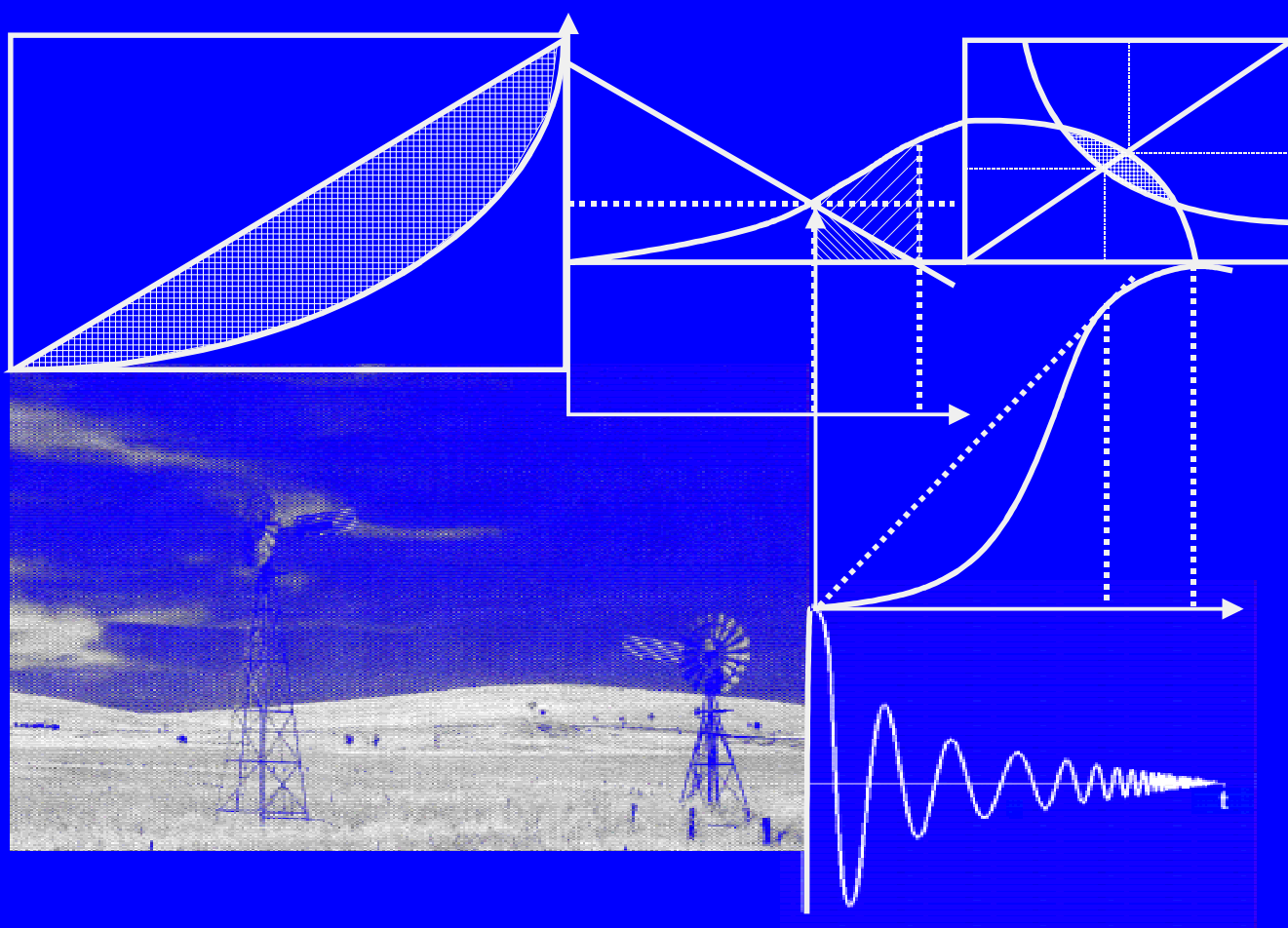


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## **Live Cattle and Beef Trade in China**

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## Abstract

This paper begins with an analysis of the situation, major features, and trends of beef export and import from China in recent years. In the 1970's and 1980's, China was a net exporter of beef. However, the export of live cattle and beef has decreased gradually since 1992. This paper analyses the competitiveness of Chinese beef and live cattle in international and domestic markets. It appears that Chinese beef price has some comparative advantages compared with the world level, but that the competitiveness of Chinese beef in the world market is still low primarily due to its poor quality. The second part of the paper analyzes the effect of China's joining in the WTO on Chinese beef marketing and makes an estimation of the future import and export levels of Chinese beef and live cattle. It is expected that China's beef export levels will increase gradually and will remain as a net export country of beef after joining the WTO. Chinese beef export could increase to 180,000 tons in 2000, and 220,000 tons in 2005.

## 1. Introduction

The Chinese beef cattle industry has developed rapidly since the early 1990's. China has become the third largest country of beef production in the world. The level of Chinese beef production is still low, and the quality of domestically produced beef is not very high. Beef marketing is an important factor in determining whether or not Chinese beef cattle industry can develop successfully. Both the Chinese government and the beef producers have identified problems with beef marketing.

## 2. Live Cattle and Beef Export and Import

### A. Beef Exports

Beef produced in China is mainly consumed in the domestic market. The proportion of exports and imports in total beef production are not very large. In the early 1990s, Chinese exports of beef accounted for 15-20% of total production. By the end of 1996, this figure had dropped to less than 3% (Table 1). Before the 1980s, only a few live cattle were exported from China, the average amount of export was less than 100 000 heads per year. During the 1980s, live cattle export from China increased to around 200 000 heads per year. But by mid 1990s, export of live cattle declined gradually. From 1990 to 1996, export of live cattle from China dropped by 55%, from 190 000 heads in 1990 to 87 000

heads in 1996 (Table 2). Live cattle are primarily exported to Hongkong, which accounts for 90% of total live cattle export from China (Table 3).

Chinese beef exports have fluctuated greatly in the past ten years. Generally speaking, beef export in the 1980s showed an increasing trend, and reached a peak of about 132 000 tons in 1991. But in 1992, beef export from China dropped sharply to 24 000 tons. Since that time the beef export volume has fluctuated between 20 000 to 30 000 tons (Table 4). Chinese beef are primarily exported to the former Soviet Union, some Middle East countries, and Hongkong (Table 5).

There are many reasons for the fluctuation of Chinese beef exports in recent years. For instance, the quantity of Chinese beef exported to some eastern European countries has increased greatly recent years. The major reason is that agricultural production, especially animal husbandry production in these countries declined largely due to the unfavorable political and economic climate in those years. This has led to a shortage of animal products in the domestic markets of these countries and provided an opportunity for China to export beef and beef products to these countries. Another factor that has had an impact on Chinese beef export is the "mad cow disease" scare in the UK in the mid 1990's. This has made it possible for China to export more beef in the world market. Nevertheless, the Chinese inspection system for export products, especially some animal products, such as beef, is quite different from that in most countries of the world. This is one of the major impediments to China entering Western countries' beef markets. The key factor underlying the uncompetitiveness of Chinese beef is it's poor quality level.

## **B. Beef Imports**

Most Chinese people, except those belonging to Muslim minorities, are used to consuming pork instead of beef. Therefore, in the years before the 1980s, the beef consumption level in China was quite low, and only a small amount of beef was imported into China. After the 1980s, along with China's opening up to the outside world and the setting up of more and more high-grade hotels and restaurants, domestic demand for high quality beef in China has gradually increased. But domestic beef production was hardly adequate to meet the continuously increasing demand for high-grade beef due to its low quality. As a consequence, China began to increase its import volume of high quality beef to supply high-grade hotels and restaurants. However, compared with domestic consumption, beef import only occupies a very small proportion of the total Chinese domestic market. During the 1990s, the percentage of beef imported relative to domestic beef production remained at a level of less than 0.5% (Table 1). In recent years, the amount of beef imported into China has increased gradually. In the years from 1990 to 1992, beef and beef products imported into China were about 600 tons per year. In the years 1994 to 1996, importation of beef and beef products increased to 6000 tons per year. The beef imported into China are primarily from some developed countries, such as Australia (accounts to 63.1% in 1996), the USA (accounts for 23.4%), New Zealand (accounts for 12.5%), and some EU countries. In addition, some beef is imported as transited trade through Hongkong and Japan (Table 6).

### **C. Major features of Chinese beef import and export trade**

There are several features in Chinese beef import and export trade:

First, during the past ten and more years, Chinese beef import and export trade fluctuated greatly, with export volume much higher than the import volume. Or in other words, China has remained as a net export country of beef in the world during this period.

Second, Chinese beef export has declined these years, while beef import has increased gradually. This means that the net export of beef from China is gradually declining. Table 7 shows that in the years from 1990 to 1992, total volume of beef exported, including live cattle, fresh, chilled or frozen beef, and beef products (primarily canned beef), was 194 000 tons per year, total volume of beef imported was about 600 tons, and net export volume of beef was about 193 000 tons. In the middle of the 1990s, net export volume of beef from China dropped as a result of beef export declines and import increases. In the years from 1994 to 1996, the volume of beef exported was 110 000 tons per year, and the volume of beef imported was 6 000 tons. So the net export volume of beef was 104 000 tons, which was less than half of the level in the early 1990s.

Third, Chinese beef import and export are concentrated in several countries and areas. Chinese beef import is primarily from some developed countries, such as the United States and Australia, whereas beef export is mainly to the former Soviet Union countries, some Middle East countries, and Hongkong.

Forth, beef imported into China is primarily high quality beef, but beef exported from China is not of sufficient quality to compete with competing with those produced in the western countries. Nevertheless, in recent years, the beef import structure has gradually changed, or in other words, the percentage of high quality beef imported declined, while the import of beef offal, such as beef tripe, which are very cheap in most western countries, has increased greatly. According to statistics, in 1992, China imported 889 tons of fresh, chilled, and frozen beef offal. In 1996, beef offal imported increased sharply to 70396 tons, which was about seven times more than 5 years ago. It is a very important reason why the volume of beef imported increased much more faster than the value of beef imported since 1990 (from 1990 to 1996, the former increased by 32%, while the latter increased by only 4% per year, Table 4).

## **3. Competitiveness of Domestic Beef against Imported Beef**

### **A. Market share comparison**

Since the 1980s, Chinese beef production has increased greatly. China's share of beef production in the world was 0.5% in 1980, it increased to 2.3% in 1990, and increased further to 5.4% in 1996 (Table 8). However, during the same period, the share of Chinese beef export in the world has declined slowly. The share of export volume of live cattle in the world market was dropped from 2.4% in 1990 to 1.1% in 1995, and the share of beef export in the world market was dropped from 2.2% to 0.4% the same period (Table 9 and 10). The share of export value of Chinese beef in the world market was even lower than that of export volume. During the 1990s, the highest percentage of Chinese export in the world market for live cattle was 1.5% (1990), for beef was 1.4% (1991), and the lowest

percentage for them were 1% for live cattle (1995) and 0.2% for beef (1995) respectively (Table 9 and Table 10). It shows clearly from the above comparison that Chinese beef has not occupied an important position now in the world beef market.

### **B. Price level comparison**

In Table 11 and Table 12, we make a comparison of the average export prices of live cattle and beef in the world, the export prices in some representative countries, such as the beef export prices in the United States and Argentina, the live cattle export prices in the United States and Australia, the import and export prices of Chinese live cattle and beef, and the domestic prices for beef in China. It is clearly from the comparison that the export prices of live cattle in the world presented a trend of slow increase in the 1980s, while that of China appeared a much faster increase. During the years from 1979 to 1981, the ratio of export prices for live cattle between China and the world average was 44100. In 1990, that ratio increased to 62100. In 1995, it increased further to 90100. If we make a comparison of increasing degree of beef prices in these years, it will be clearer. From 1990 to 1995, export prices for live cattle in the world increased by 0.4% per year, and that of China increased by 6.8% per year. It means that although the export prices of Chinese live cattle have been lower than the average export prices in the world, Chinese comparative advantage in export prices for live cattle has already greatly declined.

In Table 12 we make a comparison of beef export prices between China and the world. It shows clearly that in a long term beef export prices in China have been lower not only than those in some major export countries, such as the United States and Argentina, but also lower than the world average level. The ratio of beef export price between China and the world average, at an average price from 1979 to 1981, was 64100, between China and the United States was 39100, between China and Argentina was 70100. In 1990, these ratios dropped to 53100, 36100, and 58100 respectively. In 1995, they dropped further to 52100, 38100, and 52100. It indicates that since the 1980s China has had a comparative advantage in respect of beef export prices. At present Chinese export prices of beef only equals half of the world average level. However, it should be noticed that in the above comparison we consider only export prices, not include in it the factor of beef quality. In fact, the quality of beef exported from China is much lower than that of the western countries.

Now let's have a look of the trend of beef prices in China and in the world. Generally in the 1990s, the world beef prices present a slow rising trend of about 0.9% per year. The same period, the trend of beef export prices in China is also increasing but at a speed faster than the world average rate, of about 1.3% per year. While the trend of Chinese import prices during this period is declining, and at a very fast speed of about 20.6% per year. The declining of Chinese import prices is a direct result of the changes happened in the import structure mentioned above. During the same period, Chinese domestic beef prices are increasing at a increasing rate of 6.2% per year. The rapid increase of domestic beef prices in China is closely linked with the price reform and the inflation in China recent years. From the above analysis, it is clear that Chinese live cattle and beef production still have substantial competitiveness and comparative advantages

now in the world market basically for its low prices.

### **C. Factors affecting Chinese Beef Market**

The major factors affecting Chinese beef market competitiveness are as follows:

#### **I. Beef quality**

A number of factors affect the Chinese market share and competitiveness of beef and beef products. Among them, the key factor is the low quality of Chinese beef. One of the important reasons that Chinese beef can not enter the western countries' beef market is that the quality of Chinese beef can not meet the requirement of these countries. In addition, it is too small of the share that the high quality beef is in the total production of beef. That is to say, both Chinese government and Chinese farmers have not paid enough attentions to the production of high-grade beef till now. And the high-grade beef is not yet in a main position now in Chinese beef production. The prices for calf beef are 1 or 2 times higher than the common beef in the world. But for a long term, only few commercial beef cattle produced in China are less than 18 months, let alone producing the commercial calf of 6 months. As a result, many high-grade hotels and restaurants in China need to import high-grade beef and beef products, such as beef tongues, beef ribs, and calf beef at high prices from foreign countries.

There are many reasons that the quality of Chinese beef can not be improved quickly: (1) the beef cattle breeds and breeding technique in China are relatively backward compared with the developed countries. (2) The methods and skills that Chinese farmers use in feeding their beef cattle can not meet the requirement of feeding high quality beef cattle. (3) The existing policies can not properly guide the Chinese farmers to increase their production of high-grade beef cattle. For a long term, the Chinese government laid stress on increasing production instead of improving the quality of beef cattle. As a result, not enough funds, manpower and material resources have been put into the activities of improving beef quality. (4) There is not a unified administration in the whole production of beef cattle industry in China. As a consequence, there are no organizations and personnel that are responsible for such activities as quality monitoring, beef grading, and beef cattle production administration. The administration and regulations in respect of beef cattle slaughtering are not strict. The majority of beef cattle are slaughtered in individual slaughtering households with simple tools and low level of hygienic conditions. One of the most important steps for China to increase its market competitiveness is to improve its beef quality. It is also necessary for China to increase the percentage of high quality beef in total beef production.

#### **II. Labor price**

However, it appears that China will be able to successfully develop its beef cattle production in a long term. One of the major reasons is that animal husbandry, including beef cattle production, is a labor intensive industry. There are abundant resources of cheap labor in rural China compared with some other beef production and export countries. So beef production costs in China are much lower than those in most of the beef export countries, considering that labor prices account for a large part of beef production costs.

Therefore, it is possible for China to keep a certain extent of competitive advantage in respect of beef prices in a period of time, and simultaneously to improve its beef quality.

#### **4. Effects of China's Joining in the WTO on the Chinese Beef Market**

##### **A. Production and export subsidies in the developed countries**

It is possible that China will speed up its steps of opening out to the outside world after joining in the WTO. As a result, fluctuations in the world market in future will have greater impact on Chinese agricultural production than before. Therefore, beef production and government subsidies to beef import and export in foreign countries, possible fluctuations in beef prices, beef production and beef trade volume in the world, and the possible lowering of export subsidies to agricultural products in some major agricultural export countries, should impact on the Chinese beef market in the coming years.

For many years the agricultural protective policies carried out by many developed countries have lowered the world beef price. The developed countries agreed, according to the *Uruguay Agreement of Agricultural Product Trade*, to reduce their subsidies to export agricultural products by 36%, to reduce their export volume of agricultural products obtained with government subsidies by 21%, and to reduce their support to domestic agricultural production by 20% by the year of 2000. As to the domestic market entrance of agricultural products, the developed countries agreed to reduce their existing custom level by 36% by the year of 2000.

According to the result of the "*Simulated Model of International Agricultural Trade Policy*" (Dr. Zheng Guoqiang, IAE, 1996), if all the above commitments are carried out, it will greatly affect world agricultural trade. Based on the calculation of this model, by the year 2000, the world beef price will be 15.21% higher than the level of the mid 1990s. The world beef import and export volume will increase by 36.01%. The rate of increase of beef prices will be much faster than that of pork, poultry, and other agricultural products (Table 13). As to the domestic production in some major countries of beef production and trade, the simulated results of the above model indicate that, beef production in Japan and some Asian developing countries will be seriously affected and will decrease by more than 80% from their present levels. Beef production in the EU countries will also decline but at a lower level of 1.38%. Beef production in the US and Canada will slightly increase by 0.34% and 0.13% respectively. Beef production in Australia will have a moderate increase, by 6.02% to the year 2000 (Table 14).

The above analysis indicates that as long as world agricultural production and international trade subsidies decline on schedule in the future, the volume of beef trade could substantially increase. Moreover, since the agricultural export subsidies in some developed export countries will greatly decline in the coming years, it is possible that some of the beef markets previously belonging to them will be gradually transferred to other countries with a relatively lower protective level. China is among these countries. Therefore, after entering the WTO, China's beef export is expected to increase.

At the same time, China is facing a rather favorable export environment:

- (1) In 1996, animal production in Russia declined. Total production of animal husbandry industry that year decreased by 10-12% from the average level of previous 5 years. Besides, beef production in some eastern European countries also declined recent years. In light of this, it is anticipated that Chinese beef export to Russia and the eastern European countries are likely to increase.
- (2) In recent years live cattle and beef products exports in some European countries such as England, Switzerland, and Germany have been greatly affected by the "mad cow" disease. This provides China with a good opportunity to export beef in the world market. In addition, world beef prices are expected to increase as a result of developed countries reducing subsidies to their beef production and international trade.

### **B. Trade liberalization degree of Chinese agriculture**

In the past, the government has strictly controlled Chinese beef imports. Only those companies that can get the special import licenses issued by the Chinese Foreign Economic Relations & Trade Ministry (CFERTM) are permitted to import beef. Now in China only four-star or higher grade hotels, high-grade restaurants and meat processing factories are qualified to get these beef import licenses issued by the CFERTM. In order to control beef imported into China, the customs duties for imported beef are much higher than grain and some other agricultural products. In previous years, the custom tariff for beef imported in China was 50% (it decreased to 45% on Oct. 1st, 1997).

After China's joining in the WTO, Chinese government will gradually reduce its restrictions on agricultural trade, include various restrictions on beef trade. It could be expected that the custom tariff for imported beef would also be reduced gradually.

## **5. Live Cattle and Beef Import and Export Outlook**

According to the above analysis, it could be concluded that:

- A. For a period of time in the future, Chinese beef production will be primarily for domestic consumption. Beef import and export trade will not be of large share in total beef production.** In recent years Chinese beef production has developed rapidly. But on the other hand, China has a huge population and the people's living standard has been gradually increased. Besides, the consumption habits of Chinese people, especially the young people, have gradually changed. Beef consumption in domestic market has kept up steps with the development of beef production, and it increased even faster than beef production. According to statistics, during the period from 1990 to 1996, Chinese beef production has increased from 1 256 000 tons to 3 068 000 tons, at an increase rate of 16% per year. Beef consumption in domestic market increased from 1 058 000 tons to 2 990 000 tons, at an averaged increase rate of 19%. It was 3 percentage higher than the increasing rate of beef production. Net export of beef dropped from 198 000 tons to 78 000 tons. The percentage of net export in total beef production dropped from 15.8% to 2.5%.

According to simulated calculation based on historical data by the model of "Chinese animal husbandry industry development" (CAHID), it is expected that by the year of 2000, Chinese beef production will reach to 4710 000 tons, while beef consumption in the domestic market will reach to 4 530 000 tons. The above historical data and the simulated results by the CAHID model indicate that, for a period of time in the future, Chinese beef production will primarily supply the domestic market. The share of beef imports and exports in total production will not be high.

- B. The volume of beef imported into China will keep steady while the import structure will be changed gradually in the future.** Chinese demand for beef should increase gradually both in volume and in quality in future. However, the quality of domestically produced beef will only increase slowly. Therefore there will be a potential market for high-grade fresh beef in China. Supermarkets, high-grade hotels, restaurants and meat processing factories are the key components of this demand.
- C. The potential for China to export beef is quite large, as long as continuous efforts are made to improve the quality of beef products.** It is clear from the above analysis that Chinese beef export is expected to increase gradually in the future along with the liberalization process of world agricultural trade and the rapid development of Chinese beef production. Nevertheless, many factors will affect the future development of Chinese beef exports. These include: international political and economic fluctuations or internal turbulence within a country, changes in agricultural trade acts, and natural disasters, all of which can affect beef production and trade in the world.

It is estimated, by the year of 2000, Chinese net export of beef, including fresh, frozen and chilled beef, live cattle and beef products, will increase to 180 000 tons. By the year of 2005, it could reach 220 000 tons. However, it should be pointed out that Chinese beef exports could only increase based on improvements in beef quality. At the same time, it is necessary for China to improve its inspection system for beef production and export, and to ensure that its inspection system meets international standards.

## References

1. FAO. Production Yearbook. 1990 - 1996.
2. FAO. Trade Yearbook. 1990-1996.
3. Zhu Xigang, Chinese Producer Subsidy Equivalence for major agricultural products, 1995, Working Paper, IAE.
4. Cheng Guoqiang, 1997. Policy of Agricultural Trade, China Economic Publishing House.
5. Cheng Guoqiang, 1997. Agriculture, Grain, and Trade, China Agricultural Science Publishing House.
6. Animal Husbandry Statistics of China, 1990, China Economic Publishing House.
7. China Price Statistical Yearbook, 1990 - 1996, China Price Publishing House.
8. China Custom Statistical Yearbook, 1990-1996, China Custom Office.
9. Almanac of China's Foreign Economic Relations and Trade, 1980 - 1990, the Editorial Board of the Almanac of China's Foreign Economic Relations and Trade.

**Table 1 Performance of Chinese Beef Production, Import and Export in the 1990s**

Year	Production	Export	Export	Import	Import	Net Export	Net Export
	1000 ton (1)	1000 ton (2)	/Production % (3)	1000 ton (4)	/Production % (5)	1000 ton (6)	/Production % (7)
1990	1256	198	15.7	0	0.0	198	15.8
1991	1535	261	17.0	1	0.1	260	16.9
1992	1550	123	7.9	1	0.1	122	7.9
1993	1659	181	10.9	9	0.5	172	10.4
1994	1635	119	7.3	3	0.2	116	7.1
1995	2409	121	5.0	3	0.1	118	4.9
1996	3068	89	2.9	11	0.4	78	2.5

Source Data in column (1) are from "China Statistical Yearbook", 1990-1996.

Data in column (2) and (4) are from "China Custom Statistical Yearbook", 1990-1996.

Note Data in (2) and (4) are fresh beef equivalent, include beef, beef products, and live cattle.

Volume of net export equals total export minus total import.

**Table 2 Import and Export of Live Cattle in China in the 1990s**

Year	Export		Import *		Net Export	
	head	(\$ 1000 )	head	(\$ 1000 )	head	(\$ 1000 )
1990	190285	62811	53	86	190232	62725
1991	173800	63460	0	0	173800	63460
1992	166385	63924	0	0	166385	63924
1993	143743	56085	0	0	143743	56085
1994	140795	57063	0	0	140795	57063
1995	115651	56706	22	2	115629	56704
1996	87705	45709	112	13	87593	45696
1997	65455		1261		64194	
First half of 1998	33588					

Source "China Custom Statistical Yearbook"1990-1996.

The data of 1997 and the first half of 1998 are provided by the Chinese Foreign Economic Relations & Trade Ministry.

Note \* Import of herd cattle are not included.

**Table 3 Destination of Chinese Live Cattle Export**

		1950	1960	1970	1980	1990	1991	1992	1993	1994	1995	1996
Hongkong	(1000 head)					1792	1511	1488	1351	1314	1079	790
Share	(%)					94	87	89	94	93	93	90
<b>Total</b>	(1000 head)	286	948	870	2374	1903	1738	1664	1437	1408	1156	877

Source Data before 1989 are from "Almanac of China's Foreign Economic Relations and Trade", 1980-1990.

Data after 1990 are from "China Custom Statistical Yearbook", 1990-1996.

**Table 4 Import and Export of Fresh, Chilled or Frozen Beef in China in the 1990s**

	Export		Import		Net Export	
	ton	(\$ 1000 )	ton	(\$ 1000 )	ton	(\$ 1000 )
1990	96593	158740	425	2906	96168	155834
1991	132040	203854	504	2945	131536	200909
1992	24448	38846	965	4004	23483	34842
1993	21813	27855	2092	5353	19721	22502
1994	22594	30815	2667	5297	19927	25518
1995	20131	33591	3083	4227	17048	29364
1996	28682	51240	2947	3934	25735	47306
1997	31511		2591		28920	
1st half of 1998	22682		1619		21063	

Source "China Custom Statistical Yearbook", 1990-1996.

The data of 1997 and the first half of 1998 are provided by the Chinese Foreign Economic Relations & Trade Ministry.

**Table 5 Destination of Chinese Export of Fresh, Chilled or Frozen Beef**

Year	Korea		Hongkong		Iron		Former S.U.		Other		Total
	ton		ton		ton		ton		ton		ton
1985	0	0.0	11700	37.4	0	0.0	19600	62.6	0	0.0	31300
1990	953	1.0	12300	12.7	2659	2.8	77125	79.8	3556	3.7	96593
1991	1083	0.8	10385	7.9	12561	9.5	104919	79.5	3092	2.3	132040
1992	1531	6.3	5601	22.9	0	0.0	12765	52.2	4551	18.6	24448
1993	1449	6.6	5583	25.6	2351	10.8	7826	35.8	4640	21.2	21849
1994	1044	4.6	11434	50.6	1847	8.2	5512	24.4	2757	12.2	22594
1995	976	4.8	9292	46.2	0	0.0	6558	32.6	3305	16.4	20131
1996	1142	4.0	6381	22.2	0	0.0	19982	69.7	1177	4.1	28682

Source Data before 1989 are from "Almanac of China's Foreign Economic Relations and Trade" 1980-1990.

Data after 1990 are from "China Custom Statistical Yearbook", 1990-1996.

**Table 6 Source of Chinese Import of Fresh, Chilled or Frozen Beef**

	U.S.		Australia		New Zealand		Hongkong		Other		Total
	ton		ton		ton		ton		ton		ton
1990	95	22.4	106	24.9	50	11.8	118	27.8	56	13.2	425
1991	160	31.7	138	27.4	67	13.3	78	15.5	61	12.1	504
1992	410	42.5	314	32.5	93	9.6	87	9.0	61	6.3	965
1993	423	20.2	1245	59.5	172	8.2	140	6.7	112	5.4	2092
1994	645	24.2	1092	40.9	524	19.6	258	9.7	148	5.5	2667
1995	799	25.9	1567	50.8	604	19.6	17	0.6	96	3.1	3083
1996	691	23.4	1861	63.1	368	12.5	17	0.6	10	0.3	2947

Source "China Custom Statistical Yearbook", 1990-1996.

**Table 7 Import and Export of Chinese Live Cattle, Beef and Beef Products**

	Export (1000 ton)				Import (1000 ton)			
	Beef	Live Cattle	Beef Products	Total	Beef	Live Cattle	Beef Products	Total
1990	97	43	58	198	0	0	0	0
1991	132	39	90	261	1	0	0	1
1992	24	37	61	123	1	0	0	1
1993	22	32	127	181	2	0	7	9
1994	23	32	65	119	3	0	0	3
1995	20	26	75	121	3	0	0	3
1996	29	20	41	89	3	0	8	11
	Net Export (1000 ton)				Net Export (\$ 1000 )			
	Beef	Live Cattle	Beef Products	Total	Beef	Live Cattle	Beef Products	Total
1990	97	43	58	198	156	63	77	295
1991	132	39	90	260	201	63	109	373
1992	23	37	61	122	35	64	85	183
1993	20	32	120	172	23	56	142	221
1994	20	32	64	116	26	57	71	154
1995	17	26	75	118	29	57	101	187
1996	26	20	33	78	47	46	56	149

Source "China Custom Statistical Yearbook"1990-1996.

Note Live cattle are converted into fresh beef. The weight of live cattle is calculated as 500 kg per head. Beef rate per head is calculated as 45%.

Beef products are converted into fresh beef. 1 ton of beef products equal 1.4 tons of fresh beef.

**Table 8 Beef Production: China and the World**

(1000 ton)

	1979-81	1990	1991	1992	1993	1994	1995	1996
World	46496	54046	54521	53619	52674	55312	55945	56660
China	249	1256	1535	1550	1659	1635	2409	3068
China/World	0.5	2.3	2.8	2.9	3.1	3.0	4.3	5.4

Source Table 1; "Production Yearbook"FAO, 1992-1996.

**Table 9 Live Cattle Export: China and the World**

	1979-81	1990	1991	1992	1993	1994	1995	1996
Export Volume(1000 head)								
World	7191	8027	8385	8985	8893	9542	10166	
China	237	190	174	166	144	141	116	
Share of China in the World (%)	3.3	2.4	2.1	1.8	1.6	1.5	1.1	
Export Value(\$ 1 000 000)								
World	3069	4279	4380	5040	4777	5209	5550	
China		63	63	64	56	57	57	46
Share of China in the World (%)		1.5	1.4	1.3	1.2	1.1	1.0	

Source "Trade Yearbook"FAO, 1992-1995.

"China Custom Statistical Yearbook", 1990-1996.

**Table 10 Fresh, Chilled or Frozen Beef Export: China and the World**

	1979-81	1990	1991	1992	1993	1994	1995	1996
Export Volume(1000 ton)								
World	3407	4384	4981	4828	4678	4922	4767	
China		97	130	24	22	23	20	
Share of China in the World (%)		2.2	2.6	0.5	0.5	0.5	0.4	
Export Value(\$ 1 000 000)								
World	8386	13457	14200	14998	13988	15038	15285	
China		159	204	39	28	31	34	51
Share of China in the World (%)		1.2	1.4	0.3	0.2	0.2	0.2	

Source "Trade Yearbook"FAO, 1992-1995.

"China Custom Statistical Yearbook", 1990-1996.

**Table 11 Export Prices of Live Cattle: China and the World**

(US \$/head)

	1979-81	1990	1991	1992	1993	1994	1995
World Average	425	533	570	561	537	546	546
U. S.	876	739	601	602	808	803	912
Australia	432	403	447	426	341	338	257
Export Price of China	187	330	366	384	390	405	490

Source: Calculated according to "Trade Yearbook", FAO, 1980-1996.

**Table 12 Beef Prices: China and the World**

(US \$/head)

	1979-81	1990	1991	1992	1993	1994	1995	1996	1997
World Average	2.46	3.07	2.85	3.11	2.99	3.06	3.21		
U. S.	3.98	4.54	4.35	4.57	4.72	4.35	4.45		
Argentina	2.25	2.82	4.24	5.66	4.89	3.52	3.19		
Export Price of China	1.57	1.64	1.54	1.59	1.28	1.36	1.67	1.79	
Import Price of China	8.77	6.84	5.84	4.15	2.56	1.99	1.33	1.37	
Domestic Price in China	0.58	1.22	1.18	1.22	1.50	1.32	1.81	1.86	1.74

Source: Foreign data are calculated basing on the "Trade Yearbook", FAO.

Domestic data are from "Animal Husbandry Statistics of China" and "China Price Statistical Yearbook".

**Table 13 Impact of Uruguay Round Agricultural Agreement on World Agricultural Prices and International Trade (%)**

	Price	Trade
World Average	10.43	14.87
Among Beef	15.21	36.01
Pork	2.87	18.28
Poultry	3.27	29.40

Source: Calculated according to IATPS model. Quoted from "Policy of Agricultural Trade", Dr. Cheng Guoqiang, 1997.

Note: Trade includes import and export. Positive means increase and negative means decrease.

**Table 14 Impacts of Reducing Agricultural Subsidies on Agricultural Production  
in Several Countries and Areas (%)**

	U.S.	Canada	EU	Japan	Australia	Developing Countries	Developing Countries in Asia
Beef	0.34	0.13	1.38	88.33	6.02	3.80	84.61
Pork	0.09	0.16	0.33	3.13	10.59	0.80	7.33
Poultry	0.10	1.89	0.49	15.19	3.50	0.79	19.80

Source Calculated according to IATPS model. Quoted from "*Policy of Agricultural Trade*",  
Dr. Cheng Guoqiang, 1997.

Note Trade includes import and export. Positive means increase and negative means decrease.