

The Basic Situation of Regional Grain Trade in China^{*}

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1 Introduction

The huge population and vast territory determine that the regional balance of grain supply and demand is always a very important issue that should be appropriately dealt with in China. In general, whether in the past period of planned economy and in the new period of establishing the market economy since the economic reform, the Chinese government has been paying great attention in the regional balance of grain supply and demand. In addition to actively developing grain production within each region, managing regional grain trade well is the basic approach to realising regional balance of grain supply and demand. The present situation of China's regional grain trade has changed fundamentally compared to that under the planned economy. During the period of planned economy, regional grain trade relied on planned transfers. After the economic reform, the proportion of regional grain trade under market operations has increased gradually. Since 1993, when the planned inter-provincial grain transfer system was abolished, China's regional grain trade has mainly relied on market operations.

This paper is designed first to evaluate the changes of China's regional grain trade policy and second to examine the changes of the pattern of regional grain trade from the 1950s to the late 1990s.

^{*} The original paper is written in Chinese. This English version is translated by Chen Chunlai and edited by Chen Chunlai and Christopher Findlay.

2 The evolution of China's regional grain trade policy

In December 1949 in the first session of the national grain conference, the Finance Ministry of the Central People's Government decided that in the 1950 public grain transfer plan, "except the grains for military and other necessary use, 2.56 million tonnes of public grains will be given to commerce departments to adjust national grain markets". This symbolised the beginning of the large scale and planned regional grain transfer in China. At that time, the grain surplus regions were the North-East region, Inner Mongolia, the Mid-South region and Sichuan, and the grain deficit regions were the North-China and the East-China regions. The plan was to transfer a portion of the North-East region's surplus grains and all the surplus grains of Inner Mongolia to the North-China region, and to transfer the remaining of the North-East region's surplus grains and all the surplus grains of the Mid-South region and Sichuan to the East-China region. In October 1953, with the implementation of unified grain procurement and sale in China, the centrally planned regional grain transfer system was officially established and became an important component of the unified grain procurement and sale system. The evolution of China's regional grain trade policy can be divided into three periods.

2.1 The planned grain transfer period: 1953-1978

"The Resolution on Implementing Planned Grain Procurement and Sale" issued by the Chinese Communist Party Central Committee on October 16, 1953 symbolised the establishment of the unified grain procurement and sale system. The resolution stated that: "the grains allocated to each region for local consumption under the plan will be controlled and managed by each region; except the grains allocated to each region, other grains, including regional adjustment grains, export grains, reserve grains, national emergency grains and national disaster relief grains, will be controlled and managed by the central government; in case of difficulties that the local regions are unable to solve, the central government will be responsible to solve the problem; if the central government thinks that it is necessary and possible to transfer a certain amount of grains from local regions, the local regions must obey the decision made by the

central government”. Since then and up to 1978, the state had implemented the unified planned transfer for regional grain trade. The actual practice was that inter-provincial grain transfer was controlled and organised by the State Council or the relevant central government departments in charge of grain transfer, and inter-county grain transfer within provinces was controlled and organised by provincial governments.

During this period, the management methods of the planned grain transfer also had some changes. In 1958 the central government implemented the grain procurement and sale balance management method, contracting the total quantity of grains to be transferred out and transferred in with each province. In June 1959 the central government decided that “when it is necessary, the central government can increase the quantity of grains to be transferred out from regions and provinces above the contract”. In 1960 the central government further decided that “where grains are available to be transferred out, where the grains will be transferred out”, and “all national circulating storage grains must be under the unified management and control of the central government”. In 1962 the unified and decentralised grain management system was introduced. Under this system, the national grain procurement, grain sale, grain transfer plan were under the unified management of the central government, the purchased grains above the procurement quota and the surplus grains after sale of provinces could be controlled and used by provinces. In 1972 the central government further centralised grain management and introduced the “four-unified” grain management system, namely unified procurement, unified sale, unified transfer and unified storage. Under this grain management system, the grain procurement, grain sale, inter-provincial grain transfer, and grain storage were all under the unified management of the central government. This highly centralised and unified grain management system was implemented until 1978.

In general, before economic reform, because grain shortage had been the prominent issue (during the 26 years from 1953 to 1978, there were 15 years of grain deficit and 11 years of marginal grain surplus), the Chinese government adopted the centralised planned regional grain transfer system, which played important role in achieving the regional balance of grain supply and demand during that period.

2.2 The combination of planned transfer and market adjustment: 1979-1992

In December 1978, grain free markets and negotiated grain purchase and sale of the grain departments were resumed. In terms of regional grain trade, in 1979 while grains at the procurement price were still under the unified transfer system, the quantity of grains at the negotiated price in regional grain trade increased considerably. As a result, in May 1980 the central government implemented the policy that “provinces themselves can adjust their grain surplus and deficit through directly linking the negotiated grains and edible oil”. This policy was a breakthrough to the traditional rigid “from the top to the bottom” model of regional grain transfers. As a result, regional grain trade entered the phase of planned transfer combined with market adjustment.

The policies of regional grain trade in this period include the following main aspects.

1. The grain transfer contract system was implemented. In 1980 the central government first signed contracts with Guizhou, Yunnan, Gansu and inner Mongolia for the total quantity of grains at the procurement price to be transferred into these provinces. At the end of 1981 half of all provinces had signed or prepared to sign a grain transfer contract with the central government. From 1982 the grain transfer contract was fixed for three years. The contract not only specified the total quantity of grains to be transferred into or transferred out of a province, but also specified the quantity of main grain products. This policy of grain transfer contract for grains at the procurement price was implemented till 1992. During this period, to make up the deficit of grains at the procurement price, the state also implemented the policy of “converting the negotiated grains to the procurement grains” (purchased at the negotiated price and sold at the procurement price). As a result, the grain transfer contract of each province also included a portion of the grains converted from negotiated grains to procurement grains.

2. Grains to be transferred out and transferred in above the grain transfer contract would be purchased and sold at the negotiated price. To solve the problem that the grain exporting provinces could not fulfil their grain transfer contract quota, and the

grain importing provinces demanded that more grains be transferred in, in November 1982, the State Council issued the document of “the Notice on Seriously Doing Well the Grain Work”. The notice raised three solutions for the grains to be transferred above the grain transfer contract. The first was to transfer grains at the negotiated price, the second was self-adjustment among provinces themselves through negotiation, and the third was to borrow some grains from the central government and the provinces would be responsible for the interest and fees. Grains borrowed from the central government must be repaid in three years. In 1986, the central government further specified that after fulfilling the grain transfer contract quota, the grains to be transferred in and transferred out should be based on the price negotiated among the provinces themselves.

3. Inter-provincial grain trade channels were increased. This policy applied to all grain trade. In early 1983, the central government specified: the rural surplus grains after fulfilling procurement and above procurement purchase at the county level could be traded through many channels; grain departments should actively engage in negotiated purchase and sale; the supply and sale cooperatives and other rural commercial cooperatives could flexibly purchase and sell grains; individual farmers could also participate in grain marketing into the city, and out of their county and province; abolishing the stipulations that the negotiated grain purchase and sale was under the unified management of the grain departments, the inter-provincial adjustment grain at the negotiated price should be approved by the provincial Grain Bureau; the industrial and commercial sectors relying on grain as inputs could purchase some grains outside the state plan and sell the processed grain products; abolishing the provisions that the transportation of negotiated grains should be approved by the grain departments.

4. Inter-provincial negotiated grain trade should be within the market place. In 1983, after adopting grain multi-channel marketing, various types of grain trading centres were established in local areas, and the traditional rice markets and grain trading shops, for example, the Wuxi rice market, Wuhu rice market, Jiujiang rice market and Changsha rice market, were also resumed. In September 1988, the central government decided to establish grain wholesale markets. It required that: under the state leadership wheat, maize and soybean wholesale markets were to be established and

direct negotiations between grain production areas and grain sale areas organised; inter-provincial grain trade must be conducted within market place and the prices should be decided directly by the sellers and buyers through negotiations; before the establishment of grain wholesale markets, inter-provincial grain trade can be conducted through grain trade fairs organised by local governments. In 1990 the State Council approved the establishment of Zhengzhou Grain Wholesale Market.

During the period from 1979 to 1992, although regional grain trade was the combination of planned transfer and market adjustment, the basic trend was that the market adjustment played more and more important role in regional grain trade. In 1982, when the policy of grain transfer contract was implemented, there were only nine provinces which had the ability to transfer out grains with a total of 1.6 million tonnes of grains, and there were eighteen provinces which needed grains to be transferred in with a total of 12.3 million tonnes of grains. In 1983, the provinces which could transfer out grains increased to nineteen with a total of 23.5 million tonnes of grains, and the provinces which needed grains to be transferred in declined to ten with a total of 6.5 million tonnes of grains. In 1984, the situation was basically the same as in 1983 so that the quantity of grains offered to be transferred out was larger than that of requiring to be transferred in. Under such a situation, the inter-provincial trade of the negotiated grains increased remarkably. According to the statistics, from 1979 to 1984 the quantity of inter-provincial transfer of negotiated grains through market adjustment reached 15 million tonnes. During this period, the increase in inter-provincial grain trade through market adjustment was mainly promoted by the increase in grain production. In 1988, when grain supply was short of grain demand which led to the rise in grain prices, the provinces which had a grain surplus were unwilling to transfer out their grains under the government transfer plan, indicating the strong desire of the local provinces in favour of inter-provincial grain trade through market adjustment at the negotiated prices. In the early 1990s, because of the large increase in grain production, provinces preferred more market adjustment over planned transfer in inter-provincial grain trade. As a result, at the end of 1992 the planned inter-provincial grain transfer was finally replaced by market adjustment.

2.3 Market adjustment period: since 1993

After 1993, domestic grain trade was mainly based on market operations with the adjustment system of the central and provincial two-tier grain reserves. The State Council was mainly responsible for the central grain reserve, international grain imports and exports, and the national grain aggregate balance. The provincial governments were responsible for provincial grain balance. The inter-provincial grain trade is conducted through grain wholesale markets among provinces themselves.

In 1994, the central government clarified several points in relation to regional grain trade. The first was to gradually establish the long-term stable purchase and sale relations between the grain production areas and the grain sale areas. The second was that the grain wholesale enterprises of the sale areas must purchase grains from grain production areas at the grain wholesale markets above the county level, and the grain sale areas were prohibited to go to the countryside of the grain production areas to buy grains. The third was to strengthen and improve the development of the grain marketing system. The general principle was to develop grain and oil primary markets, to strengthen and develop wholesale markets, and to establish and perfect the unified, open, competitive and organised grain and oil marketing system. The rural grain and oil primary markets should be based at the rural collecting and distributing centre, supported by grain stations and grain storage facilities. The regional grain wholesale markets should be established in the main grain production areas.

In 1995, the central government reiterated the policy that regional grain trade must be conducted at the grain wholesale markets above the county level. The grain wholesale enterprises of the sale areas could only buy grains at the grain wholesale markets above the county level of the grain production areas, and they could not directly go to the countryside of grain production areas to buy grains. At the same time, the provincial governor's "Rice Bag" responsibility system was introduced. The responsibility system required that the provincial governors were responsible for the balance of grain supply and demand of their own provinces. Inter-provincial grain trade should be conducted by grain wholesale enterprises organised by local provinces at the grain wholesale markets of grain production areas above the county level, and the relevant departments

of central government would organise, coordinate and inspect inter-provincial grain trade.

In 1997, the central government encouraged and supported the large scale enterprises using grains as production inputs, including large scale feed processing, brewing, food manufacturing, pharmaceutical, and chemical enterprises, to go directly to grain production areas to buy grains.

In 1998, the central government asked the provincial governments to be fully responsible for grain production and marketing of provinces. In the aspect of regional grain trade, provincial governments were responsible for adjusting provincial grain surpluses and deficits, establishing inter-provincial long-term and stable grain purchase and sale relations. The development and improvement of regional and national centre grain trading markets was to be accelerated, so as to encourage and guide grain trading enterprises and grain using enterprises to conduct grain trade at the grain trading markets. The wholesale market entry permit system was to be implemented. Industrial enterprises using grains as production inputs can entrust local state grain enterprises to purchase grains. However, the grains purchased could only be used by themselves and could not be re-sold. Any region and department could not set any obstacles to the transport of purchased grains from grain trading markets above the county level. Under normal conditions, inter-provincial grain adjustment, general natural disasters grain relief, and regional grain price fluctuations are the responsibility of provincial governments, and the central government would no longer design grain transfer plan.

In summary, since 1993 the regional grain trade policy has the following main points.

- Provincial governments are responsible for provincial grain surplus and deficit, establishing inter-provincial long-term and stable grain purchase and sale relations.

- Inter-provincial grain trade changed from planned transfer to market adjustment through direct negotiations and contracts between grain production areas and grain sale areas, and through grain wholesale markets.
- Grain wholesale enterprises of sale areas, when they go outside provinces to buy grains, could only purchase grains at the grain wholesale markets above the county level.
- Grain processing, grain trading and other grain using enterprises could purchase grains from state grain purchase and storage enterprises or from grain trading markets above the county level.
- Grain processing, feed processing, animal raising, pharmaceutical and other grain using enterprises could entrust state grain purchase and storage enterprises of grain production areas to purchase grains as production raw materials, and the grains purchased could only be used by themselves and could not be re-sold.
- The development and improvement of regional and national centre grain trading markets was accelerated, actively developing grain wholesale markets above the county level.

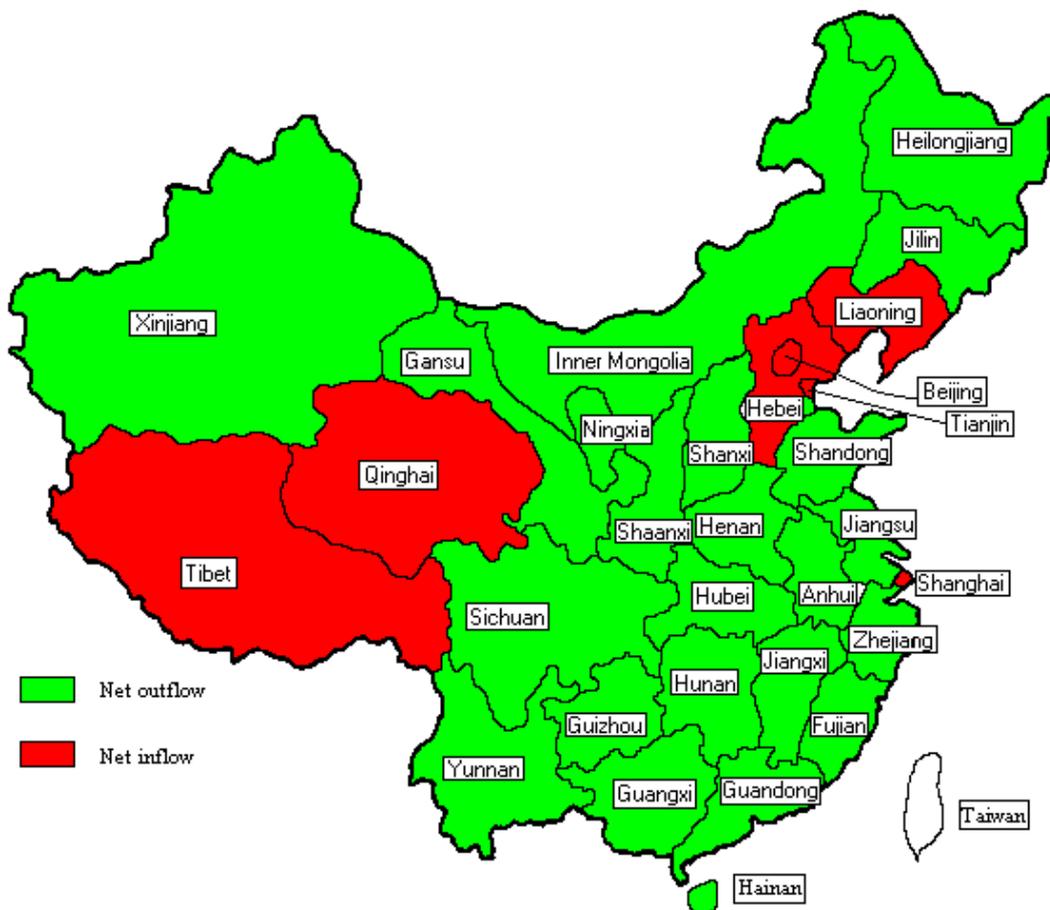
3 Changes in the pattern of China's regional grain trade

The evolution of the pattern of China's regional grain trade since the 1950s is usually divided into two periods, namely the period of "transferring grain from the South to the North", and the period of "transporting grain from the North to the South". The North consists of fifteen provinces, including Beijing, Tianjin, Hebei, Shanxi, Inner Mongolia, Liaoning, Jilin, Heilongjiang, Shandong, Henan, Shaanxi, Gansu, Qinghai, Ningxia, and Xinjiang. The South consists of another fifteen provinces, including Shanghai, Jiangsu, Zhejiang, Anhui, Fujian, Jiangxi, Hubei, Hunan, Guangdong, Hainan (separated from Guangdong and became a province in 1988), Guangxi, Sichuan (including Chongqing municipality), Guizhou, Yunnan and Tibet.

3.1 Regional grain flows in the 1950s

In the 1950s (1953-59), for the fourteen southern provinces, except Shanghai and Tibet, twelve provinces had net grain outflows. In contrast, out of the fifteen northern provinces, ten provinces had net grain outflows and five provinces, including Beijing, Tianjin, Hebei, Liaoning and Qinghai, had net grain inflows. The situation of regional net grain flows in the 1950s is illustrated in Map 1.

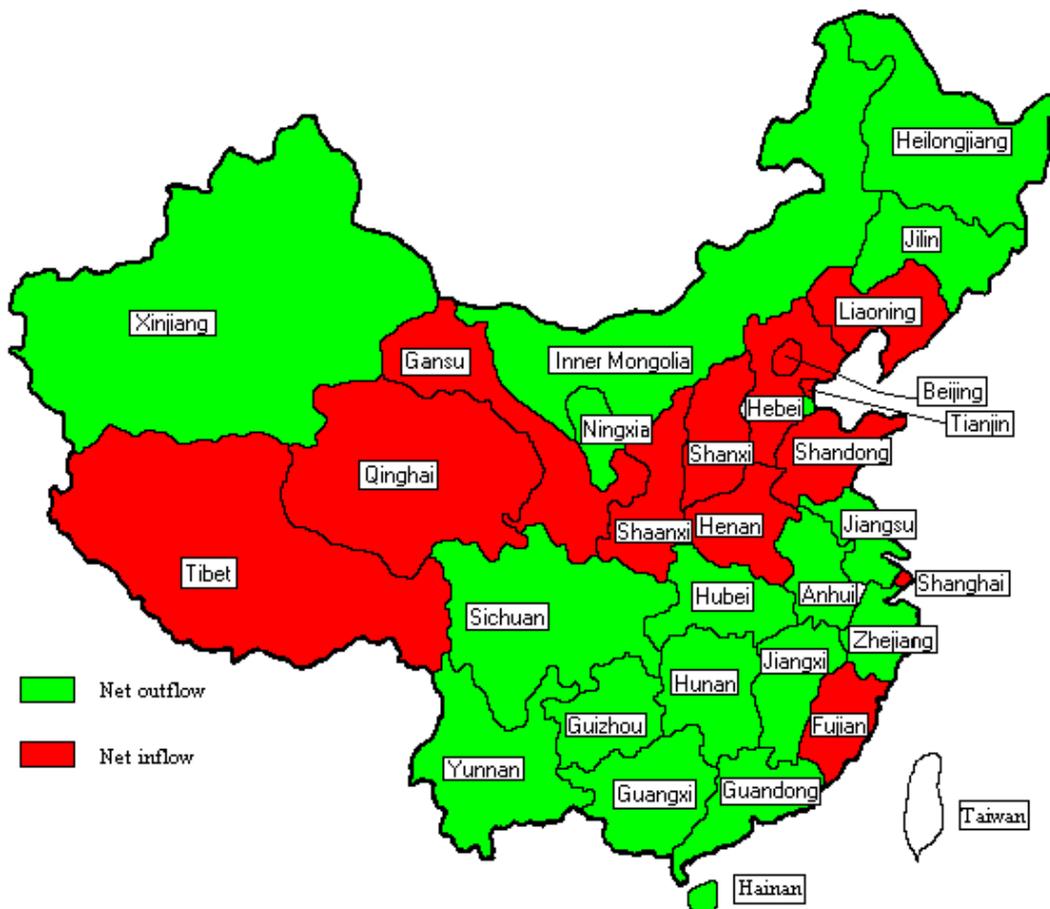
Map 1 Situation of regional net grain flows in the 1950s in China



3.2 Regional grain flows in the 1960s

In the 1960s, the number of northern provinces which needed net grain inflows increased dramatically. Shanxi, Shandong, Henan, Shaanxi and Gansu joined the list of net grain inflow provinces. The net grain outflow provinces in the North were only Inner Mongolia, Jilin, Heilongjiang, Xinjiang and Ningxia. The quantity of net grain outflows from the northern provinces were very limited. The quantity of net grain outflows from Inner Mongolia, Jilin and Heilongjiang declined continuously, and only Xinjiang's net grain outflows increased. For the southern provinces, in addition to Shanghai and Tibet, Fujian joined the list of net grain inflow provinces, and the other provinces had net grain outflows. The situation of regional net grain flows in the 1960s is illustrated in Map 2.

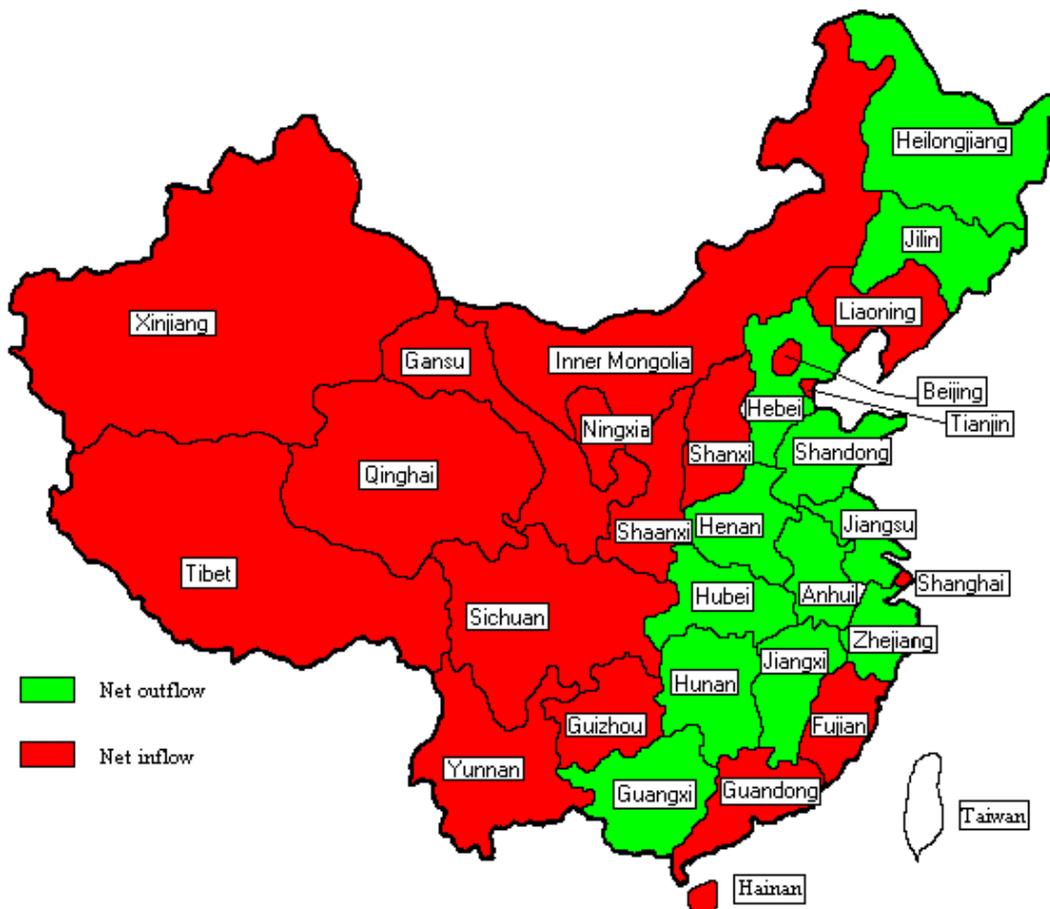
Map 2 Situation of regional net grain flows in the 1960s in China



3.3 Regional grain flows in the 1970s

In the 1970s, the total quantity of grain outflows from the southern provinces presented a declining trend, and in 1978-79 the South even had net grain inflows. The North had 9 years of net grain inflows. Considering government's continuous grain imports from the international markets in this period, the quantity of net grain transferred from the South to the North declined dramatically. In terms of grain flows of each individual province in the 1970s, in the North, Jilin, Heilongjiang, Shandong, Henan and Hebei had net grain outflows, in the South, Jiangsu, Zhejiang, Anhui, Jiangxi, Hubei, Hunan and Guangxi had net grain outflows. However, the quantity of net grain outflows from Zhejiang and Guangxi declined considerably, and Guangdong, Sichuan and Yunnan became net grain inflows. The situation of regional net grain flows in the 1970s is illustrated in Map 3.

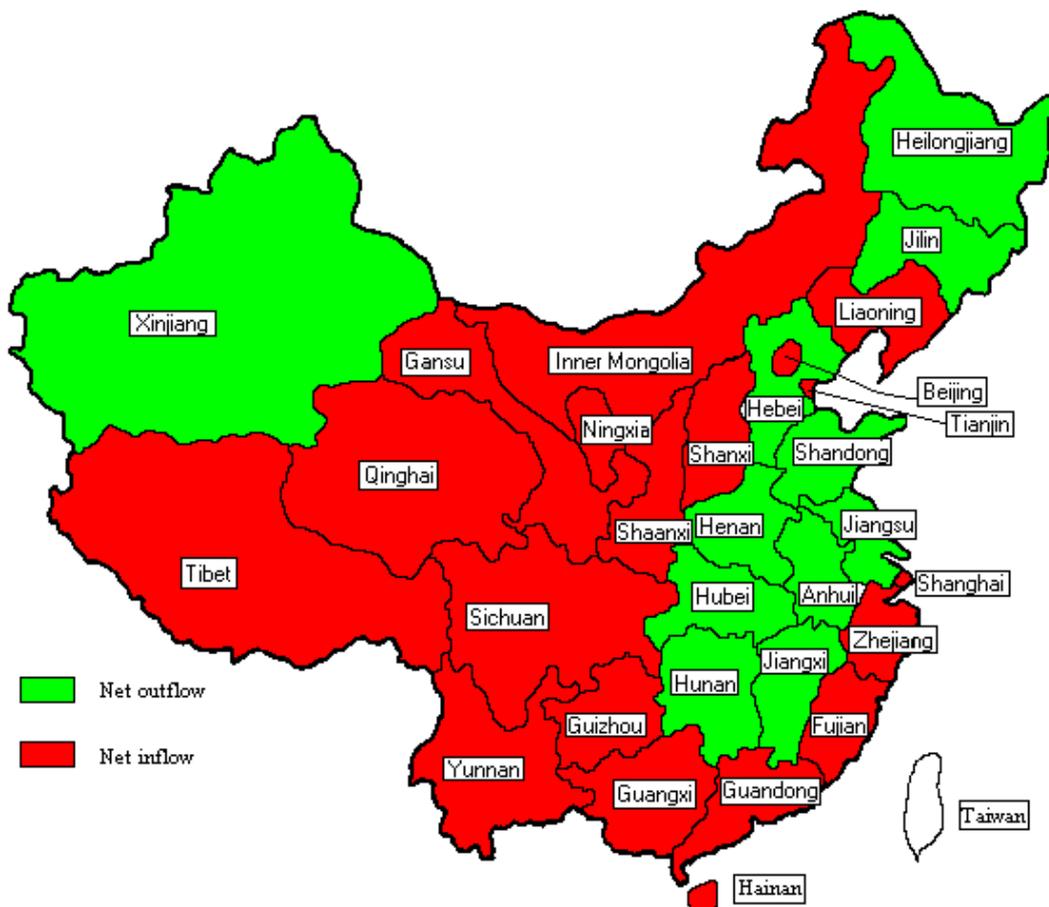
Map 3 Situation of regional net grain flows in the 1970s in China



3.4 Regional grain flows in the 1980s

After entering the 1980s, grain inflow and outflow provinces presented the tendency of relative concentration. In the North, grain outflows were mainly from Henan, Jilin, Heilongjiang, Shandong and Hebei, and Xinjiang turned from net grain inflows into net grain outflows, and the other northern provinces were still in the situation of net grain inflows. In the South, grain outflows were mainly from Jiangsu, Anhui, Jiangxi, Hubei and Hunan. Zhejiang turned from net grain outflow into net grain inflows, and the other southern provinces were kept the situation of net grain inflows. The quantity of grain transferred into the South presented an increasing trend. The increased grain inflows were mainly met by large quantity of imports from the international grain markets. At the same time, maize produced in the North, apart from being exported to the international markets after 1983, was transferred to the South starting in the second half of 1980s. The situation of regional net grain flows in the 1980s is illustrated in Map 4.

Map 4 Situation of regional net grain flows in the 1980s in China



3.5 Regional grain flows in the 1990s

In the first three years of 1990s, in the North, net grain outflow provinces were mainly Jilin, Liaoning, Heilongjiang, Hebei, Shandong, Henan, Xinjiang and Ningxia, other northern provinces were net grain inflows. In the South, net grain outflow provinces were mainly Jiangsu, Anhui, Jiangxi, Hubei and Hunan, Sichuan also had some grain for outflow, the other southern provinces were net grain inflows. In terms of the total quantity of grain flows, from 1991 to 1992 although the total quantity of grain outflow from the North to the South was not large, it symbolised the apparent change of the pattern of grain flows between the North and the South in China.

Since 1993, with the improvement of China's socialist market economic system, market mechanism has played increasingly the fundamental role in grain production and marketing. As a result, China's regional grain trade is mainly based on market operation under the government macroeconomic adjustment.

According to the study results of the research unit of the State Council, in the mid-1990s, there are sixteen grain deficit provinces which needed grain inflows. These provinces were Beijing, Tianjin, Shanghai, Guangdong, Fujian, Zhejiang, Hainan, Guangxi, Yunnan, Guizhou, Sichuan, Shanxi, Shaanxi, Gansu, Qinghai and Tibet. Apart from Sichuan which is economically mid-developed province, the other provinces are either developed provinces or less developed provinces. There are nine grain surplus provinces which can provide relatively stable grain outflows. These provinces are Heilongjiang, Jilin, Henan, Anhui, Jiangxi, Hubei, Hunan, Shandong, Hebei. All of them are mid-developed provinces. These grain surplus provinces are located in three big areas, namely the north-east areas, HuangHuaiHai areas, and the middle and lower reach of Yangzi River areas. Heilongjiang and Jilin provinces in the north-east areas have advantages in maize and rice production. Henan, Hebei, Anhui and Shandong in the HuangHuaiHai areas have advantages in wheat production and are also suitable for maize production. Jiangxi, Hunan and Hubei in the middle and lower reaches of Yangzi River areas have advantages in rice production and also can develop maize production. There are five grain self-sufficient provinces, including Jiangsu, Liaoning, Xinjiang, Ningxia and Inner Mongolia. These provinces have

relatively high degree of grain self-sufficiency. There are some grain inflow and outflow mainly for the purpose of adjustment for different grain crops, however, the quantity of net grain inflows and outflows is very small.

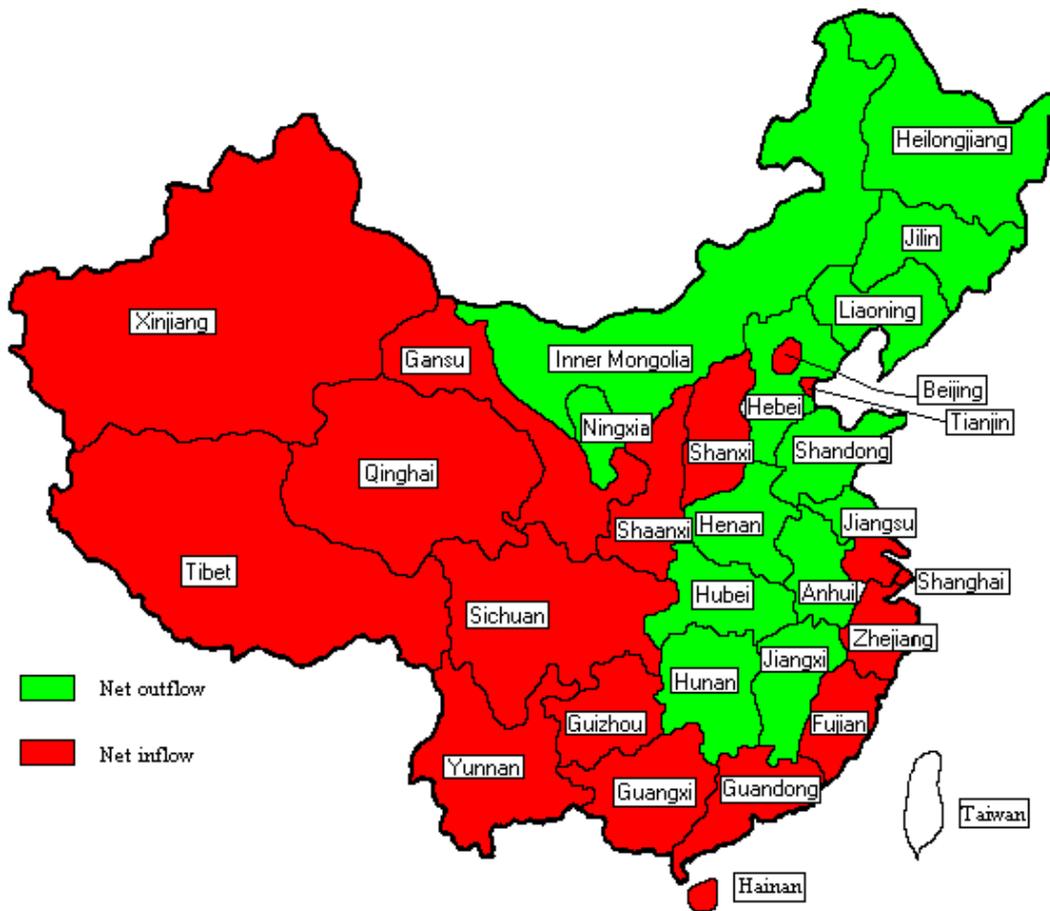
Since 1996, China's grain output has reached 500 million tonnes for 4 consecutive years, which has led to the new issue of excess grain supply over grain demand. As a result, there have been some new changes in the pattern of regional grain trade in China.

First, under the current situation that aggregate grain supply exceeds grain demand, there are eleven provinces which have the ability to transfer out grains. These provinces are distributed in the North-East region (Heilongjiang, Jilin, Liaoning and the east part of Inner Mongolia), the North-China region (Hebei, Henan and Shandong), and the Central-China region (Anhui, Jiangxi, Hubei and Hunan). The grains which can be transferred out from the North-East region are mainly maize, from the North-China region are mainly wheat and maize, and from the Central-China region are mainly rice and wheat.

There are fifteen provinces whose grain production cannot meet grain demand, thus needing grain inflows. These provinces are distributed in the three municipalities (Beijing, Tianjin and Shanghai), the South-East coastal region (Zhejiang, Fujian, Guangdong and Hainan), the South-West region (Guangxi, Yunnan, Guizhou and Chongqing), the North-West region (Shanxi, Gansu, Qinghai and Tibet). These regions demand different grain crops. The three municipalities need the inflows of rice, wheat and maize. The South-East coastal provinces need mainly maize and some amount of rice. The South-West provinces need mainly maize and some amount of rice and wheat. The North-West provinces need maize and wheat. The other regions and provinces are basically grain self-sufficient, with some adjustments for different grain crops.

The situation of regional grain flows in the late 1990s is illustrated in Map 5.

Map 5 Situation of regional net grain flows in the late 1990s in China



The situation of the above mentioned regional difference in grain surplus and deficit has determined the basic pattern of China's regional grain flow that is: "transporting grain from the North to the South" and "transporting grain from the Central to the West". "Transporting grain from the North to the South" means the flow of maize and wheat from the North-East and North-China regions and rice from the Central-China region to the South-East coastal region and the South-West region. "Transporting grain from the Central to the West" means the flow of wheat and maize from the North-China region and rice from the Central-China region to the South-West and the North-West regions. According to the information of grain trading in Zhengzhou grain wholesale market, from March to August 2000, the traded grains (mainly white wheat and yellow maize) flowed mainly into five regions. The first is the North-West and the

South-West regions of Shanxi, Shaanxi, Gansu, Sichuan, and Guangxi, accounting for 31.6 percent of the total traded grain. The second is the middle reach of Yangzi River region of Hubei, Hunan and Jiangxi, accounting for 29.5 percent of the total traded grain. The third is the South-East coastal region of Fujian, Zhejiang and Guangdong, accounting for 19.7 percent of the total traded grain. The fourth is the East region of Shandong and Jiangsu, accounting for 10.2 percent of the total traded grain. The fifth is Beijing and Tianjin, accounting for 9 percent of the total traded grain.

Second, under the current situation that the aggregate grain supply exceeds grain demand, grain piled up in the main grain production areas. Therefore, the scale of regional grain flow is determined by the gap of grain shortage in the grain deficit areas. According to the calculation made by the research group of “the strategic study on grain supply and demand of grain deficit provinces and regions” (Liu Jiang, 2000), in 1998 the quantity of grain inflow (including imports from international markets) into the fifteen grain deficit provinces was 29.8 million tonnes, 43.6 percent higher compared to the total inflow of 20.75 million tonnes in the early 1990s. The inflow of grain accounted for 19.2 percent of the total grain consumption, increasing 3.7 percentage points compared to the 15.5 percent in the early 1990s. This implies that the scale of regional grain flow has increased since the early 1990s. In 1998, the quantity of regional grain flow accounted for 5.8 percent of China’s total grain output, increasing 1.2 percentage points than in the early 1990s. The staple food grain in southern China is rice and in the northern China is mainly wheat and other coarse grains. In general, except the three municipalities, the grain deficit areas are basically self-sufficient in food grain, but are short of feed grains and grains for industrial use. This has determined that maize is the largest grain crop in regional grain flows, followed by wheat and rice.

According to the information from the State Grain Bureau, during the period of 1995 to 1999, the main sources of grain outflow in China’s regional grain trade are concentrated in the North-East region, the Central and the North-China regions. The North-East region accounted for 45.5 percent of the total grain outflow, the Central region accounted for 27.4 percent, and the North-China region accounted for 13.7 percent. The main recipients of grain inflow are concentrated in the South-East coastal

areas, and the three municipalities, the former accounted for 60.3 percent and the later accounted for 32.1 percent of the total grain inflow.

4 The direction of regional trade of rice, wheat and maize

From the view point of regional grain trade between the South and the North, during the period of “transferring grain from the South to the North”, the main grain crop transferred from the South to the North was rice, and the main purpose was to meet the food grain demand in the North grain deficit areas through government planned transfer. During the period of “transporting grain from the North to the South”, the main grain crop transported from the North to the South was maize, and the main purpose was to meet the feed grain demand for the rapid development of animal husbandry in the South. However, it should be noted that although it is generally acceptable to summarise China’s regional grain trade with the term of “transferring grain from the South to the North” and “transporting grain from the North to the South”, it is not very accurate and comprehensive, especially with the continuous development of marketisation of regional grain trade, which has diversified the patterns of regional grain flow in China in recent years. For example, some regions transferred out a particular kind of grain crop but transferred in another kind of grain crop, and even transferred out and transferred in the same kind of grain crop. The following will introduce the basic situation of the direction of regional trade of rice, wheat and maize.

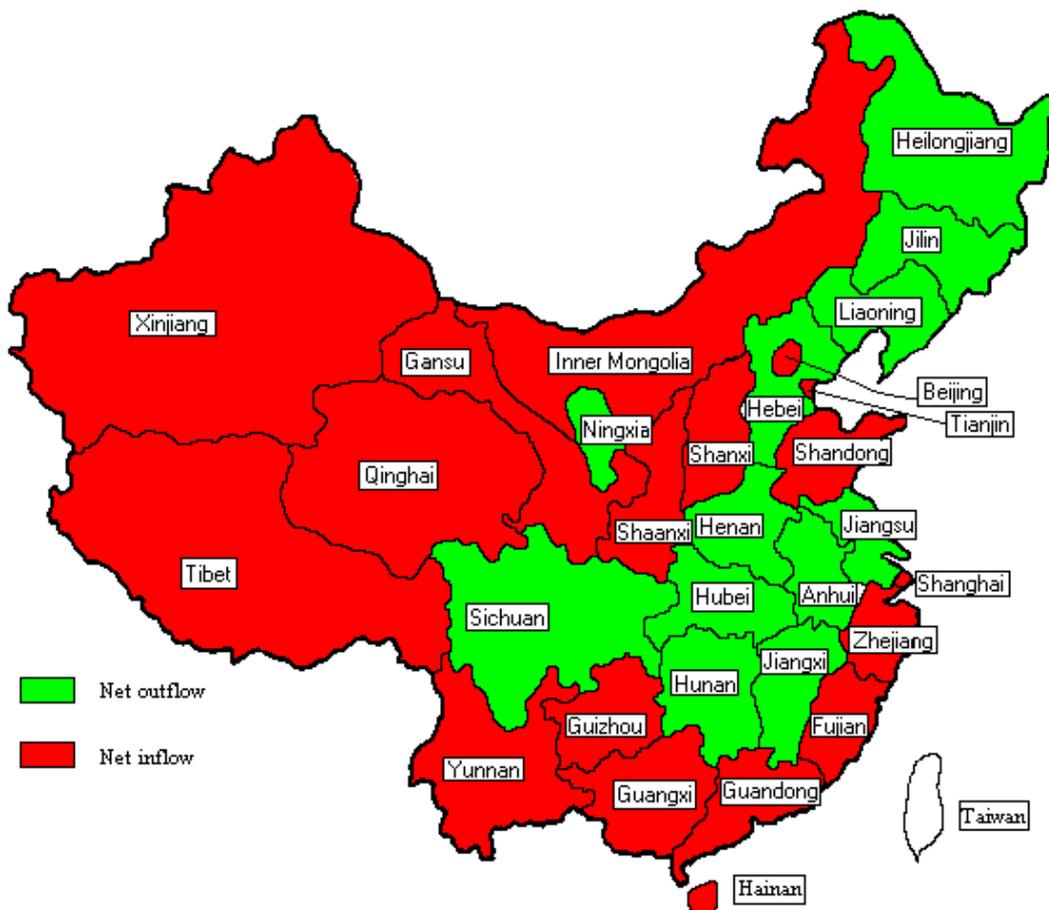
4.1 The direction of regional trade of rice

In the 1970s, Southern provinces with net rice outflows were Jiangsu, Zhejiang, Anhui, Fujian, Jiangxi, Hubei, Hunan, Guangdong and Guangxi. Shanghai was the largest recipient of rice inflows. Sichuan, Guizhou and Tibet had small amount of rice inflows. In the North, Liaoning was the only province that had net rice outflows, but the quantity was small. Except Ningxia, all the other northern provinces had net rice inflows. Beijing was the largest recipient of rice inflow, followed by Tianjin, and the other provinces.

In the 1990s, the main sources of rice outflows were in the middle and lower reach of Yangzi River, including Jiangsu, Anhui, Jiangxi, Hubei and Hunan, and the North-East areas, including Liaoning, Jilin and Heilongjiang. The main recipients of rice inflows were the three municipalities of Beijing, Tianjin and Shanghai, the South-East coastal areas, including Zhejiang, Fujian, Guangdong, Guangxi and Hainan, the South-West and the North-West areas, including Guizhou, Yunnan, Tibet, Shaanxi, Gansu, Qinghai and Xinjiang.

The situation of regional rice flows in the 1990s is illustrated in Map 6.

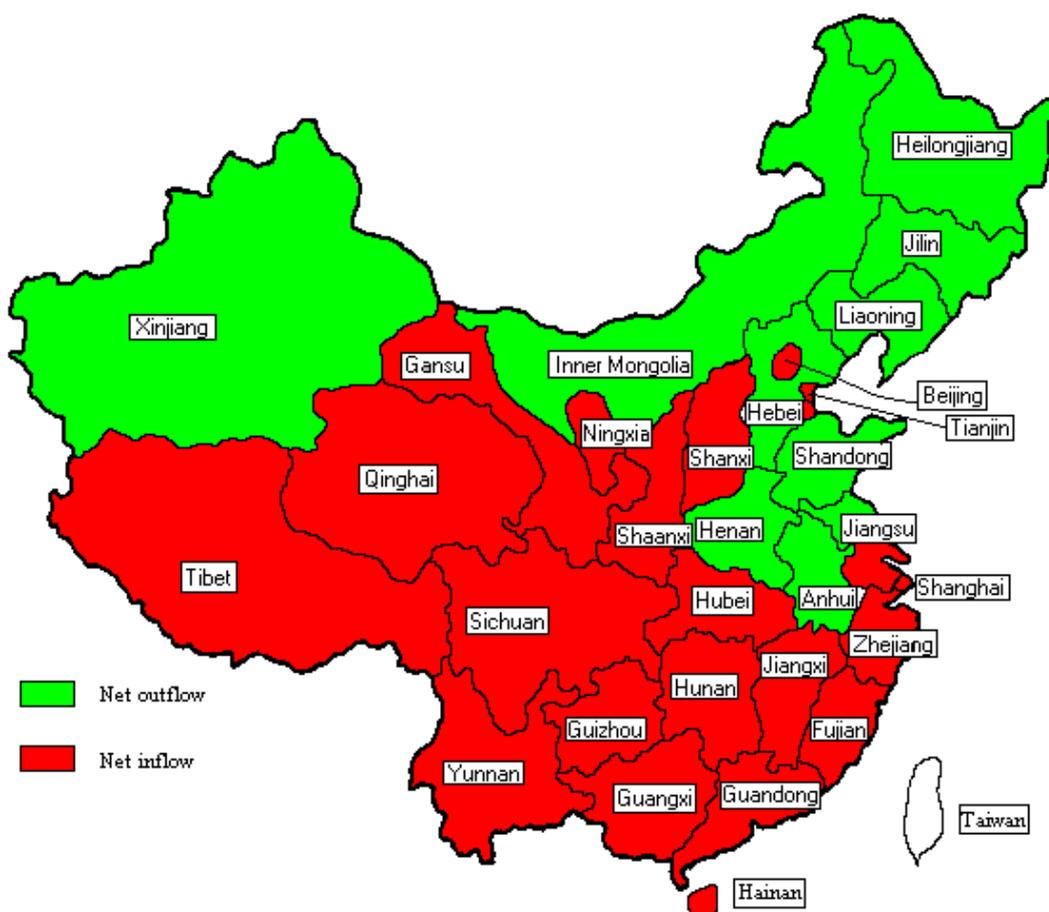
Map 6 The situation of regional rice flows in the 1990s in China



4.2 The direction of regional trade of wheat

Since the early 1960s, because of the shortage in domestic wheat production, China has been importing a certain amount of wheat from the international markets every year. During the period of 1981 to 1992, except in 1985 and 1986 in which the quantity of imported wheat was under 10 million tonnes, the annual imports of wheat were around 10-15 million tonnes each year. In the 1990s, the main sources of wheat outflows were in the areas of the North-East, HuangHuaiHai and the middle and lower reach of Yangzi River. Wheat inflow was mainly toward the North and the South, and the quantity of wheat flows toward the West is small. The situation of regional wheat flows in the 1990s is illustrated in Map 7.

Map 7 The situation of regional wheat flows in the 1990s in China



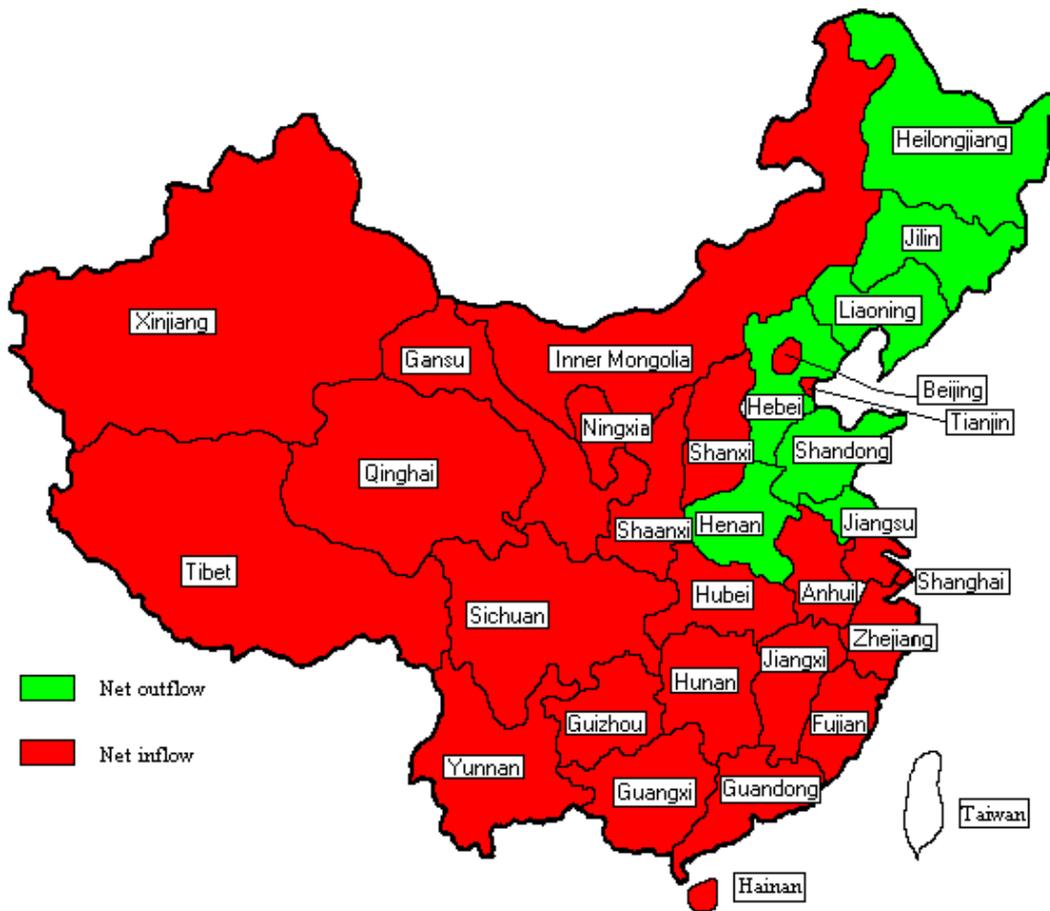
4.3 The direction of regional trade of maize

In 1983, the total outflow of maize from the main maize production areas of Liaoning, Jilin, Hebei, Shandong, and Henan to the South was 0.686 million tonnes. Jilin's maize mainly flowed into eleven provinces, including the south-east coastal areas of Shanghai, Jiangsu, Zhejiang, Guangdong, Hainan and Guangxi, the south-west areas of Yunnan, Guizhou and Sichuan, and the middle reach of Yangzi River of Hunan and Hubei. Henan's maize flowed mainly into the southern provinces except Tibet.

In 1985, except Beijing, Tianjin, Inner Mongolia and Qinghai which had net maize inflows, the other eleven northern provinces all had net maize outflows. Maize outflow from the north-east areas to the South was 0.705 million tonnes, of which 0.513 million tonnes were from Liaoning, and 0.191 million tonnes were from Jilin. Heilongjiang's maize is mainly for export. Maize from the north-east areas flowed mainly into Shanghai (0.297 million tonnes), Guangdong and Fujian (each with more than 0.1 million tonnes). Maize outflow from the HuangHuaiHai areas to the South was 0.636 million tonnes, of which 0.311 million tonnes were from Hebei, 0.297 million tonnes were from Henan, and 0.022 million tonnes were from Shandong. Maize from the HuangHuaiHai areas flowed mainly into Guizhou (0.124 million tonnes), Guangxi, Zhejiang, Sichuan and Shanghai.

In the 1990s, there were two main sources of maize outflows. One was the north-east areas of Liaoning, Jilin and Heilongjiang, and another was the HuangHuaiHai areas of Hebei, Shandong and Henan. In 1990, the total outflow of maize from these six provinces was 3.5 million tonnes, accounting for 77.4 percent of the total maize outflow of China. This maize mainly flowed into the three municipalities of Beijing, Tianjin and Shanghai, the south-east coastal areas of Jiangsu, Zhejiang, Fujian, Guangdong and Guangxi, the south-west areas of Yunnan, Guizhou and Sichuan, and Hunan. The situation of regional maize flows in the 1990s are illustrated in Map 8.

Map 8 The situation of regional maize flows in the 1990s in China



5 Conclusion

This paper has evaluated the changes of China's regional grain trade policy and examined the changes in the pattern of China's regional grain trade for the past half a century. In summary, before economic reform from the 1950s to 1978, because grain was for some time in the situation of short supply, for balancing the gap between grain demand and supply, apart from importing some grain, the Chinese government adopted the method of "taking from the rich to subsidise the poor" by using the planned grain transfers to solve the problem of grain supply for the grain deficit regions (including large and medium-sized cities, industrial base, a small number of concentrated cash

crop production areas, natural disaster stricken areas and poor areas). Also at that time, because the agricultural production conditions in the South in general were better than those in the North, the basic regional grain trade pattern was one of “transferring grain from the South to the North”.

After the economic reform in 1978, with the large increase of grain output nationwide, especially in the North, the planned regional grain transfer system was gradually changed into planned transfer combined with market adjustment. In 1993 the planned grain transfer system was finally abolished and replaced with market operations. Also during this period, because of the increase of people’s living standards, the increased grain consumption shifted from food grain to feed grain. More feed grain, mainly maize, is produced in the North and that grain has been transported to the South. Thus, since the mid-1980s the pattern of regional grain trade has started the change from “transferring grain from the South to the North” to “transporting grain from the North to the South”.

In general, the changing pattern of China’s regional grain trade is the result of economic development, the increase of people’s living standards, the marketisation of domestic grain trade, and the impact of regional comparative advantage in grain production.

With the development of deregulation on grain marketing, the channel of regional grain trade has been diversified. Currently, the regional grain trade is conducted jointly by state grain purchase and sale companies, grain and feed processing enterprises, grain-using industrial enterprises, private grain purchase and sale enterprises, and individual grain traders. The state grain purchase and sale companies, with relatively complete and better purchase, sale, and storage facilities and marketing networks, control the majority of grain sources and are the main channel of regional grain trade, accounting for more than 80 percent of the total quantity of regional grain trade.

It should be noted that, through the reform of state grain enterprises in recent years, the state grain purchase and sale companies have become independent legal entities responsible for their own profits and losses. Therefore, regional grain trade is

conducted either through direct negotiations between the grain enterprises from grain surplus regions and grain deficit regions under the principle of market transactions, or through grain wholesale markets.

The large grain and feed processing enterprises and other grain-using industrial enterprises of the grain deficit areas are another important channel in promoting regional grain trade. These enterprises purchase grains through four channels. The first is to entrust the grain enterprises in the grain sale areas to purchase grain from the grain production areas. The second is to conduct grain transactions directly with the grain enterprises in the grain production areas. The third is to purchase grain from grain wholesale markets. The fourth is to purchase grain directly from the grain production areas with the approval of governments. The private grain purchase and sale enterprises and individual grain traders play a complementary role in the regional grain trade. Although their share in regional grain trade is still small, their role in regional grain trade presents an increasing trend.

Appendix Table

The net grain transfer of the South and the North and the national net grain import and export 1953-1992 (ten thousand tonnes)

Year	Net grain transfer			Net grain import and export
	The South	The North	National	
1953	257.3	43.2	300.5	182
1954	165.9	106.5	272.4	168
1955	265.3	54.7	320	205
1956	345.1	-8.7	336.4	250
1957	426.4	-161.1	265.3	192
1958	432.5	-12.1	420.4	266
1959	438.3	151.5	589.8	416
1960	308.3	-138.8	169.5	265
1961	19.1	-428.5	-409.4	-445
1962	26.2	-359.4	-333.2	-389
1963	130.3	-428.1	-297.8	-446
1964	230.8	-351.5	-120.7	-475
1965	263.1	-446.1	-182.9	-399
1966	201	-179.6	21.4	-355
1967	164.6	11.7	176.3	-171
1968	197.5	-173.5	24	-200
1969	187	-256.3	-69.3	-145
1970	191.7	-198.7	-7	-324
1971	239	-150	89	-55
1972	181.5	-392	-210.5	-184
1973	159.4	-390.1	-230.7	-424
1974	227.5	-281.5	-54	-448
1975	145.1	54.7	199.8	-93
1976	70.8	-125.5	-54.7	-60
1977	11.5	-406	-394.5	-569
1978	-105.2	-574.9	-680.1	-695
1979	-87	-507.5	-594.5	-1071
1980	-266	-786.7	-1052.7	-1181
1981	-301.7	-793.2	-1094.9	-1348
1982	-221.4	-1019.2	-1240.6	-1534
1983	-302.4	-807.4	-1109.8	-1238
1984	-226.1	-728.7	-954.8	-722
1985	382.5	277.7	660.2	332
1986	-182.5	-572.7	-755.2	169
1987	-606.7	-897.9	-1504.6	-891
1988	-941.5	-379.2	-1320.7	-816
1989	-582.7	-986.3	-1569	-1002
1990	-330.3	-503	-833.3	-789
1991	-12.8	16.1	3.3	-259
1992	-57.7	9.8	-47.9	189

Source: The quantity of net grain transfer of the South and the North is calculated from the statistics of

the former State Commerce Ministry, and the quantity of national grain import and export is calculated from various issues of China Statistical Yearbook.

Note: The negative sign represents transfer in and import, and the positive sign represents transfer out and export. Data for 1981-1990 are the total quantity of grains transferred both at the procurement price and negotiated price. Data for 1991-1992 are the quantity of grains transferred at the procurement price only.

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