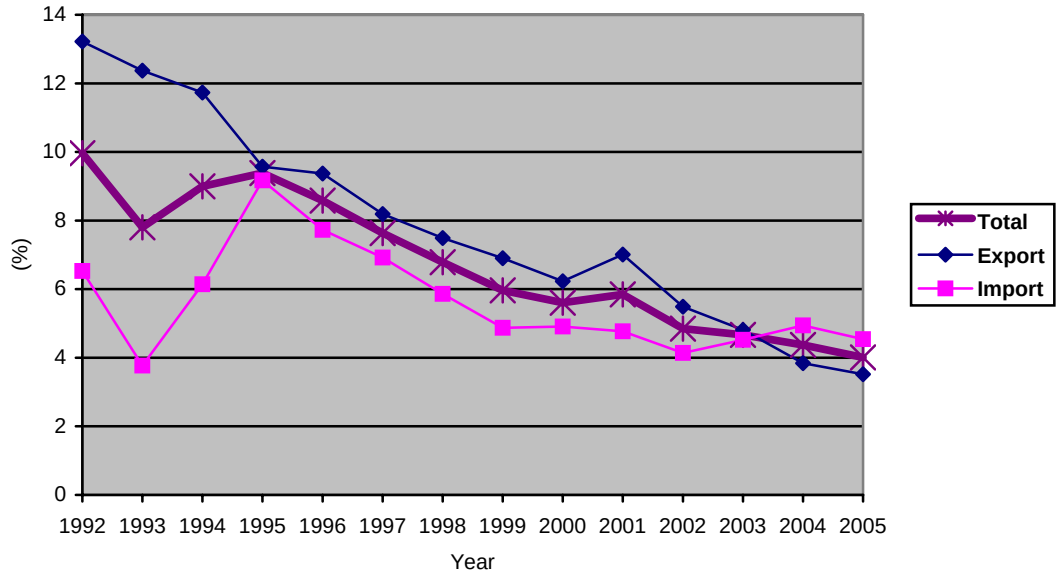
Horticultural products have been the smallest component in China's agricultural imports, accounting for around 5% of China's total agricultural imports during the period of 1992 to 2005. From 1992 to 2001, the import of horticultural products increased gradually from US$0.25 billion to US$0.74 billion. After 2002, it increased quickly to US$1.26 billion in 2005.

Fruits and vegetables dominated the import of horticultural products. The import of fruits and vegetables surged largely during 2003 to 2005. This is mainly because of the implementation of the "early-harvest" program, which is part of the China-ASEAN Free Trade Area (FTA) framework agreement signed by China and the ASEAN in 2002. Under the "early-harvest" program, which was implemented on 1 January 2004, the two sides have cut tariffs on about 600 agricultural imports between 2% and 15%, and agreed to scrap these tariffs in 2006. Thailand has taken the lead among the ASEAN members in initiating this free trade accord as it has phased out all import tariffs on 188 fruits and vegetables with China starting in October 2003 (*China Daily*, August 9, 2004). As a result, China's import of fruits from Thailand increased dramatically from US$77.72 million in 2003 to US$165.04 million in 2004, increasing 112%, while China's import of vegetables from Thailand increased from US$141.36 million in 2003 to US$249.51 million in 2004, increasing 77%.

4. Changes in the patterns of China's agricultural trade after WTO accession

The above section has revealed that China's agricultural trade, especially agricultural imports, has increased dramatically after China's entry into the WTO. However, despite the dramatic increase in absolute values, the importance of agricultural trade in China's total trade has been declining. As shown in Figure 4, the share of agricultural trade in China's total trade declined from 10% in 1992 to 5.8% in 2001. After China's entry into the WTO, this declining trend has been even more significant. The share of agricultural trade in China's total trade declined to 4% in 2005, and the share of agricultural export in China's total export declined even faster from 7% in 2001 to 3.5% in 2005.

Figure 4 Share of China's Agricultural Trade in Total Trade



Sources: Data from 1992 to 2004 are from the United Nations Statistics Division, Commodity Trade Statistics Database, COMTRADE. Data for 2005 are from China Customs Statistical Monthly Report.

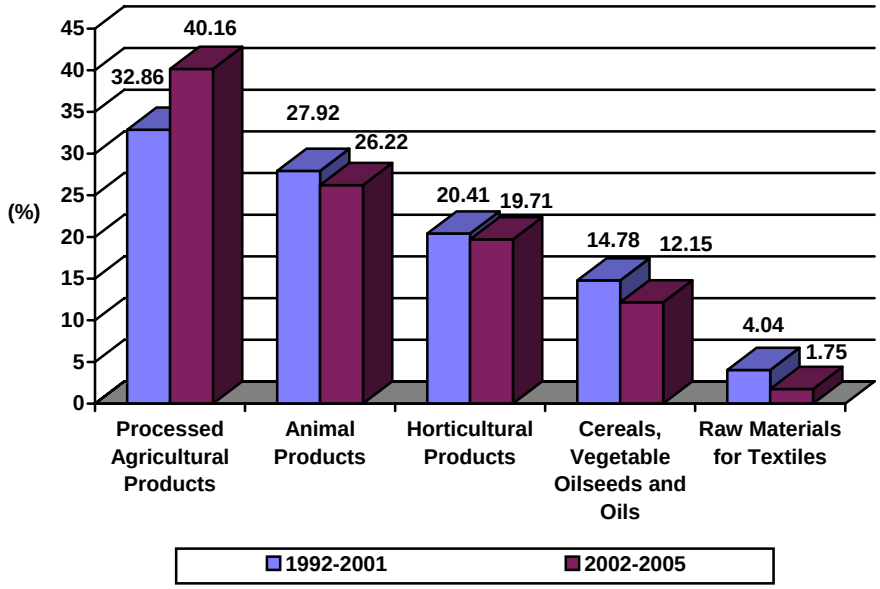
According to international trade theories, a country's pattern of trade with the rest of the world is determined by its comparative advantage, and its comparative advantage is determined by its resource endowments. In the case of China, the characteristics of China's resource endowments in terms of agricultural production are that it is scarce in land resources but abundant in labour supply. China's per capita arable land is 0.11 hectare, only 43% of the world average, and China's per capita pasture land is 0.3 hectare, only 33% of the world average. However, China has abundant labour supply --- 1.3 billion population, nearly 70% living in rural area, and half of the labour force is in agricultural sector. Based on China's resource endowments, China should have a comparative advantage in labour-intensive agricultural production and have a comparative disadvantage in land-intensive agricultural production. As a result, China should export more labour-intensive agricultural products and import more land-intensive agricultural products.

However, the interesting question is that has there been any change in the patterns of China's agricultural trade after China's accession into the WTO? To answer this question, we compare China's agricultural trade patterns for the two periods of 1992-01 and 2002-05 both by commodity groupings and by factor intensity of production.

4.1 Changes in the patterns of China's agricultural trade by commodity groupings

Figure 5 shows the composition of China's agricultural exports by commodity groupings for the two periods of 1992-01 and 2002-05.

Figure 5 Shares of China's Agricultural Exports by Commodity Groupings, 1992-2001 and 2002-2005

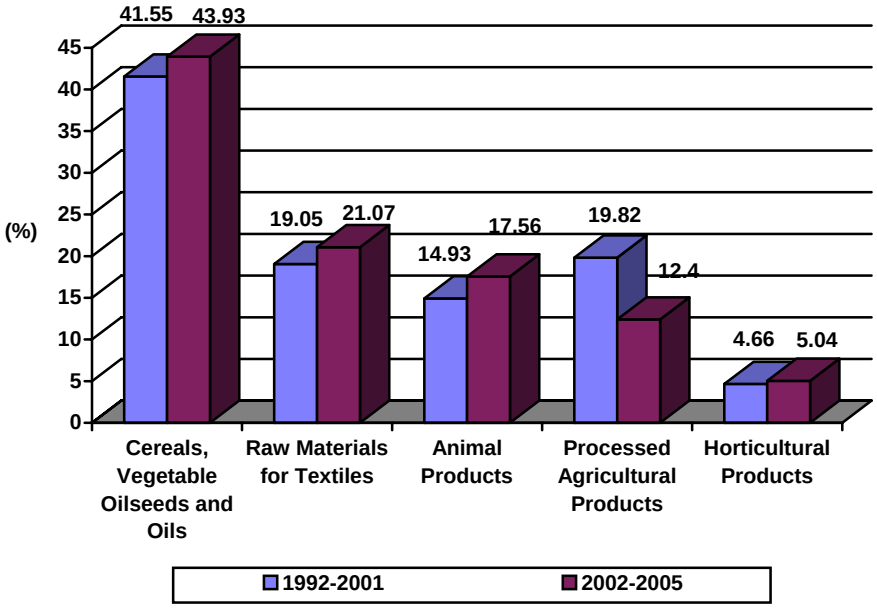


Sources: Author's calculation. Data from 1992 to 2004 are from the United Nations Statistics Division, Commodity Trade Statistics Database, COMTRADE. Data for 2005 are from China Customs Statistical Monthly Report.

Figure 5 reveals several interesting points. First, China's agricultural export is dominated by the export of processed agricultural products, animal products and horticultural products. Their combined share accounted for 81.19% during 1992-01 and accounted for 86.09% during 2002-05 in China's total agricultural export. Second, it is interesting to note that between the two periods of 1992-01 and 2002-05, except the group of processed agricultural products, whose export share increased by 7.3 percentage points, the export shares of all the other agricultural commodity groups declined. The export share of horticultural products declined by 0.7 percentage points, the export share of animal products declined by 1.7 percentage points, while the export shares of the commodity group of cereals, vegetable oilseeds and vegetable oils, and the commodity group of raw materials for textiles declined by 2.6 percentage points and 2.3 percentage points respectively. These changes indicate that China's agricultural export is moving towards more and more concentrating in the export of processed agricultural products.

Figure 6 shows the composition of China's agricultural imports by commodity groupings for the two periods of 1992-01 and 2002-05.

Figure 6 Shares of China's Agricultural Imports by Commodity Groupings, 1992-2001 and 2002-2005



Sources: Author's calculation. Data from 1992 to 2004 are from the United Nations Statistics Division, Commodity Trade Statistics Database, COMTRADE. Data for 2005 are from China Customs Statistical Monthly Report.

As Figure 6 shows, China's imports of agricultural products are dominated by the commodity group of cereals, vegetable oilseeds and vegetable oils, and the commodity group of raw materials for textiles. Their combined import share in China's total agricultural imports has increased from 60.6% in 1992-01 to 65% in 2002-05. It is also worth noting that between the two periods of 1992-01 and 2002-05 the import share of animal products increased by 2.63 percentage points, while the import share of processed agricultural products declined by 7.42 percentage points. This changing trend indicates that China's agricultural import is moving towards more and more concentrating in the import of the commodity group of cereals, vegetable oilseeds and vegetable oils, and the commodity group of raw materials for textiles.

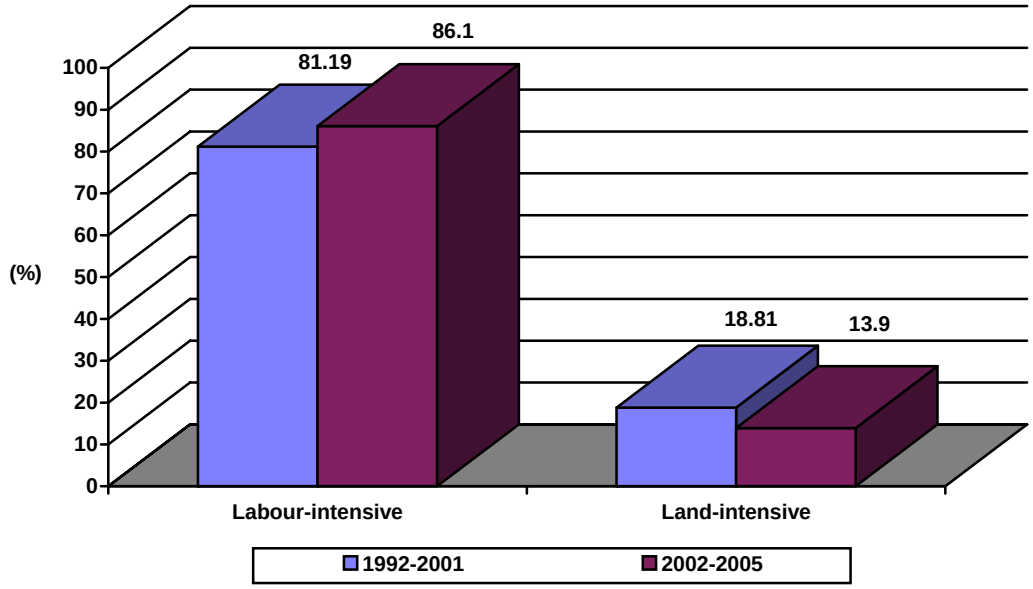
4.2 Changes in the patterns of China's agricultural trade by factor intensity of production

To analyse the changes in the patterns of agricultural trade, the agricultural trade data are further grouped into labour-intensive agricultural products and land-intensive agricultural products. The labour-intensive agricultural products include processed agricultural products, animal products, horticultural products and silk, while the land-intensive agricultural products include cereals, vegetable oilseeds and vegetable oils, and raw materials (excluding silk) for textiles.

Figure 7 shows the composition of China's agricultural exports by factor intensity of production. As the figure shows, China's agricultural exports were overwhelmingly dominated by the exports of labour-intensive agricultural products. For the period of 2002 to 2005, the exports of labour-intensive agricultural products accounted for

86.1% of China's total agricultural exports, while the exports of land-intensive agricultural products accounted for only 13.9% of China's total agricultural exports. Comparing to the period of 1992 to 2001, in the period of 2002 to 2005 the share of labour-intensive agricultural products in China's total agricultural exports increased by 4.91 percentage points, while the share of land-intensive agricultural products in China's total agricultural exports declined by the same percentage points.

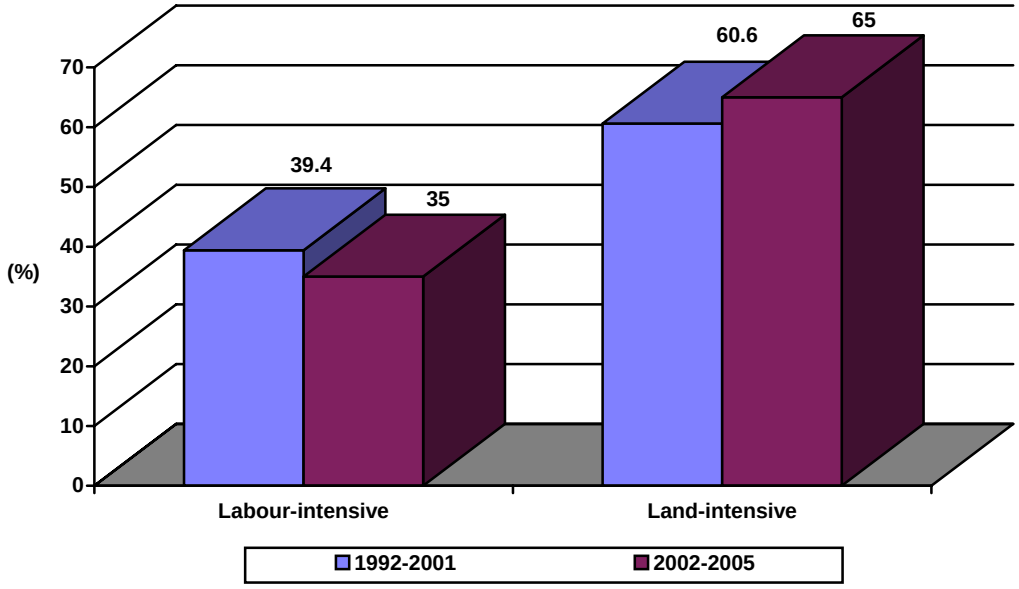
Figure 7 Shares of China's Agricultural Exports by Factor Intensity of Production, 1992-2001 and 2002-2005



Sources: Author's calculation. Data from 1992 to 2004 are from the United Nations Statistics Division, Commodity Trade Statistics Database, COMTRADE. Data for 2005 are from China Customs Statistical Monthly Report.

In terms of imports, as Figure 8 shows, China's agricultural imports were dominated by the imports of land-intensive agricultural products, accounting for 60.6% and 65% of China's total agricultural imports during the two periods of 1992-01 and 2002-05 respectively. While the imports of labour-intensive agricultural products accounted for 39.4% and 35% of China's total agricultural imports in the same two periods respectively. Comparing the two periods of 1992-01 and 2002-05, the share of land-intensive agricultural products in China's total agricultural imports increased by 4.4% percentage points, while the share of labour-intensive agricultural products in China's total agricultural imports declined by the same percentage points.

Figure 8 Shares of China's Agricultural Imports by Factor Intensity of Production, 1992-2001 and 2002-2005



Sources: Author's calculation. Data from 1992 to 2004 are from the United Nations Statistics Division, Commodity Trade Statistics Database, COMTRADE. Data for 2005 are from China Customs Statistical Monthly Report.

It is clear that China has been exporting mainly labour-intensive agricultural products and importing mainly land-intensive agricultural products. This pattern of agricultural trade has been strengthened in the period of 2002-05. The above findings have revealed that after the accession into the WTO the patterns of China's agricultural trade have been moving more close to its comparative advantage and is more consistent with its resource endowments of scarce in land resources and abundant in labour supply.

5. Changes in revealed comparative advantage in China's agriculture after WTO accession

The above section has revealed that China's agricultural trade has been basically consistent with it's resource endowments, exporting mainly labour-intensive agricultural products while importing mainly land-intensive agricultural products. This pattern of agricultural trade has been strengthened after China's accession into the WTO. However, are there any changes in China's comparative advantage in agriculture as revealed by its international agricultural trade?

It is difficult to measure comparative advantage directly. An alternative way is to measure comparative advantage indirectly. The most common approach is the principle of revealed comparative advantage (RCA) proposed by Balassa (1965). It argues that, since trade is generated by underlying comparative advantage, we can use data on exports and imports to infer this underlying pattern of comparative advantage. This principle has given rise to a number of indicators of revealed comparative advantage (RCA).

One of the measures is the net export ratio (NER_{ij}), which is defined as:

$$RCA\ (NER_{ij}) = (X_{ij} - M_{ij}) / (X_{ij} + M_{ij})$$

where X_{ij} are the exports of good i by country j and M_{ij} are the imports of good i into country j.

The rationale behind the index is that countries are revealed as having a comparative advantage in a particular good if they export more of it than they import. However, to simply consider net exports might be misleading where, for example, we compare a large and a small country. For this reason net exports are divided by total trade (exports plus imports). Net export ratios have a minimum value of –1 (the country only imports the good concerned) and a maximum value of +1 (the country only exports the good). Positive values are taken to reveal a comparative advantage and negative values are taken to reveal a comparative disadvantage.

However, RCA indices have one major flaw. The principle of revealed comparative advantage presumes that observed trade flows are generated by underlying comparative advantages and disadvantages. It is this which allows us to use observed trade data to infer the underlying pattern of comparative advantage. However, observed trade flows are not just created by underlying economic forces but are often significantly affected by government policies with respect to international trade. This problem has been potentially more serious for trade in agricultural products than in manufactured goods. However, with the establishment of the WTO and the implementation of the Uruguay Round Agreement on Agriculture (URAA), liberalisation of trade in agriculture has sufficiently advanced. As a result, we might argue that the observed exports and imports of agricultural products in recent years have been less affected by trade policies.

5.1 Revealed comparative advantage in China's agriculture

Appendix Table 3 presents China's revealed comparative advantage indices calculated by using the measure of net export ratio for agricultural products for the period of 1992 to 2005.

In terms of commodities, in the group of cereals, vegetable oilseeds and vegetable oils, except for some particular years, China has a revealed comparative advantage in corn, rice, peanuts, other oilseeds and miscellaneous grains, but China has a revealed comparative disadvantage in wheat, soybean, rapeseeds, and all commodities of vegetable oils.

In the group of horticultural products, except vegetable plaiting materials, China has a revealed comparative advantage in all horticultural products.

In the group of animal products, China has a revealed comparative advantage in live animals (including pig and poultry), beef, pork, fish and aquatic products, and products of animal origin, but China has a revealed comparative disadvantage in mutton, dairy products and animal fats.

For the group of processed agricultural products, China has a revealed comparative advantage in products of milling industry, preparations of meet, fish and aquatic products, preparations of cereals, preparations of vegetables and fruits, miscellaneous edible preparations, beverages and spirits, and tobacco products, while China has a revealed comparative disadvantage in sugar and sugar confectionary, cocoa and cocoa preparations, and residues from food industry and animal feed.

In the group of raw materials for textiles, China has a revealed comparative advantage in silk, but China has a revealed comparative disadvantage in raw hides and skins, wool, cotton, and other vegetable textile fibres.

In terms of the commodity groupings, China has a revealed comparative advantage in horticultural products, in processed agricultural products, and in animal products. But China has a revealed comparative disadvantage in cereals, vegetable oilseeds and vegetable oils, and in raw materials for textiles.

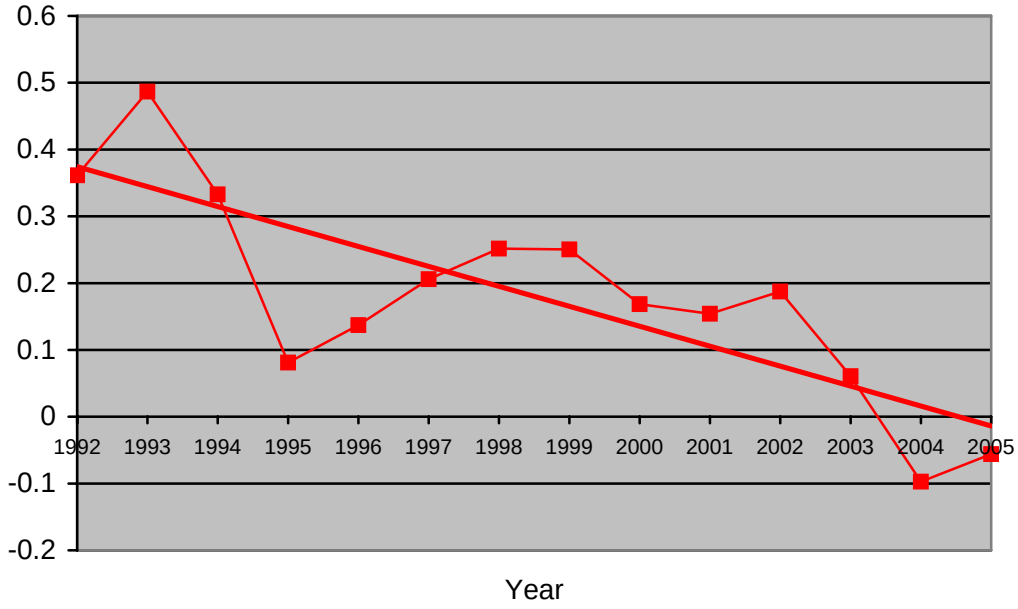
In terms of factor intensity of production, China has a revealed comparative advantage in labour-intensive agricultural products, but China has a revealed comparative disadvantage in land-intensive agricultural products.

In general, the above patterns of China's revealed comparative advantage and disadvantage are consistent with China's resource endowments.

5.2 Changes in revealed comparative advantage in China's agriculture

During the period of 1992 to 2005, China's revealed comparative advantage in agriculture has changed gradually. As shown in Figure 9, China's revealed comparative advantage of all agricultural products presented a declining trend especially after 2002. The values of China's revealed comparative advantage indices for all agricultural products declined from around 0.4 in the early 1990s to around 0.2 in 2002 and further declined to –0.09 and –0.06 in 2004 and 2005 respectively. In other words, since 2004 China's agriculture as a whole has lost comparative advantage in international trade.

Figure 9 China's Revealed Comparative Advantage Indices (NER) of All Agricultural Products

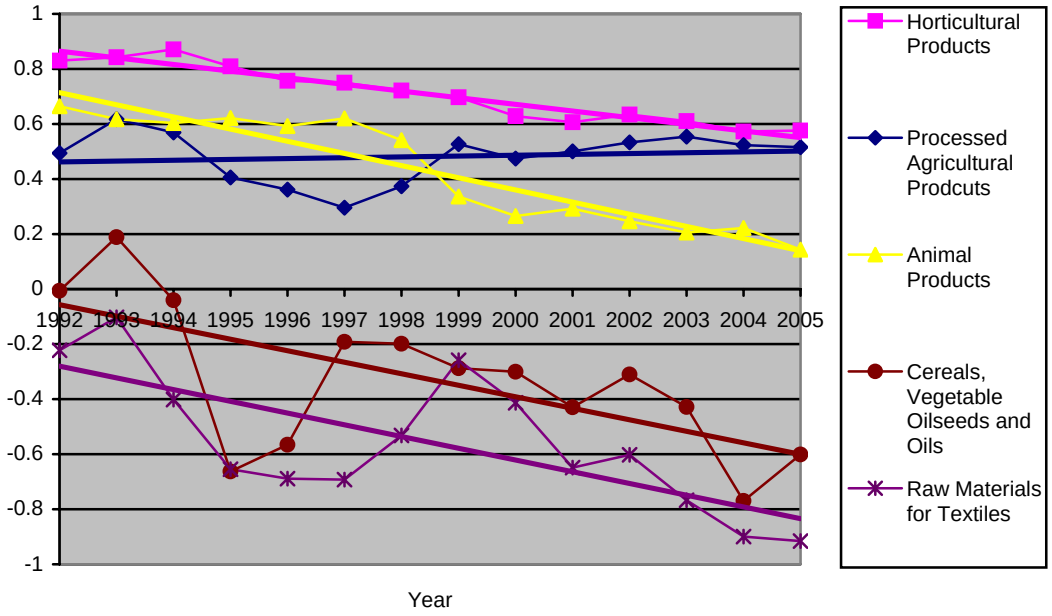


Sources: Author's calculation. Data from 1992 to 2004 are from the United Nations Statistics Division, Commodity Trade Statistics Database, COMTRADE. Data for 2005 are from China Customs Statistical Monthly Report.

In terms of agricultural commodity groups, as shown in Figure 10 and Figure 11, during the period of 1992-05, except the processed agricultural products whose values of revealed comparative advantage indices increased marginally, the values of revealed comparative advantage indices of all other agricultural commodity groups have declined, especially after 2002.

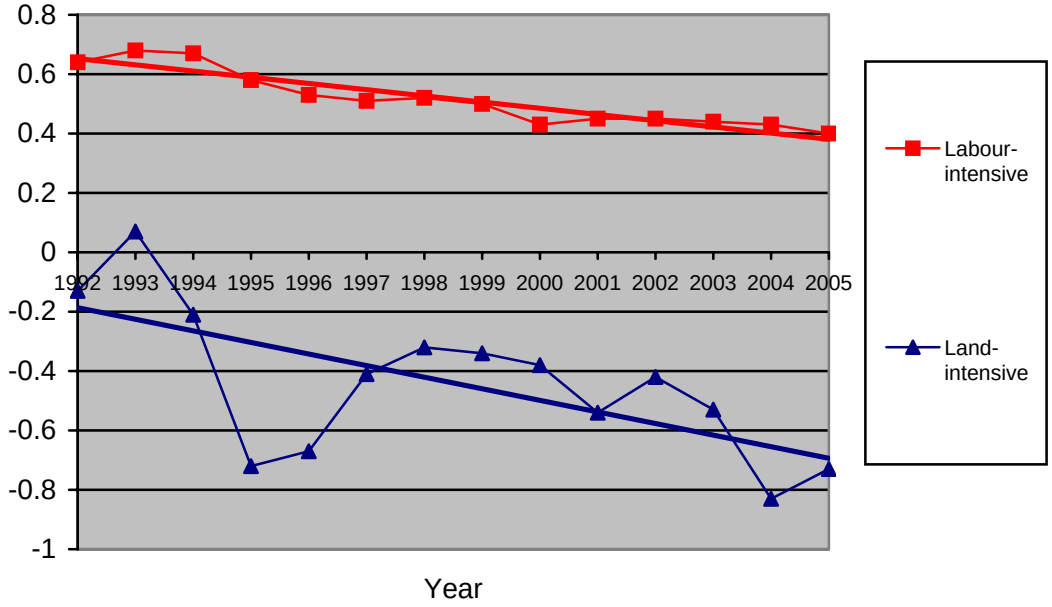
The values of revealed comparative advantage indices of land-intensive agricultural products, such as cereals, vegetable oilseeds and vegetable oils, and raw materials for textiles, have declined more rapidly particular since 2003. The overall values of revealed comparative advantage indices of land-intensive agricultural products declined from around – 0.3 in the 1990s to around – 0.4 in 2002, and further declined to – 0.8 in 2004 and –0.7 in 2005.

Figure 10 China's Revealed Comparative Advantage Indices (NER) of Agricultural Products by Commodity Groups



Sources: Author's calculation. Data from 1992 to 2004 are from the United Nations Statistics Division, Commodity Trade Statistics Database, COMTRADE. Data for 2005 are from China Customs Statistical Monthly Report.

Figure 11 China's Revealed Comparative Advantage Indices (NER) of Agricultural Products by Factor Intensity of Production



Sources: Author's calculation. Data from 1992 to 2004 are from the United Nations Statistics Division, Commodity Trade Statistics Database, COMTRADE. Data for 2005 are from China Customs Statistical Monthly Report.

Although China has a revealed comparative advantage in labour-intensive agricultural products, the values of revealed comparative advantage indices, particularly those of animal products and horticultural products, have declined continuously especially since the late 1990s. The overall values of revealed comparative advantage indices of labour-intensive agricultural products declined from above 0.6 in the early 1990s, to around 0.5 in the late 1990s, and to just above 0.4 in the early 2000s. For horticultural products, the values of reveal comparative advantage indices declined from above 0.8 in the early 1990s, to around 0.7 in the late 1990s, and to around 0.6 in the early 2000s. While for animal products, the values of revealed comparative advantage indices declined from around 0.6 in the early and mid 1990s, to around 0.4 in the late 1990s, and further to around 0.2 in the early 2000s.

The above analysis has revealed several important findings. First, China's agriculture as a whole has been losing comparative advantage especially quickly after the entry into the WTO. Second, although China still has a comparative advantage in labour-intensive agricultural products, however, apart from processed agricultural products, whose comparative advantage increased marginally, the levels of comparative advantage of horticultural products and animal products have been declining, especially rapidly after the entry into the WTO. Third, China has no comparative advantage in land-intensive agricultural products, and their comparative advantages have been declining quickly and dramatically particularly since the entry into the WTO.

6 Factors driving the changes in revealed comparative advantage in China's agriculture

What are the reasons for the changes of China's revealed comparative advantage in agriculture? Empirical studies have shown that for many countries during the process of economic growth, the nation's comparative advantage in agriculture declines, and for those nations where arable land is scarce, the comparative advantage in agriculture tends to decline more rapidly (Anderson, 1990). Undoubtedly, the changes of China's revealed comparative advantage in agriculture during the period of 1992 to 2005 have mainly been the result of the fast economic growth and dramatic structural changes happened in China, especially after the entry into the WTO.

Economic factors

Since the entry into the WTO in 2001, China's economy has been growing very rapidly with an average annual growth rate of more than 9.8%. This rapid economic growth has led to changes in the structure of China's economy. During the period of 2001 to 2004, the growth of manufacturing and services sectors has been much faster than the growth of agricultural sector. Consequently, the share of agricultural sector in China's economy has been declining. The share of agricultural GDP in China's total GDP declined from 15% in 2001 to 13.8% in 2004 (calculated from various issues of SSB).

With the declining trend of agricultural sector in China's economy, the structure of agricultural economy has also changed. Within the agricultural economy, although the farming sector remained the most important sector, its share has been declining over

time from 55.2% in 2001 to 50% in 2004. While animal husbandry and fishery sectors have been growing rapidly. The share of animal husbandry and fishery sectors increased from 41.2% in 2001 to 46% in 2004 (calculated from various issues of SSB).

These changes have demonstrated that, with the rapid economic growth especially after China's entry into the WTO, the comparative advantage of China's agricultural sector has been declining in general, and the comparative advantage of China's farming sector has been declining in particular. This changing pattern of comparative advantage is consistent with China's resource endowments. It is also an indication of the improvement in resource allocation among China's economic sectors.

China's remarkable industrial growth played a large part in driving up agricultural imports. Over 30% of the growth in China's agricultural imports in 2004 came from raw materials used in production of non-food manufactured products: cotton, wool, animal hides, and rubber, as well as other agricultural-derived products used in industrial production. In particular, growing textile production is generating demand for cotton and wool that is beyond China's production capacity. China's exports of apparel and footwear categories grew in double digits during 2004, and its domestic retail sales of apparel, shoes, and textile rose 18.7%. Chinese yarn production grew 13.9%, and cloth production grew 18.8% during 2004 (Gale, 2005).

The continued increase in per capita income in China has led to not only a rise in food consumption, but also a change in the structure of food consumption. Since the late 1990s, China has dramatically increased import of vegetable oilseeds (mainly soybeans) and vegetable oils (mainly soybean oil and palm oil). Soybeans are crushed to produce vegetable oil for human consumption and animal feed to help the rapid growth in animal production. Driven by consumer and food industry demands, since the early 2000s, China has also largely increased imports of meets, fish, milk, cheese, wines, and fruits.

Trade barriers

Apart from the economic factors discussed above, other factors could also affect China's revealed comparative advantage in agriculture. As we discussed above, revealed comparative advantage indices are not only created by underlying economic forces but are often significantly affected by government policies with respect to international trade. This problem has been more serious for trade in agricultural products. Admittedly, after the establishment of the WTO and the implementation of the Uruguay Round Agreement on Agriculture (URAA), liberalisation of trade in agriculture has sufficiently advanced. However, significant trade barriers in agricultural products still exist. In particular, the developed countries have increasingly resorted to sanitary and phytosanitary (SPS) measures for animal and plant health and technical barriers to trade (TBT) to block agricultural imports, especially from developing countries, which has seriously affected the developing countries' exports of their agricultural products in which they have a comparative advantage.

In the case of China, Chinese farmers and exporters had anticipated a large, positive impact on export of agricultural products with accession to the WTO, especially for

labour-intensive agricultural products such as vegetables, fruits, animal products, and aquatic products. In fact, these products have been hardest hit by the need to meet significant SPS standards, and this has prevented substantial growth in these agricultural exports.

According to Chinese government official sources, SPS and TBT have resulted huge direct losses for China's agricultural exports. The indirect losses are even more enormous. In 2001, about US$7 billion worth of Chinese exports were affected by SPS and TBT. In early 2002, the EU began to ban imports of Chinese animal derived food, seafood and aquatic products, resulting in a 70% slump in China's aquatic product exports during the second half of that year (MOFCOM, 2005). Also, according to an investigation by China's Ministry of Commerce (MOFCOM), about 90% of China's exporters of foodstuffs, domestic produce, and animal by-products were affected by foreign technical trade barriers and suffered losses totalling US$9 billion in 2002 (*China Daily*, 2003).

China's recent experiences with SPS barriers have been mainly with the EU, Japan, and the United States.[8] These three economies accounted for 41%, 30% and 24% respectively of China's trade losses attributed to SPS measures in 2002 (Zhu, 2003). Because failure to pass SPS inspection often leads to closer inspection of future exports, China's agricultural products have confronted much stricter inspection in these markets following several of the SPS-related problems.

These are the examples in recent years (Dong and Jensen, 2004). For example, in November 2001, 300 metric tons (mt) of shrimp shipped from Zhoushan in the Zhejiang province to the EU were discovered to contain 0.2 parts per billion of chloramphenicol. As a result, the EU suspended imports of Chinese products of animal origin intended for human consumption or for use in animal feeds. Affected products included rabbit meat, poultry meat, and crustaceans such as shrimp and prawns. Later, other countries, including Hungary, Russia, and Japan, implemented stricter inspections of poultry meat from China. As a consequence, exports of poultry meat from China declined by about 33% in 2002 compared with the previous year.

In February 2002, the EU banned imports of honey from China after finding chloramphenicol at levels higher than 0.1 parts per billion. Following the EU ban, the United States and Japan increased controls and tests of honey from China. China's honey exports decreased by 25% in 2002 and continued to fall in 2003.

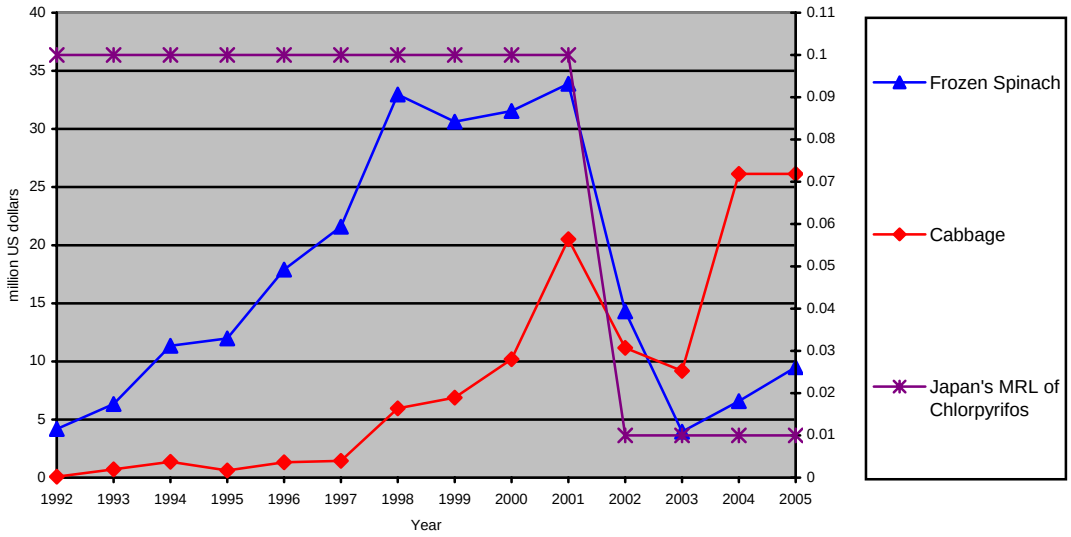
In 2002, China's tea exports to the EU and Japan decreased by more than 30% and 15% respectively, following the implementation of stricter inspection standards. The EU increased its inspection categories for pesticide residuals from 6 to 62. Japan adopted new inspection methods and increased its inspection categories to 77.

In 2002 Japan increased the Maximum Residual Limit (MRL) of Chlorpyrifos for spinach from 0.1ppm to 0.01ppm. As a result, in July 2002 Japan blocked imports of frozen spinach from China after finding pesticides. Prior to this ban, imports from China were around US$30 million to US$35 million, accounted for 99% of Japan's

[8] These three economies on average accounted for 52% of China's total agricultural exports in the period of 2002 to 2004, of which Japan accounted for 31%, EU accounted for 11% and USA accounted for 10%.

annual imports of 40,000 to 50,000 metric tons (mt) of spinach. Japan's restriction on Chinese exports of frozen spinach lasted for about eight months (until February 2003). In May 2003, after detecting higher-than-permitted pesticide residue, Japan again advised importers not to import Chinese frozen spinach, this import ban was not lifted until June 2004. As a result, as shown in Figure 12, China's export of spinach to Japan dropped dramatically, from the highest level of US$33.89 million in 2001, to US$14.3 million in 2002 and US$3.95 million in 2003. In 2004 and 2005, China's export of spinach to Japan recovered slightly, but it was still lower than the 1994 export level.

Figure 12 China's Export of Spinach and Cabbage to Japan (at constant 2000 US$ price)



Source: The United Nations Statistics Division, Commodity Trade Statistics Database, COMTRADE.

The stricter standard of Chlorpyrifos on spinach has generated contagious effect on China's export of other vegetables to Japan. For example, China's export of cabbage to Japan declined sharply from US$20.52 million in 2001 to US$11.17 million and US$9.18 million in 2002 and 2003 respectively. China's export of lettuce to Japan declined from US$0.36 million in 2001 to US$0.18 million and US$0.06 in 2002 and 2003 respectively. In 2005, China's export of lettuce to Japan was US$0.28 million, which is still lower than that in 2001.

In 2006, Japan introduced the 'Positive List System for Agricultural Chemical Residues in Foods' (Ministry of Health, Labour and Welfare of Japan, 2006), which takes effect on 29 May 2006. In the Positive List System, the agricultural chemicals include pesticides, feed additives and veterinary drugs in total of 797 categories. The system sets 53862 standards of the maximum residue limits (MRLs). The uniform limit will be applied to agricultural chemicals for which MRLs are not established. The uniform limit is 0.01ppm, which means for 100 tons of agricultural products, the agricultural chemical residuals can not exceed 1 gram.

Japan is the largest market of Chinese exports of agricultural products, accounting for 31% of China's total agricultural exports in 2005. The introduction of the Positive List System will definitely have significant impact on China's agricultural exports to Japan. From January to April 2006, the growth rate of China's agricultural exports to Japan declined substantially, because many agricultural product export companies were worried that their agricultural products will be refused due to the much stricter standards (*Cai Jing*, 2006).

Currently, China's exports of seafood, vegetables and fruits, tea, honey, poultry meats, and red meats are creating the most frequently encountered SPS problems. The United States technical standards preclude imports of beef, pork, and poultry meat into the United States in an effort to prevent the import of highly contagious animal diseases that are endemic in China, including foot-and-mouth disease. From August 2002 to July 2003, the United States Food and Drug Administration (U.S. FDA) refused 1,285 shipments of Chinese foodstuffs from entry into the United States. Agricultural and aquatic products accounted for 630 of these shipments, or nearly half of all refusals. (Dong and Jensen, 2004). Most recently, from June 2005 to May 2006, the U.S. FDA refused 1925 of Chinese shipments from entry into the United States, of which 945 shipments are agricultural products, accounting for 49% of the total refusals (U.S. FDA, 2006). Most refusals result from violations of SPS measures. Excessive pesticide residues, low food hygiene, unsafe additives, contamination, and misuse of veterinary drugs have been major issues.

Although the WTO's SPS Agreement requires members to ensure that SPS measures are based on sufficient scientific evidence, there are some well-founded concerns that countries may abuse SPS measures by using them as trade barriers. Because of very low production and labour costs, some agricultural products exported from China are very competitive in world markets. Consequently, importing countries may look to restrict imports from China by setting relatively high standards or strict inspections in order to protect domestic markets.

7. Conclusions

Entry into the WTO has boosted China's agricultural trade, especially its agricultural imports. The pattern of China's agricultural trade is consistent with its resource endowments. After the entry into the WTO, this pattern of agricultural trade has been strengthened, indicating that China is moving closer to its comparative advantage in agricultural trade with the rest of the world.

China's has a comparative advantage in labour-intensive agricultural products, while has a comparative disadvantage in land-intensive agricultural products. However, after the entry into the WTO the level of the comparative advantage in labour-intensive agricultural products has been declining especially quickly in animal and horticultural products, and China's agriculture as a whole has lost comparative advantage since 2004.

Fast economic growth, structural change, increase in per capita incomes have all played significant role in driving the changes in comparative advantage in China's agriculture. However, TBT and SPS measures may also contribute to a rapid decline

of China’s comparative advantage in labour-intensive animal and horticultural products.

Because of low production and labour costs, some agricultural products exported from China are very competitive in world markets. Consequently, importing countries may look to restrict imports from China by setting relatively high SPS standards or may impose strict inspections in order to protect domestic markets.

China itself should first increase and strengthen SPS level to meet the international standards in order to increase its exports of animal and horticultural products to international markets, especially to developed countries’ markets. As China faces more SPS disputes, the government needs to initiate bilateral negotiations to counter unfair trade restrictions and discrimination and could use the WTO to coordinate and resolve trade disputes. As a member of the WTO, China can now participate in the negotiation and establishment of international regulations and standards to obtain a more equal position for its agricultural exports.

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Appendix Table 1 China's Agricultural Exports by Commodity Groupings, 1992-2005 (US$ million at 2000 constant price)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Total Agricultural Exports	**13778.52**	**13530.96**	**16483.80**	**16095.57**	**15530.50**	**16054.78**	**14528.82**	**13904.08**	**15524.50**	**15405.71**	**17108.66**	**19715.37**	**20777.77**	**23808.82**
Cereals, Vegetable Oilseeds and vegetable oils	**2709.83**	**2635.12**	**3336.60**	**1413.01**	**1368.27**	**2477.60**	**2382.56**	**1873.40**	**2345.10**	**1746.44**	**2327.66**	**3299.59**	**1595.50**	**2664.70**
Cereals (10)	1822.43	1755.87	1779.80	85.88	205.30	1262.67	1578.24	1173.33	1643.00	1005.58	1579.60	2423.52	674.99	1254.51
Wheat (1001)	0.37	9.54	11.62	1.70	0	0.11	1.48	0.21	0.20	45.71	67.01	248.06	102.20	0
Corn (1005)	1456.72	1375.61	1096.69	14.69	32.94	921.52	562.00	465.20	1052.00	608.79	1117.21	1654.06	295.65	983.69
Paddy, Rice (1006)	267.53	301.59	598.30	18.08	122.96	284.29	976.10	674.02	561.00	319.96	363.79	463.36	212.05	206.36
Vegetable Oilseeds	727.13	645.61	993.29	830.58	776.96	556.24	512.77	585.73	605.70	646.72	671.38	793.70	830.61	1228.59
Soybean (1201)	196.36	121.59	257.91	113.01	72.46	78.31	66.55	64.09	64.00	74.88	73.71	81.44	132.10	150.62
Peanuts (1202)	233.17	233.64	365.95	290.42	278.86	149.12	164.80	200.55	232.00	255.77	252.74	297.67	272.31	283.85
Rapeseeds (1205)	13.87	22.65	3.49	0.57	1.32	0	0.53	0	0.40	0	0.67	0.94	0.09	0.09
Other oilseeds (1203-1204, 1206-1209, 1212)	283.73	267.73	365.95	426.59	424.32	328.81	280.89	321.09	309.30	316.07	344.26	413.65	426.11	794.03
Vegetable Oils	160.28	233.64	563.51	496.54	386.01	658.69	291.56	144.33	96.40	94.14	76.68	82.38	89.89	181.60
Soybean oil (1507)	4.42	14.30	56.93	54.24	94.42	393.71	142.61	35.15	17.00	22.37	20.68	6.08	12.13	35.61
Palm oil (1511)	23.69	78.67	274.17	222.62	110.88	71.88	23.24	0.62	0.30	0	3.06	0	0.18	0
Rapeseeds oil (1514)	33.87	35.76	146.38	155.95	125.16	98.70	50.71	18.61	24.00	23.34	10.05	3.74	3.73	145.99
Other vegetable oils (1508-1510, 1512-1513, 1515)	98.30	104.90	86.03	63.73	55.55	94.41	75.00	59.96	55.10	48.43	42.89	72.55	73.84	0
Horticultural Products	**2645.28**	**2732.63**	**3475.95**	**3646.66**	**3266.48**	**3243.57**	**2996.55**	**2881.53**	**2861.30**	**3028.41**	**3247.94**	**3745.36**	**4360.84**	**4695.42**
Live trees and other plants (06)	18.41	22.65	27.88	31.64	32.94	34.33	31.69	32.05	32.00	34.03	41.17	45.87	58.62	68.48
Edible vegetables (07)	1292.27	1351.77	1843.69	1935.77	1692.91	1623.13	1566.62	1570.26	1545.00	1698.01	1802.66	2040.66	2313.16	2710.94
Edible Fruits (08)	347.30	411.25	480.96	542.42	506.12	497.77	459.53	439.35	417.00	423.04	531.32	703.93	835.45	947.84
Coffee, tea, mate and species (09)	568.21	554.30	527.43	525.47	540.15	593.25	549.32	505.51	506.00	527.10	528.45	584.11	788.22	823.77
Vegetable plaiting materials (14)	62.59	53.64	62.73	68.93	57.09	53.64	47.54	41.35	43.00	41.82	42.12	43.06	39.66	43.74
Other vegetable products (1210-1214, 13)	356.51	339.02	533.24	542.42	437.28	441.45	341.84	292.97	318.30	304.40	302.23	327.72	325.74	100.65
Animal products	**3435.49**	**3067.12**	**4224.06**	**5090.40**	**4625.74**	**4677.35**	**4113.57**	**3974.22**	**4388.60**	**4512.66**	**4555.37**	**4917.16**	**5800.07**	**6022.16**
Live Animals (01)	587.84	540.00	543.70	568.41	533.56	510.45	465.87	398.00	385.00	334.55	329.32	306.10	301.12	292.01
Pig (0103)	357.12	324.23	313.67	315.28	322.77	323.98	307.41	245.00	232.00	214.93	205.83	202.19	219.53	201.49
Poultry (0105)	114.13	107.28	121.98	141.26	132.84	122.30	101.41	102.34	104.00	75.86	78.50	62.72	30.36	33.22
Meet and edible meet offal (02)	456.53	413.64	736.55	1154.91	1192.28	1040.60	887.37	714.33	753.00	817.89	636.63	604.71	644.36	659.75
Beef (0201, 0202)	47.86	33.38	36.01	37.86	55.99	57.93	77.12	26.88	23.00	32.09	18.29	14.04	27.62	36.86
Pork (0203)	93.27	75.10	148.70	276.86	236.04	209.19	191.21	69.26	67.00	132.26	201.04	251.81	418.91	360.71
Mutton (0204)	2.95	3.58	2.79	3.39	2.20	2.90	4.23	4.14	6.00	4.38	7.47	19.66	38.12	30.00
Poultry (0207)	204.95	220.53	441.46	701.76	758.62	659.76	552.49	556.17	587.00	580.59	383.89	299.55	132.01	98.99
Fish and aquatic products (03)	1676.39	1494.82	2109.73	2358.40	1908.09	2126.26	1833.89	2012.75	2270.00	2519.79	2750.41	3121.83	3697.33	3863.76
Dairy products, Eggs and natural honey (04)	195.13	170.46	181.23	183.07	214.08	177.01	184.87	169.54	188.00	186.72	185.72	207.81	213.51	237.51
Dairy products (0401-0406)	27.74	31.71	25.56	30.06	32.94	43.98	42.26	44.45	50.00	37.93	52.46	44.00	51.33	50.00
Product of animal origin not elsewhere specified (05)	508.07	436.29	634.31	803.46	744.35	750.95	686.65	648.17	760.00	633.11	626.57	693.64	889.32	898.48
Animal fats (1501-1506, 1516-1518, 1520-1521)	11.54	11.92	18.53	22.15	33.38	71.88	54.93	31.43	32.60	20.62	26.71	37.07	54.43	70.65
Processed Agricultural Products	**4101.38**	**4381.94**	**4549.40**	**5342.85**	**5811.00**	**5194.43**	**4638.60**	**4555.82**	**5259.00**	**5735.41**	**6527.09**	**7311.73**	**8735.53**	**10122.25**

Products of milling industry (11)	57.68	76.29	91.78	114.13	239.33	199.54	111.98	82.70	93.00	104.06	112.97	132.92	155.26	177.63
Preparations of meet, fish and aquatic products (16)	488.44	717.61	906.16	1261.13	1612.76	1489.03	1291.96	1432.80	1883.00	1989.77	2227.71	2507.76	3180.69	3876.35
Sugars and sugar confectionery (17)	824.69	780.79	421.71	264.43	333.75	208.12	193.32	144.73	173.00	151.71	217.31	183.47	229.92	371.61
Cocoa and cocoa preparations (18)	44.18	53.64	40.66	46.33	53.80	60.08	46.48	41.35	29.00	26.74	34.46	51.48	63.45	97.59
Preparations of cereals, flour (19)	157.09	145.43	192.85	238.44	258.00	290.73	276.77	299.79	360.00	401.65	434.63	493.32	595.13	674.77
Preparations of vegetables and fruits (20)	844.33	814.16	947.99	1223.84	1149.46	1121.06	1089.14	1164.02	1315.00	1455.86	1682.03	2029.43	2350.35	2748.85
Miscellaneous edible preparations (21)	136.22	145.43	185.88	244.09	275.56	326.13	347.55	348.38	359.00	388.03	441.33	509.23	559.03	635.42
Beverages, spirits and vinegar (22)	403.76	356.42	439.14	441.85	435.85	498.85	470.09	472.43	493.00	556.28	571.53	582.24	677.36	638.26
Residues from food industry and animal feeds (23)	603.79	529.27	526.27	379.70	380.96	295.02	200.71	222.26	252.00	285.92	390.59	360.39	456.10	424.60
Tobacco and manufactured tobacco substitutes (24)	541.21	762.91	796.96	1128.92	1071.52	705.89	610.59	347.35	302.00	375.39	414.52	461.49	468.23	477.17
Agricultural Products as Raw Materials for Textiles	**886.53**	**714.15**	**897.80**	**602.65**	**459.02**	**461.83**	**397.52**	**619.12**	**670.50**	**382.78**	**450.62**	**387.54**	**285.84**	**304.29**
Raw hides and skins, leather, fur skins and articles	52.28	42.08	72.38	57.29	35.35	45.38	26.73	12.72	11.30	10.60	11.87	8.61	8.15	7.94
Raw hides and skins (4101-4103)	43.08	28.01	67.96	53.56	29.75	30.47	16.80	9.20	6.20	6.62	7.18	4.31	1.13	1.10
Raw fur skins (4301)	9.20	14.07	4.41	3.73	5.60	14.91	9.93	3.51	5.10	4.08	4.69	4.31	7.02	6.84
Silk	398.85	293.24	470.51	400.04	343.63	335.78	265.15	291.21	331.70	273.76	256.18	223.63	215.24	237.19
Cocoon (5001)	28.23	28.61	65.06	27.12	31.84	12.87	6.34	3.82	5.70	3.40	1.53	0.84	0.91	0.89
Raw silk (5002)	342.40	225.30	343.88	340.14	289.84	295.02	225.01	247.07	272.00	236.32	232.63	198.45	194.73	217.20
Waste silk (5003)	28.23	39.34	61.57	32.77	21.96	27.89	33.80	40.32	54.00	34.04	22.02	24.34	19.60	19.10
Wool, fine or coarse animal hair	162.73	105.50	159.16	85.09	60.71	69.73	38.24	15.82	12.70	15.75	14.84	26.49	43.67	47.78
Uncarded wool (5101)	12.27	13.11	8.60	14.69	30.19	45.06	25.35	9.30	10.00	12.62	11.97	23.40	40.20	44.41
Uncarded fine or coarse animal hair (5102)	149.72	90.59	149.05	67.80	29.09	22.53	10.56	4.76	1.40	1.85	0.77	0.37	0.55	0.53
Waste wool and fine or coarse animal hair (5103)	0.74	1.79	1.51	2.60	1.43	2.15	2.32	1.76	1.30	1.26	2.11	2.71	2.92	2.84
Cotton	266.68	265.82	186.58	55.15	15.37	5.26	62.33	294.83	307.90	79.65	165.43	126.46	15.77	8.45
Uncarded cotton (5201)	258.94	227.68	173.10	53.11	13.72	3.54	59.16	292.56	306.00	77.80	162.75	124.50	14.31	7.03
Waste cotton (5202)	6.14	30.99	9.29	2.03	1.65	1.07	3.17	1.55	1.20	1.36	2.11	1.22	1.19	1.15
Carded cotton (5203)	1.60	7.15	4.18	0	0	0.64	0	0.72	0.70	0.49	0.57	0.75	0.27	0.27
Other vegetable textile fibres (5301-5302)	6.00	7.51	9.18	5.09	3.95	5.69	5.07	4.55	6.90	3.01	2.30	2.34	3.01	2.93

Appendix Table 2 China's Agricultural Imports by Commodity Groupings, 1992-2005 (US$ million at 2000 constant price)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Total Agricultural Imports	**6462.93**	**4671.29**	**8252.71**	**13684.17**	**11784.04**	**10574.66**	**8685.94**	**8334.66**	**11048.10**	**11293.18**	**11705.20**	**17463.26**	**25258.46**	**26636.15**
Cereals, Vegetable Oilseeds and vegetable oils	**2741.74**	**1799.38**	**3615.59**	**6964.24**	**4933.58**	**3650.26**	**3561.82**	**3384.04**	**4359.00**	**4372.82**	**4422.20**	**8243.13**	**12245.78**	**10699.22**
Cereals (10)	2058.06	1188.46	1488.20	4046.69	2805.04	956.92	735.25	513.78	574.00	590.32	461.43	415.62	2021.33	1237.93
Wheat (1001)	1845.75	994.16	1116.44	2288.34	2074.96	394.79	294.73	88.90	147.00	117.67	98.61	72.08	1495.49	686.44
Corn (1005)	0	0.24	0.23	922.12	80.14	0.21	33.80	8.27	0.40	4.67	1.53	0.37	0.73	1.31
Paddy, Rice (1006)	47.86	41.72	163.81	490.44	313.99	150.19	126.77	80.63	113.00	96.28	76.59	90.80	229.28	177.14
Vegetable Oilseeds	88.36	66.75	101.89	165.44	404.78	1006.38	1364.96	1649.38	3029.80	3207.45	2609.88	5266.68	6677.36	7248.27
Soybean (1201)	35.59	30.99	15.92	84.75	351.32	904.36	850.39	920.05	2270.00	2732.77	2377.05	5070.75	6362.66	6908.95
Peanuts (1202)	0.37	0.48	2.67	0.34	0.22	2.68	2.11	0.41	0.20	0	0.38	0.09	0.73	0
Rapeseeds (1205)	0.12	0	45.31	29.38	0.11	17.16	424.67	649.21	658.00	363.72	140.73	44.00	122.53	152.80
Other oilseeds (1203-1204, 1206-1209, 1212)	52.28	35.28	37.99	50.97	53.14	82.18	87.79	79.70	101.60	110.96	91.71	151.83	191.45	186.52
Vegetable Oils	595.33	544.17	2025.51	2752.11	1723.76	1686.96	1461.62	1220.88	755.20	575.05	1350.89	2560.84	3547.09	2213.02
Soybean oil (1507)	122.72	45.30	756.30	1157.17	838.77	734.86	552.49	435.22	126.00	22.85	390.59	950.12	1412.16	806.26
Palm oil (1511)	284.72	379.07	801.61	977.49	578.57	653.33	623.27	617.16	456.00	413.32	812.77	1350.77	1702.89	1065.17
Rapeseeds oil (1514)	109.22	87.02	370.60	466.71	205.30	211.34	184.87	39.28	28.00	18.96	37.62	79.57	198.56	92.55
Other vegetable oils (1508-1510, 1512-1513, 1515)	78.67	32.78	97.01	150.75	101.11	87.43	100.99	129.22	145.20	119.91	109.90	180.38	233.48	249.04
Horticultural Products	**245.44**	**233.64**	**239.67**	**384.89**	**451.55**	**463.34**	**487.78**	**514.30**	**653.20**	**741.93**	**726.71**	**906.78**	**1186.07**	**1263.16**
Live trees and other plants (06)	7.36	11.92	6.97	6.78	5.49	8.58	11.62	17.57	21.00	21.40	31.59	42.12	46.86	61.00
Edible vegetables (07)	46.63	29.80	17.42	88.14	84.55	79.39	75.00	85.80	82.00	204.23	185.72	226.53	369.04	465.13
Edible Fruits (08)	50.32	53.64	76.68	94.92	216.28	252.10	255.65	266.71	368.00	356.91	361.87	464.30	564.23	583.96
Coffee, tea, mate and species (09)	29.45	16.69	11.62	16.95	30.74	10.73	21.13	19.64	23.00	20.42	22.02	26.21	29.54	37.00
Vegetable plaiting materials (14)	38.04	36.95	46.47	101.70	43.91	35.40	45.42	49.62	83.00	63.21	42.41	67.40	80.13	60.20
Other vegetable products (1210-1214, 13)	73.63	84.63	80.51	76.39	70.59	77.13	75.95	74.95	76.20	75.76	83.10	80.22	96.27	55.87
Animal products	**693.26**	**725.36**	**1044.99**	**1189.49**	**1183.39**	**1096.92**	**1224.78**	**1972.43**	**2546.80**	**2470.87**	**2754.72**	**3274.69**	**3694.69**	**4509.74**
Live Animals (01)	24.54	22.65	26.72	40.68	51.60	43.98	58.10	68.23	52.00	34.04	50.74	109.52	200.47	96.73
Pig (0103)	0	0	0.58	2.26	1.87	2.15	3.17	4.14	4.00	1.85	1.94	1.87	2.55	na
Poultry (0105)	20.49	13.11	12.20	16.95	16.69	15.02	10.56	11.37	11.00	9.73	12.45	14.04	11.76	na
Meet and edible meet offal (02)	69.95	81.06	98.75	107.35	172.36	159.85	151.06	515.85	637.00	581.56	600.25	709.55	433.77	521.12
Beef (0201, 0202)	4.91	6.44	6.12	4.52	4.39	3.22	5.28	6.20	7.00	5.84	12.25	11.23	9.12	na
Pork (0203)	0	0.08	0.23	1.13	1.10	2.15	7.39	24.81	58.00	40.85	78.50	85.18	49.69	na
Mutton (0204)	0.37	0.36	0.70	0.79	1.76	2.57	5.28	8.27	14.00	19.45	25.85	36.51	38.84	na
Poultry (0207)	61.36	69.14	83.65	90.40	153.70	139.46	114.09	423.85	481.00	431.80	407.82	432.47	140.12	na
Fish and aquatic products (03)	396.39	433.90	666.84	676.90	655.42	583.60	703.55	912.82	1212.00	1294.42	1498.22	1745.79	2133.19	2557.08
Dairy products, Eggs and natural honey (04)	84.68	67.95	98.75	72.32	62.58	72.95	94.02	169.54	218.00	212.98	260.39	327.63	408.51	410.66
Dairy products (0401-0406)	75.84	59.14	89.80	65.99	59.17	67.69	89.79	164.37	214.90	210.58	256.95	324.07	405.14	na
Product of animal origin not elsewhere specified (05)	50.32	48.87	56.93	80.23	104.30	123.37	107.75	121.98	160.00	168.25	183.42	205.00	229.10	196.67
Animal fats (1501-1506, 1516-1518, 1520-1521)	67.37	70.93	97.01	212.00	137.12	113.18	110.29	184.01	267.80	179.62	161.69	177.20	289.63	727.50
Processed Agricultural Products	**1387.99**	**1035.88**	**1248.88**	**2257.83**	**2723.80**	**2823.57**	**2114.89**	**1413.16**	**1874.00**	**1910.02**	**1986.94**	**2097.76**	**2733.61**	**3236.90**

Products of milling industry (11)	46.63	33.38	42.98	81.36	77.95	72.95	58.10	81.67	64.00	78.77	90.95	127.31	172.03	164.96
Preparations of meet, fish and aquatic products (16)	8.59	5.96	9.29	13.56	8.78	8.58	7.39	12.41	12.00	13.62	18.67	25.27	23.89	25.53
Sugars and sugar confectionery (17)	335.03	158.54	518.14	1056.59	469.89	268.20	180.64	188.15	177.00	365.67	268.05	202.19	306.50	400.93
Cocoa and cocoa preparations (18)	44.18	46.49	56.93	66.67	64.77	76.17	67.61	55.82	71.00	77.80	76.59	108.59	123.71	157.65
Preparations of cereals, flour (19)	19.64	28.61	37.18	25.99	18.66	18.24	15.85	49.62	71.00	90.44	142.64	138.54	177.68	213.13
Preparations of vegetables and fruits (20)	17.18	30.99	20.91	16.95	17.57	19.31	25.35	44.45	60.00	82.66	105.31	125.43	129.46	139.06
Miscellaneous edible preparations (21)	57.68	72.71	79.00	74.58	93.32	93.33	87.68	123.02	147.00	177.00	171.36	292.06	433.22	271.23
Beverages, spirits and vinegar (22)	42.95	54.83	42.98	41.81	46.11	72.95	79.23	127.15	161.00	141.99	141.69	174.11	238.03	363.76
Residues from food industry and animal feeds (23)	565.75	365.96	404.29	474.62	1425.03	1921.36	1481.06	639.90	907.00	621.44	739.06	616.88	862.89	1159.76
Tobacco and manufactured tobacco substitutes (24)	250.35	238.41	37.16	405.69	501.72	272.49	111.98	90.97	204.00	260.63	232.63	287.38	266.20	340.89
Agricultural Products as Raw Materials for Textiles	**1394.50**	**877.03**	**2103.58**	**2887.72**	**2491.71**	**2540.57**	**1299.67**	**1050.72**	**1615.10**	**1797.54**	**1814.62**	**2940.89**	**5398.31**	**6927.13**
Raw hides and skins, leather, fur skins and articles	158.80	206.82	292.76	444.22	396.77	429.33	418.75	412.27	627.80	819.54	739.25	929.34	1268.85	2755.22
Raw hides and skins (4101-4103)	102.47	118.01	240.48	396.65	353.51	381.91	366.57	365.23	564.00	753.70	679.71	845.28	1137.11	2626.88
Raw fur skins (4301)	56.33	88.81	52.28	47.57	43.26	47.42	52.19	47.04	63.80	65.84	59.55	84.06	131.73	128.34
Silk	3.56	2.03	10.69	18.42	7.58	21.24	13.20	13.13	14.20	9.82	6.80	9.08	14.22	13.86
Cocoon (5001)	2.58	0.60	3.95	6.44	1.43	4.29	2.11	1.76	1.70	3.31	0.86	0.47	0.46	0.44
Raw silk (5002)	0.25	1.07	1.05	0.68	0.99	0.86	0.53	2.07	6.50	2.63	2.11	2.53	2.10	2.04
Waste silk (5003)	0.74	0.36	5.69	11.30	5.16	16.09	10.56	9.30	6.00	3.89	3.83	6.08	11.67	11.37
Wool, fine or coarse animal hair	670.56	623.79	691.12	768.77	668.71	558.60	446.22	473.98	779.60	786.08	785.68	727.90	1009.57	1105.24
Uncarded wool (5101)	650.43	606.75	654.06	711.93	643.35	532.10	436.29	454.86	745.00	768.29	780.23	704.87	981.58	1077.94
Uncarded fine or coarse animal hair (5102)	17.18	14.30	32.53	51.98	18.66	23.60	8.45	18.61	33.00	16.24	4.98	20.78	24.98	24.34
Waste wool and fine or coarse animal hair (5103)	2.95	2.74	4.53	4.86	6.70	2.90	1.48	0.52	1.60	1.56	0.48	2.25	3.01	2.93
Cotton	557.04	28.61	1068.81	1607.15	1388.25	1497.61	379.24	85.80	86.10	81.40	183.23	1111.32	2913.48	2865.61
Uncarded cotton (5201)	527.71	19.07	1022.34	1557.20	1314.14	1427.88	350.72	69.26	74.00	69.05	172.32	1088.66	2886.77	2839.59
Waste cotton (5202)	4.17	3.58	4.65	4.75	4.39	2.15	2.11	3.10	4.00	7.68	4.50	17.04	17.77	17.32
Carded cotton (5203)	25.16	5.96	41.82	45.20	69.71	67.59	26.41	13.44	8.10	4.67	6.41	5.62	8.93	8.70
Other vegetable textile fibres (5301-5302)	4.54	15.78	40.20	49.16	30.41	33.79	42.26	65.54	107.40	100.69	99.66	163.25	192.19	187.24

Appendix Table 3 China's revealed comparative advantage indices (NER) 1992-2005

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
All agricultural products	**0.36**	**0.49**	**0.33**	**0.08**	**0.14**	**0.21**	**0.25**	**0.25**	**0.17**	**0.15**	**0.19**	**0.06**	**-0.10**	**-0.06**
By factor intensity of production														
Labour-intensive agricultural products	**0.64**	**0.68**	**0.67**	**0.58**	**0.53**	**0.51**	**0.52**	**0.50**	**0.43**	**0.45**	**0.45**	**0.44**	**0.43**	**0.40**
Land-intensive agricultural products	**-0.13**	**0.07**	**-0.21**	**-0.72**	**-0.67**	**-0.41**	**-0.32**	**-0.34**	**-0.38**	**-0.54**	**-0.42**	**-0.53**	**-0.83**	**-0.73**
By commodity groupings														
Cereals, Vegetable Oilseeds and vegetable oils	**-0.01**	**0.19**	**-0.04**	**-0.66**	**-0.57**	**-0.19**	**-0.20**	**-0.29**	**-0.30**	**-0.43**	**-0.31**	**-0.43**	**-0.77**	**-0.60**
Cereals (10)	-0.06	0.19	0.09	-0.96	-0.86	0.14	0.36	0.39	0.48	0.26	0.55	0.71	-0.50	0.01
Wheat (1001)	-1.00	-0.98	-0.98	-1.00	-1.00	-1.00	-0.99	-1.00	-1.00	-0.44	-0.19	0.55	-0.87	-1.00
Corn (1005)	1.00	1.00	1.00	-0.97	-0.42	1.00	0.89	0.97	1.00	0.98	1.00	1.00	1.00	1.00
Paddy, Rice (1006)	0.70	0.76	0.57	-0.93	-0.44	0.31	0.77	0.79	0.66	0.54	0.65	0.67	-0.04	0.08
Vegetable Oilseeds	0.78	0.81	0.81	0.67	0.31	-0.29	-0.45	-0.48	-0.67	-0.66	-0.59	-0.74	-0.78	-0.71
Soybean (1201)	0.69	0.59	0.88	0.14	-0.66	-0.84	-0.85	-0.87	-0.95	-0.95	-0.94	-0.97	-0.96	-0.96
Peanuts (1202)	1.00	1.00	0.99	1.00	1.00	0.96	0.97	1.00	1.00	1.00	1.00	1.00	0.99	1.00
Rapeseeds (1205)	0.98	1.00	-0.86	-0.96	0.85	-1.00	-1.00	-1.00	-1.00	-1.00	-0.99	-0.96	-1.00	-1.00
Other oilseeds (1203-1204, 1206-1209, 1212)	0.69	0.77	0.81	0.79	0.78	0.60	0.52	0.60	0.51	0.48	0.58	0.46	0.38	0.62
Vegetable Oils	-0.58	-0.40	-0.56	-0.69	-0.63	-0.44	-0.67	-0.83	-0.77	-0.72	-0.89	-0.94	-0.95	-0.85
Soybean oil (1507)	-0.93	-0.52	-0.86	-0.91	-0.80	-0.30	-0.59	-0.85	-0.76	-0.01	-0.90	-0.99	-0.98	-0.92
Palm oil (1511)	-0.85	-0.66	-0.49	-0.63	-0.68	-0.80	-0.93	-1.00	-1.00	-1.00	-0.99	-1.00	-1.00	-1.00
Rapeseeds oil (1514)	-0.53	-0.42	-0.43	-0.50	-0.24	-0.36	-0.57	-0.36	-0.08	0.10	-0.58	-0.91	-0.96	0.22
Other vegetable oils (1508-1510, 1512-1513, 1515)	0.11	0.52	-0.06	-0.41	-0.29	0.04	-0.15	-0.37	-0.45	-0.42	-0.44	-0.43	-0.52	-1.00
Horticultural Products	**0.83**	**0.84**	**0.87**	**0.81**	**0.76**	**0.75**	**0.72**	**0.70**	**0.63**	**0.61**	**0.63**	**0.61**	**0.57**	**0.58**
Live trees and other plants (06)	0.43	0.31	0.60	0.65	0.71	0.60	0.46	0.29	0.21	0.23	0.13	0.04	0.11	0.06
Edible vegetables (07)	0.93	0.96	0.98	0.91	0.90	0.91	0.91	0.90	0.90	0.79	0.81	0.80	0.72	0.71
Edible Fruits (08)	0.75	0.77	0.73	0.70	0.40	0.33	0.29	0.24	0.06	0.08	0.19	0.21	0.19	0.24
Coffee, tea, mate and species (09)	0.90	0.94	0.96	0.94	0.89	0.96	0.93	0.93	0.91	0.93	0.92	0.91	0.93	0.91
Vegetable plaiting materials (14)	0.24	0.18	0.15	-0.19	0.13	0.20	0.02	-0.09	-0.32	-0.20	.000	-0.22	-0.34	-0.16
Other vegetable products (1210-1214, 13)	0.66	0.60	0.74	0.75	0.72	0.70	0.64	0.59	0.61	0.60	0.57	0.61	0.54	0.29
Animal products	**0.66**	**0.62**	**0.60**	**0.62**	**0.59**	**0.62**	**0.54**	**0.34**	**0.27**	**0.29**	**0.25**	**0.21**	**0.22**	**0.14**
Live Animals (01)	0.92	0.92	0.91	0.87	0.82	0.84	0.78	0.71	0.76	0.82	0.73	0.47	0.20	0.50
Pig (0103)	1.00	1.00	1.00	0.99	0.99	0.99	0.98	0.97	0.97	0.98	0.98	0.98	0.98	1.00
Poultry (0105)	0.70	0.78	0.82	0.79	0.78	0.78	0.81	0.80	0.81	0.77	0.73	0.63	0.44	1.00
Meet and edible meet offal (02)	0.73	0.67	0.76	0.83	0.75	0.73	0.71	0.16	0.08	0.17	0.03	-0.08	0.20	0.12
Beef (0201, 0202)	0.81	0.68	0.71	0.79	0.85	0.89	0.87	0.63	0.53	0.69	0.20	0.11	0.50	1.00
Pork (0203)	1.00	1.00	1.00	0.99	0.99	0.98	0.93	0.47	0.07	0.53	0.44	0.49	0.79	1.00

Mutton (0204)	0.78	0.82	0.60	0.62	0.11	0.06	-0.11	-0.33	-0.40	-0.63	-0.55	-0.30	-0.01	na
Poultry (0207)	0.54	0.52	0.68	0.77	0.66	0.65	0.66	0.14	0.10	0.15	-0.03	-0.18	-0.03	1.00
Fish and aquatic products (03)	0.62	0.55	0.52	0.55	0.49	0.57	0.45	0.38	0.30	0.32	0.29	0.28	0.27	0.20
Dairy products, Eggs and natural honey (04)	0.39	0.43	0.29	0.43	0.55	0.42	0.33	0.00	-0.07	-0.07	-0.17	-0.22	-0.31	-0.27
Dairy products (0401-0406)	-0.46	-0.30	-0.59	-0.37	-0.28	-0.21	-0.36	-0.57	-0.62	-0.69	-0.66	-0.76	-0.78	na
Product of animal origin not elsewhere specified (05)	0.82	0.80	0.84	0.82	0.75	0.72	0.73	0.68	0.65	0.58	0.55	0.54	0.59	0.64
Animal fats (1501-1506, 1516-1518, 1520-1521)	-0.71	-0.71	-0.68	-0.81	-0.61	-0.22	-0.34	-0.71	-0.78	-0.79	-0.72	-0.65	-0.68	-0.82
Processed Agricultural Products	**0.49**	**0.62**	**0.57**	**0.41**	**0.36**	**0.30**	**0.37**	**0.53**	**0.47**	**0.50**	**0.53**	**0.55**	**0.52**	**0.52**
Products of milling industry (11)	0.11	0.39	0.36	0.17	0.51	0.46	0.32	0.01	0.18	0.14	0.11	0.02	-0.05	0.04
Preparations of meet, fish and aquatic products (16)	0.97	0.98	0.98	0.98	0.99	0.99	0.99	0.98	0.99	0.99	0.98	0.98	0.99	0.99
Sugars and sugar confectionery (17)	0.42	0.66	-0.10	-0.60	-0.17	-0.13	0.03	-0.13	-0.01	-0.41	-0.10	-0.05	-0.14	-0.04
Cocoa and cocoa preparations (18)	0.00	0.07	-0.17	-0.18	-0.09	-0.12	-0.19	-0.15	-0.42	-0.49	-0.38	-0.36	-0.32	-0.24
Preparations of cereals, flour (19)	0.78	0.67	0.68	0.80	0.87	0.88	0.89	0.72	0.67	0.63	0.51	0.56	0.54	0.52
Preparations of vegetables and fruits (20)	0.96	0.93	0.96	0.97	0.97	0.97	0.95	0.93	0.91	0.89	0.88	0.88	0.90	0.90
Miscellaneous edible preparations (21)	0.41	0.33	0.40	0.53	0.49	0.55	0.60	0.48	0.42	0.37	0.44	0.27	0.13	0.40
Beverages, spirits and vinegar (22)	0.81	0.73	0.82	0.83	0.81	0.74	0.71	0.58	0.51	0.59	0.60	0.54	0.48	0.27
Residues from food industry and animal feeds (23)	0.03	0.18	0.13	-0.11	-0.58	-0.73	-0.76	-0.48	-0.57	-0.37	-0.31	-0.26	-0.31	-0.46
Tobacco and manufactured tobacco substitutes (24)	0.37	0.52	0.91	0.47	0.36	0.44	0.69	0.58	0.19	0.18	0.28	0.23	0.28	0.17
Agricultural Products as Raw Materials for Textiles	**-0.22**	**-0.10**	**-0.40**	**-0.65**	**-0.69**	**-0.69**	**-0.53**	**-0.26**	**-0.41**	**-0.65**	**-0.60**	**-0.77**	**-0.90**	**-0.92**
Raw hides and skins, leather, fur skins and articles	-0.50	-0.66	-0.60	-0.77	-0.84	-0.81	-0.88	-0.94	-0.96	-0.97	-0.97	-0.98	-0.99	-0.99
Raw hides and skins (4101-4103)	0.41	-0.62	-0.56	-0.76	-0.84	-0.85	-0.91	-0.95	-0.98	-0.98	-0.98	-0.99	-1.00	-1.00
Raw fur skins (4301)	-0.72	-0.73	-0.84	-0.85	-0.77	-0.52	-0.68	-0.86	-0.85	-0.88	-0.85	-0.90	-0.90	-0.90
Silk	0.98	0.99	0.96	0.91	0.96	0.88	0.91	0.91	0.92	0.93	0.95	0.92	0.88	0.89
Cocoon (5001)	0.83	0.96	0.89	0.62	0.91	0.50	0.50	0.37	0.54	0.01	0.28	0.29	0.33	0.33
Raw silk (5002)	1.00	0.99	0.99	1.00	0.99	0.99	1.00	0.98	0.95	0.98	0.98	0.97	0.98	0.98
Waste silk (5003)	0.95	0.98	0.83	0.49	0.62	0.27	0.52	0.63	0.80	0.79	0.70	0.60	0.25	0.25
Wool, fine or coarse animal hair	-0.61	-0.71	-0.63	-0.80	-0.83	-0.78	-0.84	-0.94	-0.97	-0.96	-0.96	-0.93	-0.92	-0.92
Uncarded wool (5101)	-0.96	-0.96	-0.97	-0.96	-0.91	-0.84	-0.89	-0.96	-0.97	-0.96	-0.96	-0.93	-0.92	-0.92
Uncarded fine or coarse animal hair (5102)	0.79	0.73	0.64	0.13	0.22	-0.02	0.11	-0.59	-0.92	-0.80	-0.73	-0.96	-0.96	-0.96
Waste wool and fine or coarse animal hair (5103)	-0.60	-0.21	-0.50	-0.30	-0.65	-0.15	0.22	0.55	-0.10	-0.10	0.63	0.09	-0.02	-0.02
Cotton	-0.35	0.81	-0.70	-0.93	-0.98	-0.99	-0.72	0.55	0.56	-0.01	-0.05	-0.80	-0.99	-0.99
Uncarded cotton (5201)	-0.34	0.85	-0.71	-0.93	-0.98	-1.00	-0.71	0.62	0.61	0.06	-0.03	-0.79	-0.99	-1.00
Waste cotton (5202)	0.19	0.79	0.33	-0.40	-0.45	-0.33	0.20	-0.33	-0.54	-0.70	-0.36	-0.87	-0.88	-0.88
Carded cotton (5203)	-0.88	0.09	-0.82	-1.00	-1.00	-0.98	-1.00	-0.90	-0.84	-0.81	-0.84	-0.76	-0.94	-0.94
Other vegetable textile fibres (5301-5302)	0.14	-0.36	-0.63	-0.81	-0.77	-0.71	-0.79	-0.87	-0.88	-0.94	-0.95	-0.97	-0.97	-0.97