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China's Grain Trade Policy and Its Domestic Grain Economy

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Summary

The paper examines the relationship between China's grain trade and domestic grain economy through an institutional perspective. It reveals that China's grain imports have been primarily necessitated by filling the physical gap between domestic grain demand and supply. Due to the special institutional background under which the domestic grain economy segmented into two relatively independent parts, the state grain sector tends to have a greater weight in influencing grain import decisions. Since China's grain trade system is so deeply rooted in the old institutional framework, it would inevitably face serious challenges in a changing economic environment that China is currently undergoing. On the one hand, the desirability of traditional principle of self sufficiency in grain has been questioned in comparison with the alternative principle of comparative advantage. On the other hand, the current annual planning procedure for grain trade regime needs to be reformed with a view to increasing the flexibility of grain trade to accommodate

1. Introduction

China's role in the world market has experienced profound changes over the last decades. In the 1950s, China was a net exporter of grain especially rice in the world market. This position, however, changed drastically from the early 1960s when China became an important net grain importer. In the 1980s, China averaged more than 9 million tones of net grain import per annum. As China has inevitably participated in the world grain market as a major grain trader, her grain trade policy is of a topic of considerable academic interests and practical importance.

Recent studies on this topic have primarily concentrated on two aspects. The first is the measurement and analysis of comparative advantage of China's grain production using various methods such as "revealed" comparative advantage index, price comparison, the domestic resource cost approach. The second is the estimation of China's future grain demand and supply upon which China's grain trade prospects are predicted. This paper approaches the subjects from a different perspective. It focuses on examination of the principles of and mechanism upon which China's traditional grain trade policy was formed and has been functioning. I shall argue that since the mechanism was largely determined by the unique institutional framework surrounding China's grain economy, the changing pattern of China's grain trade since the 1950s can be largely explained by its special linkage to the domestic grain sector. The analysis provides an useful insight into the current difficulties faced by China's grain trade policy and therefore its future evolution.

The paper is organized as follows. Section 2 reviews policy evolution of China's grain trade since the 1950s and raises some puzzling questions imbedded in the process. Section 3 discusses the institutional setting and the policy formation procedure for China's grain trade. Section 4 examines the determinants of and the functional mechanism for

2. An overview of China's grain trade

Trends and changing pattern of China's grain trade

As indicated in Table 1. China's grain trade has experienced substantial shifts in response to changing economic environment, institutional setting, and policy priority in different periods. The evolution of China's grain trade is reviewed at different phases in this section.

(Table 1 inserts here)

Phase I: Regular net export period (the 1950s)

China started a large scale of grain exportation from very beginning of the Communist Party's takeover of the national power in 1949. Grain export was about 1.22 million tons in 1950 and jumped to almost 2 million tons in 1951. The average export level of grain export per annum was kept well above 2 million tons in the second half of the decade. Rice and soybean were most important in promoting China's grain export in this period. The share of rice and soybean in total grain export for the period of 1953-1960 is 83 percent (calculation based on the data from Table 1). On the other hand, the magnitude of China's grain import was usually small in the period. Net grain export made a significant contribution to support China's initial industrialization drive in the 1950s that was in urgent need of injection of foreign exchanges. It is estimated that the ratio of foreign exchanges generated by net grain export to of total China's export revenue in the period from 1954 to 1960 ranged from 12 percent to 19 percent (Lu, 1994: 118).

Phase II: Famine and recovery period (1960-1965)

The large scale famine around 1960 represented a turning point for China's grain

The annual average grain import was 5.9 million tons in this sub- period. Wheat was the most important grain imported by China. The share of wheat in total grain import increased from about two third in 1961 to 93 percent in 1963 and even higher in 1965/1966. The pattern of wheat domination in China's grain import persists the whole period right through the recent years. Heavy imports of grain had a serious implication for consumption of foreign exchange that was extremely valuable and scarce to the Chinese planners. It is estimated that the average share of foreign exchange consumption of net grain import bill in total export revenue is about 13 percent in the period (Lu, 1994: 118).

Phase III: Exchanging rice for wheat period (1966-1976)

The sub-period coincided with the Cultural Revolution that was characterized by fierce political struggle and far leftist ideology campaign. Ironically, grain trade policy in this period seemed to be dominated by making a practical use of the structural feature of the world grain market. As a result the pattern of exchanging rice for wheat developed. The economic rational behind the exchanging rice for wheat trade lies at the price differential between rice and wheat in the world grain market. Because the rice price was usually as twice as wheat in the market while calorie levels per unit quantity of rice and wheat are roughly equal, the deal maximized one's calorie utilization through trade with a given domestic grain production mix. It is shown in Table 1 that China remained a net grain importer during the period with average annual level of 2.2 million tons. Nevertheless in value terms China almost struck a balance in the grain trade sector¹.

Phase IV: Policy adjustment period (1977-1984)

The distinct feature of China's grain trade pattern in this period was dramatic surge in grain imports. This was highlighted by the fact that China's net grain import had continued re-writing the historical record for six years in row from 1977 to 1982. In the

area.

Phase V: Transitional period (1985 to now)

There are several striking features of China's grain trade pattern in the period. The first was the drastic fluctuation of grain import and export, much wider than previous periods. The second was alternation of net grain importer and net exporter position. Following the first wide difficulties in selling grain by peasants occurred in 1983/1984, China for the first time since the early 1960 became net grain exporter in 1985/86. It returned to the net importer in 1987-1991. However it became net grain exporter again in 1992-1994 with the all time high record of grain export in 1994. Grain export plummeted to almost zero in 1995 and imports also reached the record level of more than 20 million tons. Thirdly, in the contrary to the usual prediction that China will import large scale of coarse grain, China's maize export expanded dramatically in recent years. Its corn export reached unprecedented level of 11.8 million tons in 1993 (Table 1). These new developments imply that China's grain trade has entered a transitional period since the mid-1980s.

Puzzling questions about China's grain trade policy

The above review on the changing pattern of China's grain trade raises many imperative questions of which four may be most important. First, as for the historical turn into net grain importer occurred at the early 1960s, it is widely known that it was primarily caused by the famine. However, as will be discussed later, China's grain output dropped dramatically in 1959. Why did the Chinese fail in importing grain in 1959 and 1960 to deal with the food crisis? Secondly, China's grain production recovered to its pre-famine level after 1965. If China's grain trade stance shift in the early 1960s was only caused by the famine, why did it fail in resuming the stance of net exporter after the

after the mid-1980s and what are the implications of the change? It is essential to have a systematic explanation of these question on the basis of a coherent analytical framework.

China's grain imports were once described as an enigma (Timmer and Jones, 1986). This indicates a great deal of difficulties with respect to pursuing a coherent answer to the above questions. The crucial task is to analyze the determinants and mechanism of China's grain trade policy. Institutional perspective attempted in this study is useful to achieving the goal. Nevertheless, before examine the determinants and functional mechanism of China grain trade, it is necessary to clarify the special institutional setting and policy formation procedure for China's grain trade regime.

3 Institutional setting and policy formation procedure

China's foreign trade as a whole was a monopoly of the government until the economic reform in the 1980s. As in other centrally planned economies, national import and output plans were drawn up by the state; the Ministry of Foreign Trade (MoFT)² exercised control on behalf of the state and specialised foreign trade corporations supervised by the MoFT handled the import and export businesses. Of these corporations, the China National Cereals Oils and Foodstuffs Export and Import Corporation (CNCOFEIC), one of the largest of its type, was in charge of grain trade. However, what need to be emphasized here was that a particularly high degree of monopoly was attached to the grain trade. This can be explained by two facts. The first fact is that though foreign trade in most commodities has been largely liberalized somehow since the late 1970s, trade in grain, plus a few other commodities, were either still monopolized by the state trade corporation or heavily controlled by the state up to now. The second fact is that the highest ranking agencies in the central government have been involved with the formation

² For a detailed description of the MoFT, see the Ministry of Foreign Trade (1992).

Accounts of the procedure of policy making regarding grain importation are scarce. Now I shall summarize the procedures used in the late 1980s mainly based on the information gathered through my interviews with the officials and researchers in the Ministry of Commerce (MoC)³, MoFERT and various research institutes in Beijing a few years ago. This will be followed by a brief discussion of recent modifications and changes in this context.

The routine procedure involves several stages of policy formation process. Firstly, MoC prepares the draft plan for grain imports. The work is usually undertaken by the officials and staff of the Overall Planning Division, Grain Bureau of MoC. The preparation of the draft plan is mainly dependent on the situation of domestic grain demand and supply. MoFERT is usually consulted over the world market situation to facilitate the drawing of the draft plan.

Secondly, the draft plan is submitted to the State Planning Commission (SPC) which is supposed to examine the feasibility and soundness of the plan in the macro economic perspective. Two issues are given particular attention: (1) The SPC assesses the implications of the grain import plan for foreign exchange allocation, since the pressure of competitive demand for foreign exchange is usually high. (2) The plan also needs to be examined in the context of the state budget as grain imports usually involve subsidies from the state.

At the third stage, the preliminary plan is reported to the working meeting of the State Council by SPC, MoC and MoFERT for final examination and approval. Alternatively, the plan may be discussed and final decision may be formed at the National Grain Work Conference which is usually held at the end of each year. It should be noted that though the State Council usually makes final decision, the Political Bureau of the

necessary.

After examination and approval by the State Council, the final decision on grain imports is sent to MoFERT as the annual directive plan which is further assigned to CNCOFEIC for implementation. The implementation of the plan is facilitated by bilateral agreements on grain trade, if any, and by the processes of investigating and calculating costs; and selecting potential sellers. When all these have been done, the negotiation of transactions begins.

There are modifications and developments with respect to the procedure in recent years in response to changing domestic economic environment and external influence. At least three aspects need to be mentioned in the context. First, the institutional framework for China's grain import policy making illustrated above were characterized by state monopoly, rigid annual planning procedure. This system was greatly challenged by the domestic market oriented process especially in grain sector as well as the process of internationalization of the Chinese economy. Two reforms were attempted in this aspects. On the one hand, in order to break the monopoly power of CNCOFEIC in grain trade, a quota allocation system has been introduced in recent years. Other state owned companies were assigned the right to conduct grain trade through license and quota allocation system. On the other hand, aiming at better coordination between the domestic grain marketing and foreign grain trade, the State Council made the decision to create a new company named Liang Fen jointly owned by the Ministry of Foreign economy and Trade and the Ministry of Internal Trade. Nevertheless there have been little account on the function of the new company. The role played by the company seems quite limited up to now. Secondly, with a view to playing a more active role in stabilizing the grain market through a grain reserve policy, the central Government established the National Grain Reserve Bureau in 1991. The main purposes of the state grain reserves are to stabilize

received grain from imports on one side and the state grain trade company on other side. Under the system, MoC delivers domestic grain to CNCOFEIC for export at the procurement prices which were usually lower than the market prices. On the other hand, the state company delivered the imported grain to MoC at fixed prices in line with the price structure for domestic grain transfers. The Government will pay the loss if the import price was higher than the delivery price. This policy was abolished in 1994 in a reform drive aiming to adopt the agent system; a free foreign trade regime. Under the new system, the state grain trading company will act as a trading agent for MoC and other companies which have export and import quota and charge fees accordingly.

The above discussion reveals the special feature of China's grain imports in the context of the annual grain plan formation. Because of the vital importance of grain to people's welfare and to the overall economic plan, grain importation is treated with great care. Government bodies at the highest level are directly involved with its import plan formation. The modifications and developments in recent years have had only limited impacts on changing the basic features.

4. Determinants and mechanism of China's grain trade policy

Many factors which may have influenced China's grain imports have been discussed by the previous studies (Surls, 1978; Wong, 1980; Cater and Zhong, 1988; Chen and Buckwell 1991; World Bank 1991, Garnaut and Ma 1992). They may be classified into three groups. The first group consists of the conventional structural factors such as relative costs, the prices in the world market as well as foreign exchange availability. They are usually included in a trade model for a developing economy. The second group of factors is specially related to the context of China's grain import. It was argued that China's grain imports have been influenced by two special considerations. The first is the government's priority adjustment and price differentials stated by the Chinese

of wheat in the world market, China's wheat-rice deal has taken advantage of the price differential (Far East Review, Vol. 44 1964, P.367). The another is the internal transport bottle-necks and relative transportation costs argument. It is argued by some western scholars that because of problems and inefficiencies with China's internal transport system, it is cheaper for the eastern coastal cities such as Shanghai, Tienjin to import grains from foreign countries such as Australia, Canada than from the inland provinces of grain surplus within China (Donnithorne, 1970: 2). The third group covers the factor from domestic grain economy such as domestic grain output, population, income, storage etc. Conventional trade model should also account for these factors.

Although many factors may potentially have influenced China's grain import policy, their impact is unlikely to be equally important. This paper focuses on examination of the impact of domestic grain sector and the related institutional factors on China's grain imports. In a sense, the primary importance of domestic grain economy to grain imports in China is self evident. The fact that wheat usually takes 80-90 percent of China's total grain imports indicates that China's grain imports have been mainly used for human's direct consumption. Considering that the level of grain consumption in China has been around or only marginally above the level of the subsistence requirement for most years of the period concerned, it is arguable that domestic grain demand and supply must be of particular importance to grain imports.

This observation on the relationship between China's domestic grain economy and its grain trade development raises some questions. How did China's domestic grain sector influence its grain import policy? With the assumption that annual grain import plan was formed mainly on the basis of domestic grain situation, how did planners assess the demand for and supply of grain and their relationship? What were the indicators concerning domestic grain situation? Were the indicators reliable and serving the purpose

planner may simply take changes in grain price as signal in this context. However, there was no market mechanism at working in China's domestic grain sector for most of the period of our study. What we had instead was an unique institutional setting which was of vital importance to the function of China's grain trade policy.

The most important characteristic of China's domestic grain economy was that the grain distribution was almost totally controlled by the state for most years since the early 1950s. The system consisted of two basic interrelated aspects. (1) Unified purchasing: the state procured grains from peasants by quotas specified by the state and at prices set by the state. The official prices are widely acknowledged to have been substantially lower than the market prices which would had prevailed otherwise. The remaining surplus grains after fulfillment of the state procurement quota, if there were any, had to be sold to government agencies in most years of the period 1953-1978 when free markets for grain were virtually banned; or were allowed to be sold in free markets in other years while the grain markets existed. (2) Unified marketing: the state supplied grain rations at low prices to the urban non-agricultural population and to a small portion of rural agricultural population who were either designated by the government to produce cash crops (such as cotton, peanuts etc.) or hit by natural calamities (Lu, 1989). Specific levels of grain ration were assigned for different groups of consumers in the urban areas⁴ and general guidelines were formulated regarding the grain distribution for the rural residents who were

⁴ In order to fix the grain ration levels in the urban areas, the whole country was divided into two categories of region according to the grain production and consumption pattern in the region: one was regarded as taking rice as the main staple food and the other taking coarse grain and wheat as the staple food. On the other hand, urban residents were divided into 8 categories depending upon their age and occupations. The categories included "special heavy physical laborer", "heavy physical laborer", "light physical laborer", "staff members in the institutions of the administrative bureaucracies and the social groups, mental workers", "students in the universities and middle schools" "ordinary residents and teenagers over ten years old" etc. Urban consumers were assigned specific grain rations according to the localities in which they lived and the categories of population they fell into. For example, the monthly

or adjusted from time to time, its basic features had not been changed by the mid 1980s.⁵

A direct consequence of the unique institutional setting is that the domestic grain economy was segmented into two parts. One part was the state sector which was directly controlled by the state. It covered grain supplies to the non-agricultural population plus a number of peasants mentioned above. Because by far the greater part of this grain supply was for the non-agricultural population, normally residing in urban areas, the state sector of grain demand and supply may also be referred to as the grain demand and supply for the urban areas.⁷ The other part of grain supply and demand was for the majority of the agricultural population in the rural areas, so it may be called the rural grain sector or the non-state grain sector⁸.

The segmentation of domestic grain economy had important implications for the function of China's grain trade policy. Considering the questions raised above, due to lack of price mechanism, the relationship between domestic grain supply and demand had to be

⁵ Feed grain should be supplied according to actual requirements. However, the level of ration and fodder supply for the grain-short households in ordinary grain producing areas must be lower than that for the grain surplus households in the same areas. As for peasant households designated by the state to specialize in cash crops, the standards of their ration and fodder supply must not be lower than that of the grain surplus households (DDZGLSGZ, 1988: 87).

⁶ It is worthy to note that China's domestic grain market has a long history. However, during the period of the state monopoly of purchasing and marketing, the scale of private grain markets was very small. In certain years, the market was simply banned by law or actually prohibited. In other years when market transactions were permitted, they were subject to severe restrictions. The situation changed substantially when the restrictions were gradually removed from the 1980s. The market mechanism has begun to play an active role in the domestic grain economy in recent years.

⁷ The household registration system in China was directly linked with the grain ration supply system. Small numbers of people who defined as non-agricultural population might actually live in rural areas and have access to the grain ration supply from the state; and on the contrary, a few urban residents might not have legal urban status and would thus not be eligible for the grain ration supplied by the state.

⁸ Obviously the two parts of grain economy were interrelated, e.g. change in the quantity of grain supply in one part would result in responses in the other part, at a given total grain output. However, they were distinct or relatively independent in two senses. Firstly, the ways in which the two parts functioned were different. The rural grain sector was basically self-sufficient. The state was not directly responsible for allocation of grain in the rural sector, and its control of grain demand and supply in this part of the

grain imports may be particularly sensitive to the situation of grain demand and supply in the state sector. The main reason is that grain imports have been monopolized by the state and grain imported constituted one component of the supply sources for the state sector. So the situation in the state grain sector should have some weights in shaping the government decision with respect to grain imports. Thus investigation of the factors indicating the situation of the state grain sector may improve our understanding of the quantitative changes in the level of grain imports.

The above observation suggests a special linkage between the quantitative adjustment in China's grain trade and the requirement from the state grain sector. We may propose a statistical test on the hypothesis regarding the special linkage. In a simple model developed for this purpose, the volume of China's net grain imports as the dependent variable (NIM) is formulated to be related to four factors. The first is the difference between the annual grain purchase and sales of the state grain sector (GX) that serves as an indicator regarding the demand and supply situation in the state grain sector. The second is the growth of domestic grain output over the preceding year (PRO) that is expected to reflect the overall situation for the whole grain sector. Third, the adjustments in grain trade is likely to have been constrained due to various factors including trade agreements that sometimes specifies purchase commitment for a period of a few years. To investigate the potential partial adjustment in this context, the lagged dependent variable (NIM1) is included. Finally a trend variable (TRD) is included aiming to represent the impact of decline in China's domestic grain production as a long term trend. Obviously this simple model is not expected to provide a formal econometric analysis of China's grain trade. It merely serves the purpose of testing the analytical hypothesis regarding the impact on China's grain trade from the factors China's domestic grain sector. On the basis of the hypothesis, we expect significant estimated coefficients for GX and PRO.

suggests that China's grain trade is linked to the changes in its domestic grain economy with at least one year lag. On the basis of this consideration, the dependent variable of China's net grain imports is set to be related to the two main explanatory variables with lags. The length of the lags are essentially determined by data rather than in prior. Data used for analysis are presented in Table 2. The equation was estimated in a simple linear form using data cover the period from 1955 to 1994. Results of the OLS estimation are reported (figures in the brackets are t ratios).

$$\begin{aligned} \text{NIM} = & 0.2 - 0.13 \text{GX1} - 0.16 \text{GX2} - 0.22 \text{GX3} - 0.09 \text{PRO2} \\ & (0.24) \quad (2.04) \quad (2.47) \quad (3.03) \quad (2.80) \\ & - 0.06 \text{PRO3} + 0.15 \text{TRD} + 0.45 \text{NIM1} \\ & (1.94) \quad (3.60) \quad (3.84) \quad R^2 (\text{adjusted}) = 0.8148 \end{aligned}$$

(Table 2 inserts here)

Estimated coefficients for all variables have the negative sign as expected. About 80 per cent of variation in China's grain net imports has been explained in the equation. Apart from the highly significant time trend variable and lagged dependent variable, the estimation yields significant coefficients for GX lagged for three years. As for PRO, the estimated coefficients are statistically significant for those with two and three year lags but not for that with one year lag. The evidences suggest a rather long lag involved in adjustments of China's grain imports. As for the main theme investigated in this paper, the results seem consistent with the hypothesis regarding the role of the institutional factors in China's grain import policy. On the one hand, given the fact that there was no price signal at working in the domestic grain sector, there was a significant relationship between the variable of domestic grain output and net grain import in China. On the other hand, due to the institutional factors discussed above, China's grain imports were not only influenced by changes in total grain output, but also affected by the requirements of the state grain sector. The magnitude of the absolute values of the coefficients for GX are much larger

grain sale obligation by the state, the government usually had to increase grain imports to keep the balance between grain demand and supply and vice versa. The evidence helps in illustrating the impact of segmentation of China's domestic grain economy on its grain trade performance.

5. Political economy of China's grain trade policy: puzzling questions reconsidered

The above analytical result is useful in providing a simple systematic explanation for the puzzling questions about the performance of China's grain trade raised above. It is also helpful to achieving a proper understanding of the current difficulties faced by China's grain trade policy. This section discusses the two issues.

Several important questions regarding the performance of China's grain trade in the past are raised in Section 2. For example, why did China export millions of tones of grain in net in 1959 and 1960 when its population was hit by the famine brought about by drastic drop in domestic grain production? Why did China fail to resume the net grain exporter position after 1965 when its domestic grain production recovered to its pre-famine level? Why did China's grain import surge during 1978-1982 while its domestic grain output increased dramatically?

On the basis of the above analysis, a simple answer to these questions points to the discrepancy between the situation in the state grain sector and the whole grain sector. For example, as for the first question, though grain production plummeted in 1959, the state purchased 64.12 million tons of grain in that year that was by far the highest during the period from early 1950s to 1981. As shown in Table 2, the grain surplus for the state sector in 1959 was 11.55 million tons that was also the highest through 1983. The relaxed situation in the state sector made it possible for China to increase its net grain export to

The delayed response of China's grain trade to changes in domestic grain economy in the late 1950s reveals the importance of the political economy factors behind China's grain procurement policy. It is useful to look at this issue in detail. For most years in the last four decades or so, the grain situation in China was tight. In addition to the grain supply crisis which caused the nation-wide famine in the early 1960s, grain shortage occurred frequently in other years. Under these circumstances, there were two major objectives set for grain distribution system and whole agricultural sector. (1) To acquire as much grain as possible from the peasants to fulfill the demand for grain in the urban sector. From the government point of view, this objective is essential to achieving its chief goal of rapid industrialization and therefore assumes a high priority. (2) To maintain an adequate grain supply to meet the basic needs of peasants and to achieve a desirable growth in grain production. However, these two objectives are in practice often in conflict. Transferring a large volume of grain mainly through the compulsory procurement of grain is obviously at odds with the interests of grain producers. It inevitably had an adverse effect on their incentives for grain production.⁹

In the 1950s, the state ambitiously targeted at acquiring all grain surplus from the peasants. To achieve the objective, the parameters for grain output, self-consumption requirement and surplus have to be calculated accurately for millions of small farmers on an individual basis. It made the policy highly discretionary in nature as it had to be specific with regard to different harvest in different years as well as different farmers. Due to the potential resistance from peasants and the huge number of small grain producers in China, the implementation of the policy faced enormous difficulties. The need to deal with the difficulties more effectively in part explains why the Chinese policy makers had pushed

⁹ For a detailed account of the conflict in dividing grain surplus in contemporary China, see Oi (1989). However, this problem is not unique to China. "Mobilizing adequate marketable surplus (grain) for urban consumption" is "the universal problem" for "all governments of large developing economies".

pressure that induced the behaviour of over-reporting grain output by grassroots cadres. At the climax of the disastrous Great Leapforward Campaign in 1958-1959, false report of the inflated grain output had become a nationwide practice. The interplay of the political economy factors created an unique background under which the state achieved the unusual high level of grain procurement in 1959 when the harvest was precariously poor.

The famine of around 1960 was a catastrophe to the Chinese population especially in the rural areas. It was also a bitter lesson for the policy makers. The tragedy made one point very clear to the state: though under fulfillment of the grain procurement target is bound to cause difficulties, successful procurement of too much grain from the peasant is also a danger with even more severe consequence. In light of this lesson, the state had to make an important adjustment in its grain procurement policy. The previous discretionary policy was adjusted by introducing the element of specific rule. The new policy specified certain grain procurement targets for different production units that were usually fixed for a period of 3-5 years. This adjustment aimed to provide a balance check to prevent the tragedy in 1959-1960 from repeating. It also gave some incentives for production teams to increase grain output since the marginal growth of grain output can be legitimately kept by the teams or sold to the state at higher prices over the fixed period.

Albeit of its improvement effects, the new policy was somehow costly for the state. In recognizing peasant's partial entitlement to a small proportion of grain surplus, the state implicitly gave up its previous objective to acquire all grain surplus from the countryside. Although grain output per capita in the period of 1966-1976 recovered to its level in the 1950s, the state sector was unable to acquire sufficient grain surplus supporting China's net exporter position in the 1950s. Instead the tight situation in the state grain sector necessitated continuous net grain importation throughout the period. In

The net import hike in the late 1970s and early 1980s was again mainly driven by the gap between supply and demand in the state grain sector. Nevertheless the underlying cause for the widening gap this time was different from 1959-1960. The gap was a direct result of the new policy adjustment implemented from the late 1970s that has had the far reaching impact on the Chinese economy. Due to the policy adjustment in the early 1960s, China successfully avoided reoccurrence of major food crisis afterwards. However food shortage was still a persistent problem throughout the period of Cultural Revolution (1966-1976). Many political and ideology campaigns aiming at increasing grain output only achieved little, if any, desired effects. It became more and more apparent that the slow growth in grain production was primarily caused by the lack of incentive for peasants that in part resulted from the state grain procurement policy. At this point, Mao's death and the fall of the Gang of Four represented a historical turning point for the Chinese agricultural policy. After critical review of the radical economic policy adopted in the period of the Cultural Revolution, the policy priority was adjusted in favor of the interests of peasants and rural development. In order to relieve the peasants' burden and encourage grain production, the state reduced grain compulsory procurement quota by 20 percent from 37.75 to 30.32 million tons during the period from 1979 to 1983 (DGZGLSGZ, 1988: 175-176). This widened the gap between grain consumption and supply in the state sector that had to be filled by the growth of net grain import. As a result, the Chinese Government signed the grain agreements with the main exporters in the world market in 1980 to secure annual delivery of more than 10 million tons of grain up to 1983-1984 (Lu, 1994: 22, Table 1.5).

The above analysis is also useful to understanding of the current state of China's grain trade policy. Since China's traditional grain trade regime is so deeply rooted in the old institutional framework, it would inevitably face serious difficulties in a changing

with domestic grain situation in the pre-reform period came from supply side. This was reflected by the persistent shortage problem in the pre-reform period. Secondly, the market mechanism was largely suppressed in domestic grain sector. Almost all marketable grain surplus was controlled by the state through the state monopoly in grain purchasing and marketing. These made it possible for planners to know with reasonable accuracy about basic parameters of domestic grain sector. On the basis of the information available, the planners were able to make quantitative adjustments through annual plan framework to fill the gap in domestic grain economy especially in the urban sector.

Recent developments and changes especially from the mid-1980s have had profound impact on grain trade. First, there is a clear trend of growth in the demand for grain mainly through growing consumption of animal foods. However the fast growth of the relative costs for the domestic grain production eroded the comparative advantage of China's grain sector. To meet the growing grain demand from domestic sources requires the incentives of substantial increase of the relative grain prices in domestic grain sector that would have adverse impact on both China's domestic macroeconomic stability and its external economic relationship. Secondly, the market mechanism has been partially introduced into the grain sector. As a result, the state's control on the domestic grain sector has been substantially reduced. Thirdly, China's grain sector has faced glut situation with the so called difficulties in selling grain by peasants several times since the mid 1980s. The previous problem of persistent grain shortage has been replaced by the new situation in which the problems of shortage and glut prevailed alternately¹⁰.

The changing economic environment and institutional setting present fundamental challenges to both the principle of and the mechanism for the traditional grain trade policy.

¹⁰ Following the first grain selling difficulties in the mid 1980s, the traditional shortage problem struck

Chinese economy is gradually integrating into the international economic system, it seems viable as well as desirable to change the basic objective of grain trade from mainly bridging short term gaps between the grain demand and supply into increasing efficiency of resource allocation on the basis of comparative advantage. Evidence suggests that China is likely to benefit in efficient use of resources and sustainable growth should its grain trade policy be adjusted with a view to further integration of its grain economy into the world food sector. On the other hand, serious problem emerged in the post reform period with regard to the consistency between grain trade policy and domestic grain situation. As the controlling power of the state in the grain sector weakened in a circumstance in which grain shortage and glut problems occurred alternately, the planners' task to assess the grain situation in the annual grain trade framework became more and more difficult. Since China's grain trade is still largely determined in an annual planning framework with a long adjustment lag, it is almost impossible for it to accommodate effectively the short term fluctuations in domestic grain market. It is therefore not surprising to observe the discordance between grain import adjustment and domestic grain situation occurred in recent years¹¹. China's grain trade regime needs to be reformed so as to improve its flexibility in responding to changes in domestic grain economy.

6. Concluding remarks

Focusing on the relationship between China's grain trade and domestic grain economy, this paper reveals three central feature of China's grain trade policy. First, China's grain imports have been primarily necessitated by filling the physical gap between domestic grain demand and supply especially in the state sector. The principle of comparative advantage has not been a main motivation behind China's grain import programs. Secondly, the Chinese grain trade regime has been developed as an integral part of the traditional centrally planning system. Actually it serves as the extension of the old

transmitted into grain import demand. Although China's foreign trade system as a whole has undergone profound transformation over the last two decades or so, grain trade regime as one of the exceptions, is still heavily regulated in an annual planning framework. The third feature concerns the unique mechanism by which China's traditional grain trade regime delivers its objectives. Due to institutional background under which the domestic grain economy segmented into two relatively independent parts, the state grain sector tends to have a greater weight in influencing grain import decisions.

The analysis is of important policy implications. Since China's grain trade system is so deeply rooted in the old institutional framework, it would inevitably face serious challenges in a changing economic environment that China is currently undergoing. On the one hand, the desirability of traditional principle of self sufficiency in grain has been questioned in comparison with the alternative principle of comparative advantage. As Chinese economy is gradually integrating into the international economic system, it seems viable as well as desirable to change the basic objective of grain trade from mainly bridging short term gaps between the grain demand and supply into increasing efficiency of resource allocation on the basis of comparative advantage. On the other hand, as the domestic grain market increases its significance in adjusting demand for and supply of grain, the coordination between grain trade and changes in domestic grain market has become more and more important to the stability of domestic grain market. The annual planning procedure for grain trade regime needs to be reformed with a view to improving the flexibility of grain trade to accommodate fluctuations in the domestic grain sector.

(Unit: 10,000 tons)

Year	Grain Imports			Grain Exports				[8]
	[1] Total	[2] Wheat	[3]=[2]/[1] (%)	[4] Total	[5] Rice	[6] Soybean	[7] Maize	Net Grain Import
1953	1.5	1.4	93.33	182.6	56.1	92.0	n/a	-181.1
1954	3.0	2.7	90.00	171.1	54.0	90.7	n/a	-168.1
1955	18.2	2.2	12.09	223.3	70.0	105.8	n/a	-205.1
1956	14.9	2.3	15.44	265.1	107.7	112.4	n/a	-250.2
1957	16.7	5.0	29.94	209.3	52.9	114.1	n/a	-192.6
1958	22.4	14.8	66.07	288.3	139.7	122.4	n/a	-265.9
1959	0.2	...	n/a	415.8	177.4	172.7	n/a	-415.6
1960	6.6	3.9	59.09	272.0	107.2	111.1	n/a	-265.4
1961	581.0	388.2	66.82	135.5	42.8	40.9	n/a	445.5
1962	492.3	353.6	71.83	103.9	45.8	25.9	n/a	388.4
1963	595.2	558.8	93.88	149.0	68.5	40.9	n/a	446.2
1964	657.0	536.9	81.72	182.1	76.2	59.0	n/a	474.9
1965	640.5	607.3	94.82	241.6	98.5	65.3	n/a	398.9
1966	643.8	621.4	96.52	285.5	148.7	65.1	n/a	358.3
1967	470.2	439.5	93.47	299.4	157.7	67.0	n/a	170.8
1968	459.6	445.1	96.85	260.1	129.9	68.8	n/a	199.5
1969	378.6	374.0	98.78	223.8	117.9	59.5	n/a	154.8
1970	536.0	530.2	98.92	211.9	128.0	47.0	n/a	324.1
1971	317.3	302.2	95.24	264.8	129.2	58.8	n/a	52.5
1972	457.6	433.4	94.71	292.6	142.6	41.2	n/a	165.0
1973	812.8	629.9	77.50	389.3	263.1	40.0	n/a	423.5
1974	812.1	538.3	66.28	364.4	206.1	47.1	n/a	447.7
1975	375.5	349.1	92.97	280.6	163.0	40.5	n/a	94.9
1976	236.7	202.2	85.42	176.5	87.6	20.0	n/a	60.2
1977	734.5	687.6	93.61	165.7	103.3	13.0	n/a	568.8
1978	883.3	766.7	86.80	187.7	143.5	11.3	n/a	695.6
1979	1235.5	871.0	70.50	165.1	105.3	30.6	n/a	1070.4
1980	1342.9	1097.2	81.70	161.8	111.6	11.3	n/a	1181.1
1981	1481.2	1307.1	88.25	126.1	58.3	13.6	n/a	1355.1
1982	1611.7	1353.4	83.97	125.1	45.7	12.7	n/a	1486.6
1983	1343.5	1101.9	82.02	196.3	56.6	33.4	n/a	1147.2
1984	1064.5	1000.0	93.94	344.0	118.9	83.4	91.1	720.5
1985	617.1	563.2	91.27	888.0	101.9	115.1	595.7	-270.9
1986	728.2	575.4	79.02	909.5	95.7	130.1	570.6	-181.3
1987	1627.8	1334.1	81.96	718.7	98.9	171.4	384.7	909.1
1988	1478.8	1391.0	94.06	654.2	70.5	145.9	352.2	824.6
1989	1640.3	1470.3	89.64	622.1	33.9	117.1	349.7	1018.2
1990	1356.4	1233.5	90.94	543.4	30.3	91.0	288.7	813.0
1991	1398.3	1282.5	91.72	1066.0	69.2	106.5	748.7	332.3
1992	1156.9	1034.0	89.38	1445.1	120.4	84.5	1043.5	-288.2

Table 2 Data for the regression analysis (unit: million tons)

Year	NIMP	GX	PRO	Year	NIMP	GX	PRO
1952	-1.53	7.62	20.23	1974	4.48	0.38	10.33
1953	-1.81	6.45	2.91	1975	0.95	2.89	9.25
1954	-1.68	10.01	2.69	1976	0.60	-3.35	1.79
1955	-2.05	6.75	14.22	1977	5.69	-7.82	-3.58
1956	-2.50	-1.79	9.01	1978	6.96	-4.05	22.04
1957	-1.93	4.00	2.30	1979	10.70	0.13	27.35
1958	-2.66	3.67	4.95	1980	11.81	-6.81	-11.57
1959	-4.16	11.55	-30.00	1981	13.55	-7.81	4.48
1960	-2.65	-9.25	-26.50	1982	14.87	-5.86	29.48
1961	4.46	-7.79	3.55	1983	11.47	16.40	32.78
1962	3.88	-3.88	12.50	1984	7.21	12.45	20.23
1963	4.46	0.53	10.00	1985	-2.71	-6.90	-28.20
1964	4.75	-0.37	17.50	1986	-1.81	-0.32	12.39
1965	3.99	-2.42	7.03	1987	9.09	7.29	11.48
1966	3.58	0.71	19.47	1988	8.25	-5.86	-8.95
1967	1.71	1.21	3.82	1989	10.18	7.97	13.52
1968	2.00	1.82	-8.76	1990	8.13	30.27	38.69
1969	1.55	-3.25	1.91	1991	3.32	13.81	10.95
1970	3.24	5.64	28.99	1992	-2.88	-2.16	7.37
1971	0.53	0.32	10.18	1993	-8.79	14.60	13.82
1972	1.65	-7.31	-9.66	1994	-1.83	n.a.	-11.39
1973	4.24	0.60	24.46	1995	19.85	n.a.	21.52

Sources:

NIMP: Grain imports minus exports. Data are from "Yearbook of China's foreign economy and trade (Zhongguo duiwai jingji maoyi nianjian", Various issues from 1984.

GX: Grain procurement minus sale in the state grain sector. Data are from "Market statistical yearbook of China (Zhongguo sichang tongji nianjian) 1994, compiled by the Department of Trade and Materials Statistics, the State Statistical Bureau of China.

PRO: The growth of grain output which is defined as the grain output for a given year minus the output in the preceding year. Data are from "China statistical yearbook (Zhongguo tongji nianjian)" various issues from 1983.

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