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## The political economy of food pricing policy in China

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WIDER Working Paper No. 2013/038

## The political economy of food pricing policy in China

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### Abstract

The overall goal of this paper is to analyse the political economy of food price policies in China during the global food crisis. The results show that given China's unique economic and political context and the nature of its agricultural markets, the government's reaction to the crisis was swift and decisive. Responses, which considered the interests of the relevant stakeholders, included both short-term counter-measures that covered a wide range of domestic and border policies as well as long-term policy changes on biofuels and agricultural investment. This, in conjunction with the country's political system, meant that the decision-making process encountered no problems and that the impacts of policy responses by the government achieved the envisaged objectives.

Keywords: food price, food crisis, policy response, political economy, China  
JEL classification: P16, Q11, Q18

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## Acronyms

COFCO	China National Cereals, Oil and Foodstuffs Import and Export Corporation
CPC	Communist Party of China
CPI	consumer price index
ECM	error correction model
LG-FE	leading group in finance and economy
LG-RW	leading group on rural works
MOA	Ministry of Agriculture
MOC	Ministry of Commerce
NDRC	National Development and Reform Commission
NSBC	National Bureau of Statistics of China
NPC	National People's Congress
SGA	State Grain Administration

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## **1 Introduction**

In 2006-08 the world faced the first global food crisis of the twenty-first century. Rising food prices were a concern everywhere but particularly so in the developing countries where price hikes affected millions of poor people, contributed to inflation and induced political unrest (de Brauw 2011; FAO 2011). Policy-makers and academics debated about the seriousness of the global food crisis and whether it would abate as has happened in the past (Ivanic and Martin 2008; FAO 2011). While there has been much research on the causes of these crises, there is little knowledge of the political economy of food price policies in developing countries.

Although China is often cited as one of several countries that has successfully dealt with the food crisis and food price volatility, there is a dearth of information on how China responded to the crisis and whether or not the counter-measures taken were successful. This paper seeks to understand China's economic and political environment, its response to the food crisis, the policy-making process involved, and the effectiveness of the policy responses. In addressing these questions, the paper tries to explain why the government of China, in responding to the crisis, chose a specific set of policy measures that included the release of the government's grain reserves in the beginning of the crisis, long-term future/forward contracts with trading firms in exporting countries, provision of subsidies and insurance to producers, cancellation of support for storage and transport of export grains, increased subsidies on grain production and input, and enhanced social protection for urban consumers. Similarly to many other countries, however, China also used wider measures at the border to protect domestic prices from international food price fluctuations. Furthermore, China adjusted its long-term development strategies on biofuel development and strengthened the commitment to invest in agriculture.

The paper is organized as follows. The next two sections describe the country's socioeconomic and political context; Section 4 analyses the trends and shocks in food prices, price transmission between international and domestic markets and within domestic supply chains as well as their causes, and the general impact on stakeholders from the price shifts associated with the crisis. Section 5 details the policy responses targeted to production, consumption, marketing and investment. The political economy context, including various key decision-making actors and factors, is discussed in Section 6. Section 7 analyses the policymaking process and policy impact, with particular attention to the dynamics of decision-making among the existing partners of influence, and the impacts of the policy responses on domestic food prices and investment. A concluding section summarizes the findings, focusing on the main explanations of why the government responded as it did.

## **2 Country context**

### **2.1 Overview of the economy: successes and challenges**

The emergence of China as an economic power is one of the success stories of the past decades and the rate of growth of its economy since the 1980s has been the fastest of the world economies (IMF and World Bank database). Fast growth occurred in all sectors, including agriculture, and has been accompanied with rapid poverty reduction. Based on China's official poverty line, the absolute level of rural poverty has fallen from 260 million

(36 per cent of rural population) in 1978 to 26.9 million (or 2.8 per cent) in 2010 (NSBC 2011).<sup>1</sup> Moreover, the general welfare of most of the people has increased markedly, as is shown by the improvement in many nutritional status indicators. For example, the number of children with low body weight has fallen to less than half (Turgis 2008). By the middle of 2007 China had already achieved many of its Millennium Development Goals.

Despite China's impressive accomplishments of the past, there are still great obstacles ahead. Income disparity, for example, rose with economic growth, manifesting as significant differences between urban and rural populations, as well as among regions, and among households within same location (Cai, Wang and Du 2002; NSBC 2010). Large differences between regions also exist in nutritional status. Overheating of the economy, increasing inflationary pressures, concerns over national food security, and the ensuing environmental degradation that accompanied rapid industrialization, urbanization, and economic growth are a challenge in the coming years to China's goal of sustainable development.

## **2.2 Economic growth and ability to respond to external crises**

Over the past two decades, China has exhibited considerable capacity to respond to external economic shocks, as exemplified by the Asian financial crisis in the late 1990s. While the shock did affect economic growth (from 9.7 per cent over 1985-95 to 8.2 per cent over 1996-2000), recovery thereafter was rapid. This was largely due to the fact that the government took decisive action to combat sluggish growth, which created the perception of stability, and re-established producer and consumer confidence. Fiscal spending (mainly on infrastructure), for example, was raised by 100 billion yuan to stimulate demand and increase the efficiency of the nation's business environment in the second half of 1998. Other stimulating measures were implemented in 1999.

More recently, like many other countries, China was also seriously affected by the global financial crisis. After a 14.2 per cent growth rate in 2007, growth fell sharply to 9.6 per cent in 2008 and 9.2 per cent in 2009 (NSBC 2010), and the drop of 4.6 percentage points between 2007 and 2008 was the largest of any major country. However, despite the serious effects of the global financial crunch, the economy was able to recover quickly as a result of China's rapid and massive response. As the financial downfall took its toll, in order to maintain economic growth, the country initiated an aggressive stimulus and monetary expansion package for 2009 and 2010 valued at four trillion yuan (US\$586 billion), accounting for 14 per cent (or nearly 12 per cent) of China's GDP in 2008 and 2009, respectively.<sup>2</sup>

While there was concern over the long-term impact of these expansionary policies, China's massive and rapid response to the external crisis was quite effective—and unique. Decisions could be made quickly at the central level of government and implemented without any major resistance from the public and other stakeholders. Thus, based on China's past responses to the Asian financial crisis in the late 1990s and the recent global crunch, it will not be difficult to understand its similar reaction in the face of the global food crisis.

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<sup>1</sup> Poverty is primarily a rural phenomenon in China.

<sup>2</sup> The stimulus package, announced by the then-Premier Wen Jiabao in November 2008, was implemented through an expansion in domestic demand, restructuring of industry, promotion of science and technology development, and improvement in social safety nets.

## **2.3 Political regime and development goals**

For a better understanding of the political economy of China's food pricing policy during the global food crisis, it is useful to review the country's political regime and development goals. Based on the national constitution, the Communist Party of China (CPC) is the country's sole political party in power. This fact has ramifications with regard to the decision-making process on national policies, including food policy and the government's response to global commodity crisis. Under the national constitution, all rights are vested with officials who exercise their power through the National People's Congress (NPC) and local congresses at all levels. The State Council is the highest administrative body of the government.

Democratic centralism guides the decision-making principle. The CPC's most powerful policy- and decision-making entity is the Politburo, comprised of the Party's two dozen or so national leaders, and its Standing Committee. Currently, the Politburo Standing Committee has nine members, usually powerful national leaders. Generally, members of the Politburo and its Standing Committee simultaneously hold state positions with functions and tasks similar to their personal Politburo appointments. The role of the Politburo is mainly to decide on long-term development strategies and short-term policies related to political and social crises.

The state's fundamental aim is the socialist modernization of China, an objective that includes modernizing the industry, agriculture, national defence, and science and technology. Recently, major national development strategies, known as 'balanced development' among regions and between social and economy and ecology, 'harmonious society' for avoiding social and political instability, and 'taking a scientific approach to development and modernization' have appeared in various national policy documents. China is also strongly committed to agricultural and rural development.

Policy formulation for agricultural and food economy is largely vested with the State Council, the highest government administrative body and the cabinet of the Chinese government. National food and agricultural policy decisions are made by the premier and a vice-premier in charge of agriculture. These two top leaders<sup>3</sup> consider agriculture to be a fundamental sector for overall economic growth, and have expressed particular interest in agricultural growth, farmer income, and rural development. Grain security, however, is priority number one among the national leaders.

## **3 Food price transmission**

To understand the political economy of China's food pricing policy during the global food crisis, it is useful to have an overview of the performance of the nation's food market and its functions. First, utilizing earlier studies, we review the performance of China's domestic markets and then, based on trends prior to the global crisis, we analyse the causes of price transmission among regions and between farm-gate and wholesale market prices. Second, we analyse agricultural trade and trade policies to provide a foundation for understanding international food price transmission. Third, we examine domestic price trends, and comparing these with international prices, conduct a price transmission analysis. If one

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<sup>3</sup> At the time of writing, these were Wen Jiabao and Hu Liangyu.

commodity is integrated with the international market and there are no other border measures for controlling price transmission, then the international price can be expected to be transmitted largely to the domestic market. Similarly, if regional domestic markets are fully integrated, then any food price transmission from the international scene to China's borders can be transmitted to any region and different market streams of agricultural commodities (from the border to wholesale and retail, or to farm-gate).

### **3.1 Domestic market integration**

China's agricultural markets liberalized gradually. Farmers generally decide what crops they want to plant (Rozelle, Huang and Sumner 2006). Furthermore, they purchase all the necessary chemical fertilizers from private vendors on their own with no involvement of local officials (Zhang, Li and Rozelle 2005). The majority of grain, oilseed and fibre crop sales, as well as virtually all purchases of horticultural and livestock products are handled through millions of small private traders (Huang, Qiu and Rozelle 2008; Wang et al. 2009a), a departure from the 1980s when farm output was purchased by the government's procurement agencies.

The presence of millions of small farm-gate and wholesale traders competing with virtually no regulation implies that the markets in China have become integrated and efficient. Several studies show that agricultural commodity prices have been transmitted across space (as viewed through transportation gradients) and over time (using standard Granger cointegration empirical technique) and that markets are efficiently integrated (Park et al. 2002). Moreover, Huang, Rozelle and Chang (2004) show that the transportation gradients for all crops have been falling over time, which is consistent with the improvements in infrastructure (Luo et al. 2007) and more competitive markets (Wang et al. 2009b). In addition, Huang and Rozelle (2006) use a cointegration analysis to show that while only about one-fourth of grain markets exhibited signs of converging prices in 1988-95 when the markets started to emerge, the co-movement of prices among market pairs showed a significant increase thereafter. For example, by the late 1990s, maize prices in paired markets converged in about 90 per cent of the cases studied, compared to less than 30 per cent in the early 1990s. Huang and Rozelle (2006) also demonstrate that farmers even in remote, poor villages are integrated to national markets.

Given that market reform has continued since the late 1990s and the country achieved WTO accession in 2001, China's food market can be assumed to have become increasingly further integrated since 2000, as Figure 1 clearly shows with respect to rice, wheat, maize and soybean prices. Taking maize as an example, its lower price in Haerbin (in the northeast) simply reflects the fact that it is country's largest production region for maize. More interestingly, the price difference between Haerbin (mainly exporting maize) and Guangdong and Chengdu (importing maize) has remained stable over 2003-10, at about 280 yuan/ton and 259 yuan/tons, respectively; the difference can be explained by transportation costs of about 80 yuan/ton per 1000 km.<sup>4</sup> The same is true for wheat and rice price movements among production and consumption regions.

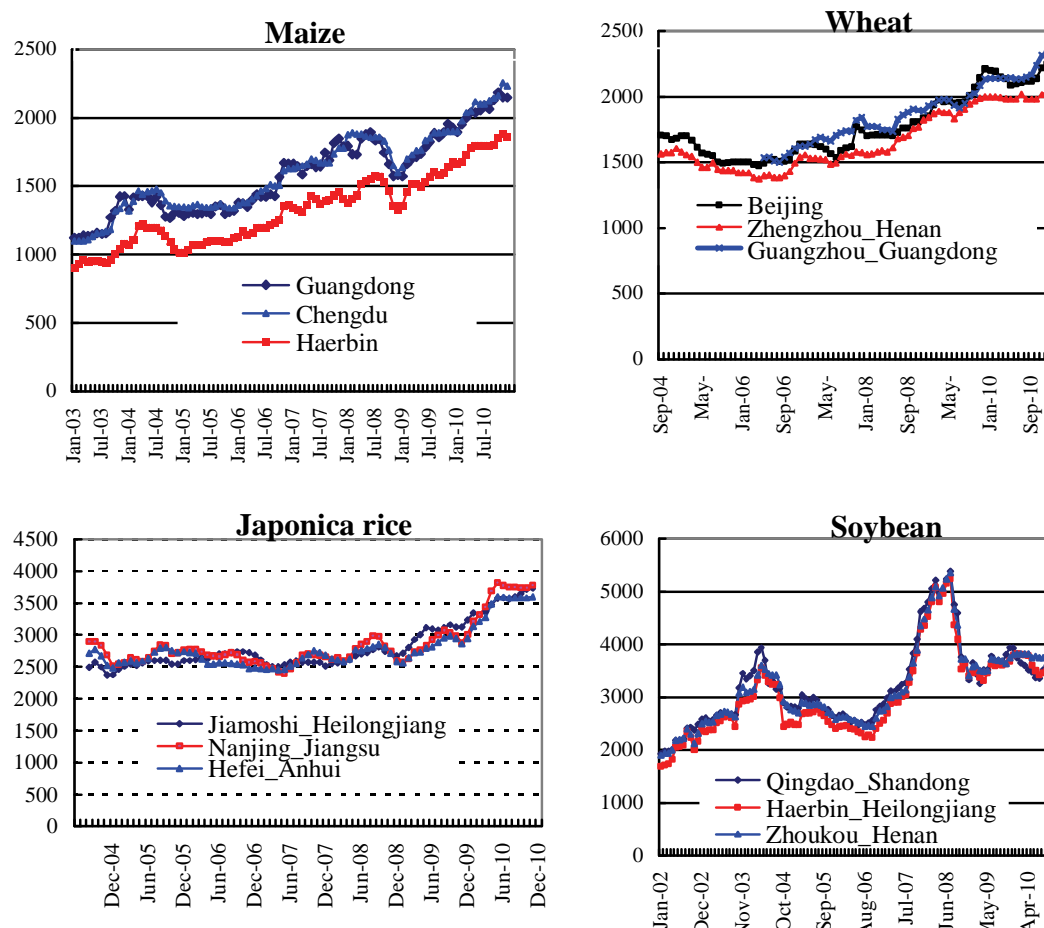
Soybean is also interesting with regard to integration both within domestic markets and between domestic and international markets (Figure 1). Haerbin (Heilongjiang province) is

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<sup>4</sup> Based on an interview with experts at China's National Information Centre of Grains and Oils.

situated in a major soybean production region; Zhoukou (in Henan province) represents an inland soybean market that consumes both imported and domestic soybean, and Qingdao is one of the major harbours where imported soybean is unloaded. As Figure 1 shows, soybean prices in the three distinct markets have moved closely over time.

Figure 1: Monthly prices for maize, wheat, japonica rice and soybean in different regions of China, 2004-10



Source: Calculated by authors based on price data from the National Grain and Oil Trade Center.

### 3.2 Trends, and the transmission of international and domestic food prices

#### *Trends in domestic and international prices*

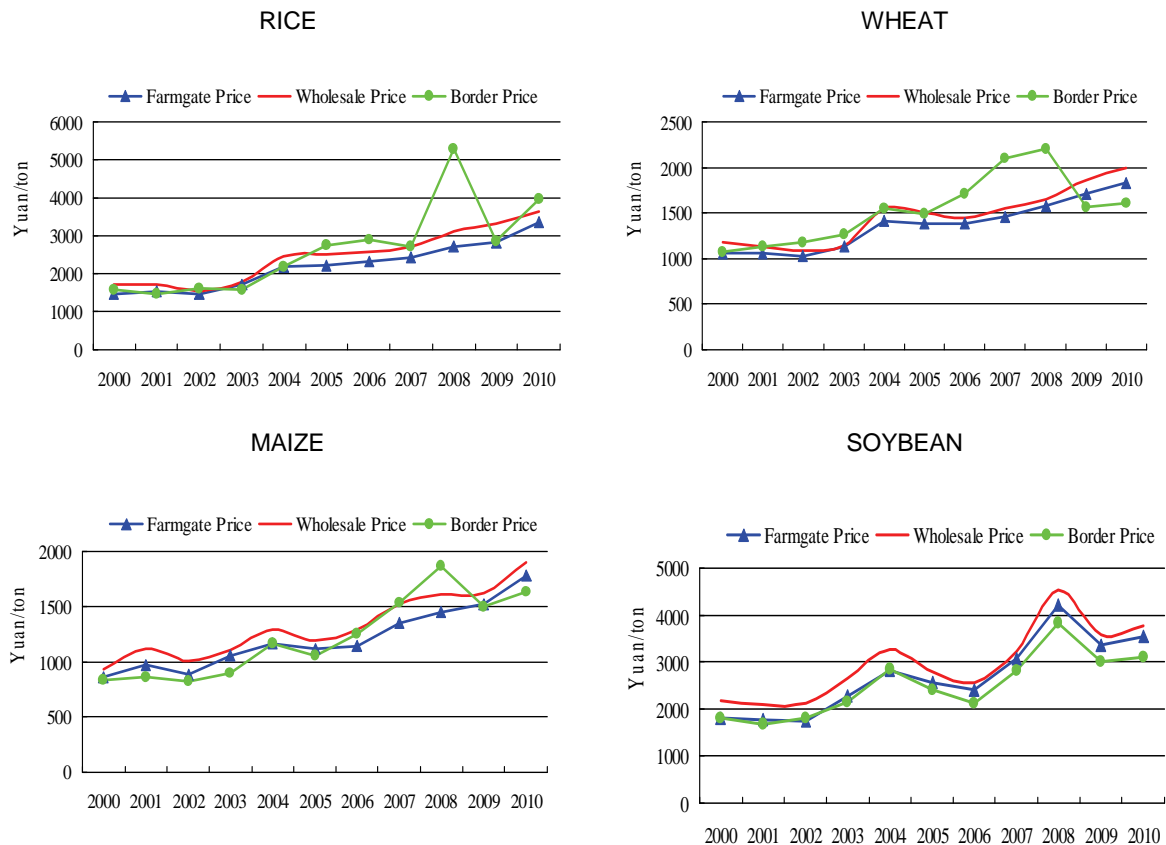
Figure 2 gives the annual price trends of major foods in China and on the international markets at border for the years 2000-10. A simple graphical analysis of these figures provides strong evidence of a vertical price integration between domestic and international markets prior to the global food crisis, and between domestic wholesale markets and farm gate for the period analysed.

Prior to the global food emergency, domestic food prices moved with border prices, as Figure 2 shows with respect to rice, wheat, maize and soybean. This is also consistent with the previous discussion on monthly price movements for soybean between domestic and international markets. A formal price transmission analysis is conducted later to further assess the statistical evidence of market integration.



However, the domestic and international price co-movement weakened during 2007-09 for all food products analysed with the exception of soybean (Figure 1). When international prices for rice, wheat and maize increased sharply in 2007-08, domestic prices for these commodities increased only moderately, an indication of the likely impact of China's policy responses to the global food crisis.<sup>5</sup> Soybean is the exception because it has been fully liberalized and there is no policy tool that could be used to arrest price transmission between international and domestic markets.

Figure 2: Trends in rice, wheat, maize and soybean prices in China and the international markets (at border), 2000-10



Source: Computed by authors based on farm-gate price from the NDRC; wholesale price from the MOA; border price from the MOC.

The graphical analysis shows that within domestic markets, there exists a strong correlation between prices in the wholesale market and at farm-gate. This observation holds for all food products analysed in the pre- and post-2006 periods. Given the competitive and integrated markets discussed in Section 3.1, this result is not surprising, and is consistent with the findings in Park et al. (2002) and Rozelle, Huang and Sumner (2006). The fact that wholesale prices moved with farm-gate prices indicates that any price changes in either domestic and international markets can easily be transmitted to farm procurement prices in different areas of China.

<sup>5</sup> In the last part of this paper, we analyse quantitatively these policy responses to the global food prices on domestic markets.

### *Price transmission from international to domestic prices*

In this subsection, to find statistical evidence of, and to evaluate the price transmission from international to domestic price, we apply the cointegration analysis method and the error correction model (ECM). These two methods are adopted because they are widely used to explore the transmission of price between markets (Bruggemanna, Lutkepohl and Saikkonen 2006; Wuger and Thury 2011). The analyses are based on monthly domestic wholesale market price and international price for the commodities examined here (rice, wheat, maize and soybeans for the period January 2003 to December 2008). Domestic data are taken from the Wind database, and international prices are from the International Monetary Fund (IMF) database.

Based on our earlier discussion, it is likely that price transmission differed before and during the food crisis period; accordingly, we conduct price transmission analyses for two separate periods: pre- and post-2006. Table 1 presents the results of price transmission for the pre-food crisis period only. The effects of price transmission after China's policy responses to the global food crisis in 2007-08 are presented later in Section 6 when we discuss policy impacts.

Both the cointegration analysis and ECM analysis show that China's domestic agricultural prices were affected significantly by international prices in 2003-06. As shown in Table 1, the cointegration analysis reveals that there was a long-run transmission of international prices to China's domestic prices, with a statistical significance at the 1 per cent level for all four commodities in 2003-06. The estimated long-run adjustment parameters indicates that the domestic price of rice, wheat, maize and soybean would increase by 0.54 per cent, 0.25 per cent, 0.50 per cent and 0.84 per cent, respectively, in the event of a corresponding international price increase of 1 per cent (Table 1, column 3).

Similar results are found with the ECM analysis. Estimated speed of adjustment was statistically significant for all four commodities, ranging between -0.02 for rice to -0.16 for soybean (Table 1, column 4). The results also show that short-term effects for soybean and maize were larger than those for rice and wheat. A one per cent international price increase for soybean and maize would directly lead to 0.22 per cent and 0.15 per cent increase in domestic prices for these crops (column 5). For wheat and rice, the short-run adjustments are 0.07 per cent and 0.04 per cent, respectively, for a one per cent increase in their international market price. The higher impacts in the short term and quick adjustment speed imply that the time needed to transfer international price changes to the domestic market would be much shorter particularly for soybean, but also for maize.

Table 1: Transmission of international prices to China's domestic market prices prior to the global food price crisis, January 2003–December 2006

	Unit root in domestic and international price (ADF test)	Does long-run relationship exist?		ECM, if long-run relationship confirmed	
		Yes/no	If yes, then long-run adjustment	Speed of adjustment	Short-run adjustment
Rice	Yes	Yes	0.54**	-0.02*	0.04*
Wheat	Yes	Yes	0.25**	-0.06**	0.07**
Maize	Yes	Yes	0.50**	-0.12**	0.15**
Soybeans	Yes	Yes	0.84**	-0.16**	0.22**

Note: \*\* and \* are statistically significant at 1% and 5%, respectively.

Source: Estimated by authors.

## 4 Food price shocks and policy responses

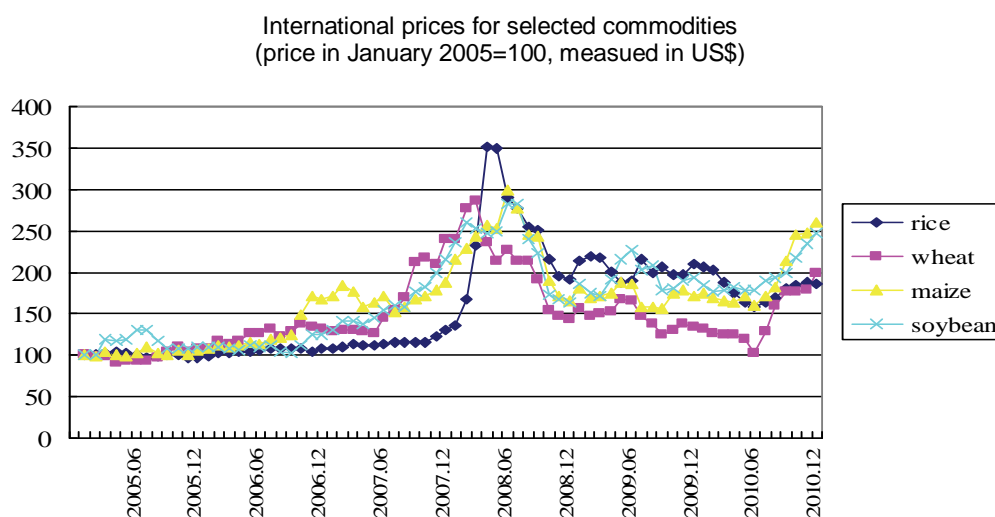
We have two objectives in this section. First, we examine the trend in prices before mid-2008 and threat of the international food crisis on China's food security, and second, using descriptive statistics, we track its policy response to global food price changes.

### 4.1 The threat—rising prices in world food markets

The 2006–09 global food crisis, like similar situations in the early 1970s, came on fast. After a long period of falling prices, international food prices began to rise in 2006, accelerating in 2007 and early 2008 (Figure 3). Although prices fell sharply after May 2008 after the global financial crunch, international commodity prices remained high, with significant fluctuations.

As prices of major commodities in international markets rose, three aspects of China's food economy became critically important. First, although the share of food expenditure has been falling as incomes increase, food still accounts for more than 35 per cent and 41 per cent of consumer budgets in urban and rural regions, respectively. In 2010, the bottom 10 per cent of urban population (measured in per capita income) spent more than 46 per cent of total household expenditures on food. Second, given this high share for food expenditure, any substantial price increase on foodstuff would almost certainly have implications for national price stability and overall consumer price inflation. Third, as the trade of many food commodities is not restricted across China's borders and domestic markets are highly integrated, international food prices are easily transmitted to domestic markets. By mid-2007 when international food price increases started to accelerate, officials were concerned that rising prices were becoming a problem that could threaten China's food economy and overall price inflation (Wen 2008).

Figure 3: Price indices of rice, wheat, maize, and soybeans in international markets, January 2005–December 2010



Note: Prices refer to: rice—Thailand's 5 per cent broken milled white rice (nominal price quote); wheat—No 1 Hard Red Winter wheat, ordinary protein price, FOB Gulf of Mexico; maize—US No 2 Yellow Maize price, FOB, Gulf of Mexico; and soybean—the Chicago Soybean futures contract (first contract forward), No 2 yellow and par.

Source: Computed by the authors based on data from IMF (2011).

## 4.2 Short-term responses

With the rapid rise in food prices on the international market, particularly for imported soybean, edible oils and other foods, China recognized that this could become a threat to domestic food security and undertook a series of policy responses in late 2007 to mid-2008. These included both short-term policy changes in agriculture and social protection and long-term modifications in biofuel development strategy and investment in agriculture. This section summarizes the major short-term responses implemented during the global food dilemma.

### *Agricultural policies*

The first agricultural policy response was the grain reserve scheme in late 2007, which released rice, wheat and maize from government reserves. This was a major measure commonly used by China in the past to maintain domestic grain price stability. Grains that had been stored mainly as a precaution against natural disasters and to control seasonal price fluctuations were now released through the National Development and Reform Commission (NDRC) and the State Grain Administration (SGA) in consultation with Ministry of Agriculture (MOA) and other relevant ministries. The plan was immediately approved the State Council, as it was believed that open market operations, which generally entailed directing grain bureaus in designated districts to sell certain amounts to free market traders, would increase the supplies of either food or feedgrains, and thus dampen upward pressure on prices. The size of China's grain stocks is not generally known, but Premier Wen Jiabao's (2008) press announcement in March 2008 indicated that even after several months of sales, China still had between 150 and 200 million tons of grain available for stabilizing domestic prices.

The second short-term response in agricultural policy was the effort to find external sources for grain and meat during the last quarter of 2007. As grain reserves declined, the DNDR officials, in consultation with the Ministry of Commerce (MOC) and MOA, authorized the China National Cereals, Oil and Foodstuffs Import and Export Corporation (COFCO) to sign long-term future and forward contracts for grain (and meat) with exporting countries. In late 2007, escalating domestic prices for pork also triggered a policy response from NDRC to provide subsidies (and insurance) to producers. When it became clear that China would not be able to import large volumes of food due to high world prices, government action in the second half of 2007 focused on efforts to increase domestic supplies, and to try to hold down local prices.

Third, short-term measures were taken to create a disincentive for cereal exports late in 2007. As international food prices continued to rise, the NDRC and the MOC undertook increasingly strong action to prevent the cereal released from domestic stocks from being exported. International prices had increased to such an extent that domestic grain traders (mainly national and provincial grain reserve agencies and COFCO) were beginning to recognize the benefits of shipping the relatively low priced grain to global markets. Maize was the first target, as it had historically been exported in large volumes, and government (NDRC) measures made it increasingly expensive to continue to do so.<sup>6</sup> In November 2008, subsidies for the storage and transport of export-destined maize were suspended (for details, see Rozelle and Huang 2003); this was based on the assumption that once the incentive to

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<sup>6</sup> Ministry of Finance and General Administration of Customs of China (2008), and personal interviews with officials from the SGA.

export China's grain declined, it would help to keep domestic prices relatively low. But as international grain prices continued to mount through the first part of 2008, the NDRC and the Office of the State Council decided to cancel valued added tax (VAT) rebates. At the same time as measures were taken to minimize incentives for maize exports, there was also apprehension over rice and wheat. As no transport or storage subsidies had been applied to the export of these grains, China recalled the policy on VAT reductions. A mere month later, to further dampen export incentives for wheat, maize and rice, China assigned a five per cent export levy on all shipments, except those destined to Hong Kong, Taiwan and Macao.

The fourth short-term policy reaction to the dire global food situation came late in the winter of 2008. Even after the release of stocks and cancellation of export subsidies (and introduction of export levies), national leaders and NDRC decision-makers were not convinced that the measures were enough to offset the continuing surge of international food prices. Stronger measures were needed, and the nation's top leaders announced a total ban on the export of food and feed commodities. Wen Jiabao (2008) proclaimed that 'in order to control rising food prices, China will strictly restrict the use of food by industry and for grain exports'. Chen Xiwen (2008), one of the chief architects of China's agricultural policy, sanctioned the ban, emphasizing that the restrictions, which would be in effect only for 2008, were necessary in order to keep up domestic supplies. Thus, between the period from summer 2007 to March 2008, China had shifted its stance from exports subsidization to levies and quantitative restrictions on exports; it clearly did not want traders buying domestic grain to sell on export markets.

Fifth, the government turned its attention to fertilizers in February 2008. Similarly to the rise in global grain prices in late 2007, international fertilizer prices also increased significantly, and this increase was largely transmitted to China's domestic markets in 2007 and 2008. For example, the rising international chemical fertilizer and energy prices meant an increase of more than 40 per cent between July 2007 and June 2008 (NBSC 2008). The extra cost of fertilizers lowered demand particularly from grain producers, posing a further threat to production, and therefore to the increasing food prices.

In response, in early 2008 the Chinese leaders approved the NDRC and MOA proposal of export taxes on fertilizers. Phosphate fertilizers were first, and on 15 February 2008 all exports of phosphate fertilizers and any chemical fertilizers containing phosphates were to be taxed. In April, an addition 30 per cent was applied to triple super phosphates, and in May, 35 per cent on urea exports. Finally, in an effort clearly designed to halt all chemical fertilizer exports, a 100 per cent export levy was announced in mid-May. These policies were effect until the end of 2008 when international food and fertilizer prices fell significantly because of the global financial crisis.

#### *Consumers and social protection*

Consumer and social protection targeted to low-income groups has been enhanced in recent years, particularly during and after the global food crisis in 2006-09. Although most of China's poor live in rural areas, the share of food expenditures in 2008 for the urban population in the bottom 5 per cent of the income scale was as much as 49 per cent (NBSC), making these people highly vulnerable to increasing food prices. Fortunately, prior to the crisis, China already had in place quite a comprehensive safety and social protection system, in particular the *Chengshi Dibao* programme, which extended basic living allowances to the urban poor.

Despite the fact that China was able to prevent a sharp increase in domestic food prices in 2007-08, there was, nevertheless, some apprehension that unexpected upsurges in food prices could have significant implications to urban consumers, particularly low-income groups and college students. Of course, extending food subsidies to students was not based entirely on poverty considerations, but rather because of the political influence these welled through demonstrations. Food subsidies for urban populations, administered through local programmes supported by provincial or county governments, have been a major approach of the government in the past for mitigating the adverse impacts of food price increases on consumers. These programmes were used again in 2007-08, albeit with some variation among the provinces. For example, a food price subsidy could be initiated if the increase in consumer price index (CPI) exceeded 5 per cent for three consecutive months. The monetary transfer would be equivalent to the poor's minimum living standard guarantee multiplied by the CPI growth rate. But on the other hand, in Jiangsu a subsidy might be introduced if the quarterly CPI growth had risen to 3 per cent or more; the subsidy would equal to 25 per cent of the minimum living standard guarantee. In the aftermath of the food crisis, subsidies for the poor have become common in every province and relevant budgets have been increased. The absolute monetary transfer is quite huge and varies significantly among regions.

There are two main food support programmes for college students. Although these were implemented in 2007-08, other similar schemes have existed in the past. As stipulated by policy, when food prices reach a certain level, universities support their canteens in efforts to control or reduce costs for students, and this support measure was popularly adopted by the universities once food prices rose significantly. When food prices increase rapidly, an additional compensation is available to students from low-income families, intended to reduce the tension caused by food price hikes. For example, in 2008 (March and June) when food prices leaped, all public university students received a monthly cash subsidy of 20 yuan (about US\$3.2) from the central government. An extra 20 yuan per month was provided to students from poor families. Although no statistical data exist to distinguish between the two different support programmes, it is believed that the amounts are quite substantial, as indicated by the following estimated amounts provided by Liaoning province (53.4 million yuan during June-December 2007), Henan province (about 200 million yuan during September 2007 to July 2008) and Beijing city (about 25 million yuan in 2007).

### **4.3 Long-term responses**

#### *Biofuel policy*

Faced with the growing dependency on oil imports and the need to improve energy security, in the early 2000s China began to formulate an ambitious biofuel programme that was aimed at producing ten million tons of bioethanol and two million tons of biodiesel annually by 2020. Several supporting policies were implemented to ensure the achievement of these goals: (i) action was taken within the state grain reserve system to ensure supplies of feedstock (mainly maize); (ii) mandatory blending of 10 per cent bioethanol in gasoline, known as the E10 policy, was implemented in nine provinces; (iii) the regular 5 per cent consumption tax on bioethanol was waved; (iv) value added tax (17 per cent) from bioethanol was refunded to producers, and finally (v) a substantial direct subsidy was provided to biofuel firms. Supported by these policies, China's bioethanol production reached 1.3 million tons in 2006. Maize is the primary feedstock of the biofuel firms in the northeastern, and wheat is the other important feedstock for bioethanol in Henan, the nation's top wheat production province.

However, after 2007 the policies supporting biofuel expansion shifted dramatically. At a time when there was a rapid development of biofuels worldwide, rising global food prices brought a quick end to the unrestrained growth of China's biofuel industry. Concerns about rising food prices and national food security triggered a moratorium on the building of new biofuel programme. By the end of 2007, with the continued rise in international food prices and debates on the likely causes of global food crisis (e.g., biofuels), China decided to revise its biofuel development strategy and decreed that: (i) biofuel production should not compete with grain for land; (ii) biofuel expansion should not vie with humans for food; and (iii) feedstock for biofuel should not compete with livestock over feed. While existing biofuel plants could continue production, their expansion was to be based on the use of alternative feedstock such as sweet sorghum, sweet potatoes, cassava and other non-grain products.

### *Agricultural development policy*

The global food crisis also prompted China to increase commitment to agriculture and rural development. China normally dedicates the first policy document of the Central Committee of CPC, often called the Number-One Policy Document, to the country's most significant issue. To re-affirm the commitment to agriculture and rural development, the Number-One Policy Document in 2004-06 underlined these issues. While the continued emphasis on agriculture for 2007-12 in the Number-One Document is mainly indicative of China's national development policies, the rising concern for food security triggered by the global food crisis may also have contributed.

Two recent reports among these Number-One Documents are worthy of mention as they are directly related to food security: (i) the 2011 document which outlined plans to invest about US\$630 billion in water conservancy over the next ten years to ensure food and water security and (ii) the 2012 document which specifically highlighted innovation in agricultural science and technology for boosting farm productivity and substantial increases in investment in agricultural technology. The annual growth rate of public agricultural R&D expenditure increased in real terms from an average of 16 per cent in 2000-09 to more than 20 per cent in 2010-11. This is expected to become higher in the coming years.

## **5 Political economy context**

Why and how was China able to apply policy responses to the global food dilemma so quickly? In addition to the country's political regime and development goals that were briefly discussed earlier, this section reviews the background of its political economy with a special focus on the framework and partners that make up the decision-making process in agricultural economy.

### **5.1 The decision-making framework for long-term development strategies and law**

As China's policy responses to the food crisis also included long-term investments in agriculture and modifications to the national biofuel development strategy, it is necessary to examine the decision-making framework that sanctioned these development strategies.

Three political bodies are vital with respect to agricultural policy and the relevant laws. The State Council is the highest body of government; the CPC central committee decides the basic principles and mandates of agricultural policy, and the National People's Congress

(NPC) is in charge of the constitution and the laws and thus, in theory, has an important voice in supervising and auditing the state's fiscal budgets. Each of these three bodies carries out its mission in collaboration with other relevant organizations. Under the State Council, the Ministry of Agriculture, the NDRC, the Ministry of Finance, and several other ministries related to agriculture are the major organs that formulate the annual five-year and long-term plans and policies on agricultural development. Within the National People's Congress, there are nine special committees, three of which<sup>7</sup> are important in setting laws related to agriculture. They also have a supervisory and a consultancy role with regard to implementation.

Normally, the general procedure for policy-making is as follows: The CPC central committee in conjunction with the State Council decides the issues to be considered by NPC. Based on the outcome, the State Council then prepares the implementation plan for approval by the NPC. NPC then authorizes the State Council to implement the plan.<sup>8</sup>

## **5.2 Key actors of the decision-making framework within food and agricultural policy**

### *Overall profile*

In China the major actors embodied in the decision-making process are the CPC and various government organizations as well as research institutes and the media. These include the State Council and two inter-ministerial governance organs under CPC jurisdiction, known as the 'leading groups' (one specializing in finance and economy, the LG-FE, and one on rural works, the LG-RW). Other entities such as the NDRC, Ministry of Agriculture, SGA and the Ministry of Commerce are included as well.

Contrary to other countries, key research institutes and think-tanks have vital say in the national decision-making mechanism. The role of private sector actors such as agricultural companies, producers and consumers is limited, and political lobby is not a common phenomenon in China. According to the ideology embodied in the constitution, the representation of the citizens of China is vested with the CPC, the State Council and NPC. However, views and interests of the private sector and the public with respect to national food policy can be aired at least partly through the media, which is expected to have indirect and moderate effect on national policies. In recent years, the media has gained importance in national decision-making with respect to agriculture.

### *The State Council*

The State Council, as the cabinet of the government of China, is responsible for all major policies on social and economic development. It meets approximately once a month to decide on current matters of national significance, agriculture included. The top body within the State Council is its standing committee. Comprising the premier, four vice-premiers, and five

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<sup>7</sup> The Committee of Agriculture and Rural Development, the Committee of Finance and the Committee of Environment and Natural Resources.

<sup>8</sup> For example, the 5th session of the 16th CPC central committee adopted as its theme the modernization of agriculture and the steady promotion of the development of a new socialist countryside. This was outlined in the 'Suggestions on the 11th Five-Year Plan of the National Economy and Social Development'. Based on documentation, the State Council drew up 'the Outline (draft) of the 11th Five-Year Plan for the National Economy and Social Development' and sent it to the 4th session of the 10th NPC for discussion, recommendations and approval. After ratification by the NPC, the plan was implemented by the State Council.



state councillors, the daily administration of the government is handled by the State Council's standing committee. Agriculture handled by one vice-premier. Major issues relate to food security, particularly grain production, and food prices.

### *The leading groups of the CPC*

The leading groups are inter-ministerial governance bodies headed by either the premier or a vice-premier. Each leading group encompasses an executive office with several bureaus and the executive office is headed by an official at the level of a minister. Currently, under the jurisdiction of the CPC and the State Council, the major decision-making body on national economic development, including agricultural and rural development, is the LG-FE (the leading group on finance and economy). It is led by Premier Wen Jiabao. The other leading group of interest to us is the LG-RW (leading group in rural works), one of the few sector- or area-specific LGs, a fact that underscores the CPC's added commitment to the sector considered to be vital for China's development. Currently it is led by the Vice-Premier Hui Liangyu who is also in charge of agriculture in the State Council. The LG-RW's mandate includes improving agricultural production and grain security, increasing farm income, and facilitating rural development. As most LG-RW officials also work in similar positions in the agricultural department of LG-FE, they have similar functions and tasks.

The LG-FE and LG-RW executive offices prepare national policy documents, coordinating with the relevant ministries and various tiers of government. Currently, the LG-RW executive office is headed by Chen Xiwen who is also deputy head of the executive office of LG-FE. Chen has played an important role in the formulation of China's agricultural and rural policies and Number-One Policy Documents since the middle 2000s.

### *The Ministry of Agriculture*

The Ministry of Agriculture is primarily responsible for agricultural production, with grain security in term of production a major goal. While improving farmer income is also under its jurisdiction, often the MOA also supports national efforts to control agricultural prices in order to reduce food price inflation. Contrary to other countries, responsibility for agricultural input and output marketing as well as international trade policies is vested with NDRC, the Ministry of Commerce and SGA. But MOA does submit policy suggestions on matters affecting agricultural input and output prices, tariff adjustment, marketing, rural credit, taxation, rural financial subsidies, and rural economic reform.

### *NDRC and other relevant ministries*

The NDRC (National Development and Reform Commission) is a key player in the formulation of development plans and responding to crises in all sectors, including agriculture. One of its major functions is to find a balance between the interests of the different ministries or sectors with respect to national development plans and policies. The NDRC is also in charge of the state reserve of strategic commodities and materials; it handles and supervises the collection, utilization, rotation, management and price fluctuation of agricultural products and inputs. Agricultural trade is under the supervision of the Ministry of Commerce but under the current constitution, each ministry or commission can submit proposals to the State Council or suggest the coordination path to be followed on jointly administrated affairs. Once policies have been approved, the MOA, independently or jointly with other ministries or commissions, works to implement and supervise the programmes.

### *Research institutes and think-tanks*

Research institutes<sup>9</sup> and leading economists and scientists have an important role in proposing, consulting and preparing national policy. Research institutes<sup>10</sup> or university departments have also taken part in policy consultant meetings organized by the LG-RE, MOA and other organs related to agricultural and rural development.

It is worth noting that even though these research institutes are from the public sector, their viewpoints and positions may differ. Policy research institutes and think-tanks under the auspices of the government (e.g., NDRC and MOA) normally mirror the stance of the supervising authorities. Agencies affiliated with the academia or universities have greater autonomy to express their views; they are more concerned about farmer income than the government and relatively less worried about food prices as farmers, in their view, are the major beneficiaries of agricultural price increases.

### *Media*

Although the media in China has traditionally been run by the state,<sup>11</sup> independent media coverage is emerging. After 30 years of reform, the press has become increasingly commercialized, with growing competition, diversified content and more investigative reporting. Since 2000 the internet has emerged as an important communications medium, and there were more than 485 million internet users in China in 2010. While politically-related issues are often censored, news on economic development and food security face less regulation.

The role of the media in the decision-making mechanism is growing. Newspapers and the internet are often considered as the major media channel to significantly affect China's food policy. Xinhua and other media organizations produce reports for 'internal' journals (*neicans*), and these are read by decision-makers at various levels of governments. Occasionally, reports are issued to the top dozen or so national leaders. Policy-makers have acknowledged the value of internal reports because they contain much of the nation's most sensitive, controversial, and high-quality investigative journalism.

In order to analyse the media coverage given to, and its likely role in, China's policy responses to the global food crisis, we focus on newspapers rather than internet reports because their huge numbers make such an analysis impossible. A sampling approach is needed even for the newspapers, as there are about 2000 newspapers in China. After consultations with government officials and scholars, the following four widely distributed newspapers were selected: two are run by the state (*People's Daily*, the most influential official newspaper in China, and *Farmers' Daily*), and two are independent, commercial papers (*South Weekend*, and *21st Century Business Herald*). These papers were reviewed daily from 1 January 2007 to 31 December 2008, and the major content of each report noted.

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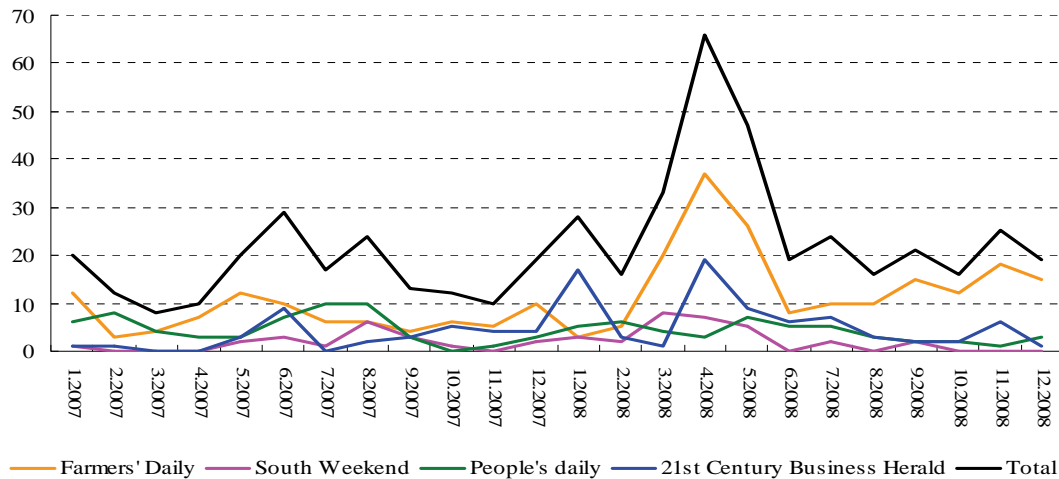
<sup>9</sup> Major research institutes and thinktanks that have influenced agricultural policies include the Policy Research Department of CPC, Development Research Center of the State Council, Rural Economic Research Center of MOA, Academy of Macroeconomic Research of NDRC, and Center for Chinese Agricultural Policy of the Chinese Academy of Sciences.

<sup>10</sup> These include the Institute of Agricultural Economics and Development of the Chinese Academy of Agricultural Sciences (under MOA), Rural Development Institute under Chinese Academy of Social Sciences.

<sup>11</sup> For example, Xinhua, CCTV, and *People's Daily*.

Figure 4, giving the average number of reports related to food prices during 2007-08, clearly illustrates its increasing appeal among China's media. Interestingly, the trend of media coverage in Figure 4 resembles the trend in global food prices in Figure 3, except for the break in February 2008 (coinciding with the Chinese Spring Festival). The number of articles rose significantly in March-April 2008, but as global food prices fell after May 2008, so did media coverage.

Figure 4: Number of reports on food price issues per month in the four selected newspapers during 2007-08



Source: Authors' survey.

### 5.3 Key factors affecting decision-making

Agricultural upgrading in general and grain security in particular as well as improved farmer income and social stability are the key factors affecting food and agricultural policies. Agricultural modernization is one of the four fundamental goals of China's development strategy, and the country recently reiterated a strong and increasingly political commitment to achieving these aims. This is not surprising given the increasing income inequality between rural and urban areas and the rising pressure to feed the growing population.

## 6 The policy-making mechanism guiding the responses to the global food crisis and their policy impact

### 6.1 The policy-making process on major policy responses

Faced with rising global food prices, recognizing the threat of transmission of international food prices to domestic market, and overheating and high inflation in the late 2007, the State Council quickly decided to take counter-measures to stabilize domestic food prices. Given the one party-rule and a decision-making mechanism based on internal democratic centralism, it is not difficult to understand how China was able to make such quick decisions when the economy faced a challenge. China's massive and effective responses (discussed in Section 2.2) to financial crises, first in Asia in the late 1990s and then more recently in 2008-10, may also help to understand its rapid response to the recent global food crisis (Section 4) and its decision-making mechanism (presented in this section).

### *The policy-making process related to short-term policy responses*

As policy decisions in the short term do not affect long-run national development strategies, institutions or laws, the State Council and relevant ministries are the key decision-making organs. While it is not easy to determine who first initiated this policy process, we were told that NDRC and LG-FE played important roles in securing approval from the State Council for introducing the stabilizing counter-measures. Once the State Council decided to contain food price inflation in the late 2007, each relevant ministry had to identify its own approach for achieving this aim. In designing the detailed counter-measures to be implemented in various stages during 2007-08, major think-tanks were also invited to several policy consultant meetings for comments and suggestions.

One major initial change in policy was to temporarily reverse existing policies on food prices. Indeed, before the middle of 2007, China's grain prices in nominal terms had increased gradually over time. The objective of government policy was to raise the grain procurement protection price gradually through an expansion in state grain stocks which would provide greater incentive to farmers to favour grain as well as improve farmer income. Some of the additional grain stocks were then to be used in biofuel production or industrial processing for either food or non-food uses. This policy had been in effect for several years prior to the global food crisis. But recognizing the threat posed by global food situation, particularly after the number of food reports in the media continued to climb in the second quarter of 2007 (Figure 4), the State Council, NDRC and LG-FE convened several times to discuss the likely future trends of international and domestic prices and whether China should reverse its ongoing policy of moderate grain price increases towards controlling food prices. In late 2007, as it was not clear whether international food price would continue increasing, the State Council decided to adopt its traditional approach—releasing grain reserves for the market—as its first effort to deal with the likely significant grain-price hike before the end of the year.

The decision to open the government's grain reserve met no resistance. NDRC and the SGA are major governmental departments in charge of grain reserves and were thus the decision-making actors to have directly influenced the State Council (or the premier) to adopt this recourse. This was necessary because of the pressure from escalating domestic prices as border prices increased. Furthermore, grain stock adjustments had been a standard approach in the past. Basic information on grain production was supplied by the Ministry of Agriculture and grain price projections by the research communities. There was no opposition from the farmers, as China does not have a national or regional or any large-scale farmers' association.

Once the State Council had decided to take steps to counter food inflation, each relevant ministry decided on its own proposal for stabilizing domestic prices. Based on its mandate of increasing agricultural production and farmer income, the MOA would have favoured a moderate rise in farm prices but the ministry has little authority in the control of domestic food prices. In general, MOA follows the decisions made by the State Council, and by NDRC in particular. Thus, the ministry proposed a plan for expanding the production of grain and other foods through non-price methods such as better technological service and measures for controlling natural disasters. It also recommended a subsidy on swine to increase pork production. Supported by NDRC and the ministry of finance (MOF), this proposal was approved by the State Council for implementation late in 2007. A decision was also taken within the Ministry of Commerce (MOC) to authorize China's largest oil and food importer and exporter, COFCO, to sign forward contracts with grain trading firms in exporting countries. All these decisions were made within a couple of months.

When domestic inflation topped 6 per cent in late 2007, climbing to more than 8 per cent in early 2008, and international food prices were still rapidly climbing, the State Council undertook further action to improve existing policy implementation and explore new stabilizing measures in 2008. Policy responses included: limiting and later banning the exports of maize and other grains; restricting fertilizer exports, increasing input subsidies to farmers, revising existing plans on biofuels, and supporting low-income urban consumers and students. During this period, major government-affiliated policy think-tanks frequently participated in the decision-making mechanism. Given the need for speed in the policy-making, procedure, academic think-tanks had no major role except to provide information on the current economic situation and likely future trends.

At this time, NDRC and LG-FE, working closely with the ministries of commerce and agriculture, the SGA, the People's Bank and other government authorities under the State Council, coordinated directly with the national leaders. This is only natural, because contrary to other ministries, the jurisdiction of NDRC and LG-FE is not restricted to a special sector or field, which makes these organs key players in the face of any emerging economic issue. The restriction on grain was easy because international trade of rice, wheat and maize is managed by state-owned enterprises. The limitation on fertilizer exports, however, did invoke some opposition from the industry, but this was dampened by the significant increase in domestic fertilizer prices in 2007-08. The policy outlining extra input subsidies for farmers was applauded by all ministries because it complemented the goals of the NDCR, MOA and LG-FE's for improved farmer income, although it was now up to the Ministry of Finance to find the budget to do so. Based on the division of governmental functions, support to low-income urban consumers and students is the responsibility of local government. Despite the resulting budgetary implications for the local government, their commitment to the central government to maintain a 'harmonious society'—i.e., local social and political stability—and to avoid unruly demonstrations or rebellious acts was more important.

Local government and industry played a very minor role in China's policy-making process. For example, the ban on maize exports initially did raise protests from the local government in the northeast (China's major maize production zone) and from maize exporters. This did not alter the situation, although agricultural subsidies were nevertheless increased (covering nearly all farmers in addition to maize growers) in 2007 and 2008 (Huang et al. 2011b). The chemical industry was aware of the proposed policy to limit fertilizer exports and appealed for compensation, but without results because domestic fertilizer prices had also increased significantly, albeit less than on the international market.

Experts had a two-sided role in the decision-making framework that worked either to facilitate or impede the process. Policy research institutes and think-tanks continued to provide information and comments on stabilization policies but opinions among the experts differed. Debates centred mostly around the issue of whether or not China should let grain prices trend up, a topic widely examined in the media and internal reports. On the one hand, arguments favoured rising grain prices because (i) higher prices meant greater incentive for grain production, thereby promoting food security; (ii) improvement in the income of poor farmers and grain producers was more important than food price inflation or urban consumers, as these were covered by social protection programmes; and (iii) inflation in 2007-08 was also partially due to macro investment and monetary policies. On the other hand, arguments supporting the control of prices included (i) apprehension over high inflation; (ii) increasing living costs for low-income consumers and students in urban areas, and (iii) the need to avoid social instability.

Table 2: Views and opinions reported in four selected newspapers in China, 2007-08

	Views expressed by:						Total
	Officials	Experts	Consumers	Farmers	Companies	Journalists	
Total	30	18	2	5	11	33	100
<i>People's Daily</i>	39	7	2	7	7	39	100
<i>Farmers' Daily</i>	29	17	1	2	7	44	100
<i>South Weekend</i>	17	20	10	3	13	37	100
<i>21st Century Business Herald</i>	31	28	1	7	22	9	100

Source: Compiled from authors' survey.

Media reports reflect the level of concern among the different stakeholders. As Table 2 shows, comments in the media were frequently from the journalists themselves (33 per cent), then from officials (30 per cent) and experts/scholars (18 per cent). As can be expected, comments by officials were largely supportive of all food-price control measures; on the other hand, opinions of the experts differed. The agriculture-oriented think-tanks were strongly in favour of farmer benefits, while macroeconomic analysts supported consumer interests. Agricultural think-tanks reported on the causes of food price increases, including the role of biofuel expansion in the rest of the world. Articles by the journalists themselves concentrated on food price increases in the domestic and international markets, or at times, outlined their newspaper's stand on national policies.

There is some divergence among the views and opinions reported by the four papers. The *People's Daily* is the top newspaper owned by the central government, and journalists' views mirror the official stance, accounting together with the *Farmers' Daily* for 78 per cent of the reports. *South Weekend* and *21<sup>st</sup> Century Business Herald*, as commercial newspapers, reported the viewpoints of experts and of companies more frequently. Interestingly, except for *South Weekend*, consumer views were almost non-existent. Farmer voice in the media was minimal, and accounted for only 2-7 per cent of all reports.

#### *The policy-making process of long-term policy responses*

The response to the global food crisis generated two major long-term policy modifications to China's biofuel development plan and agricultural commitment.<sup>12</sup> The nature of these policy changes, which were introduced as long-term development strategy and short-term modifications, suggests that the relevant decisions were taken at the central level of government by the highest decision-making bodies, the CPC central committee and the State Council. It was clearly announced on several occasions that there was to be no trade-off between biofuels and food, and that increasing agricultural productivity through investment was the primary tool to ensure the country's food security.

These decisions, although quickly made, were based on a round of consultations. The same was true for biofuel. Discussions with experts as well as the media reports on the likely impact of biofuel on global and domestic food security convinced the national leaders that renewable energy or biofuels utilizing grain as feedstock, even though vitally important for the country's future energy security, had no role to play. However, the existing biofuel plants

<sup>12</sup> This was communicated through several Number-One Policy Documents (see Section 4).

that utilized maize and wheat as feedstock for ethanol protested. Negotiations between the biofuel industry and NDRC eventually led to a compromise: existing stocks of biofuel grain could be used for bioethanol production up to the 2007 production level, but future expansion would have to depend on non-grain feedstocks.

China's commitment to improve national food security and investment in agriculture were pre-existing policy stands but additional measures were taken after the global food crisis. Key decision-makers were members of the policy document preparation team coordinated by LG-FE. These included representatives from the major think-tanks and different ministries.<sup>13</sup>

## 6.2 Impacts of policy responses

### *Impacts examined with a graphical analysis*

Graphical analysis is the first and simplest method used in this study to assess the effect on domestic agricultural prices of China's counter-measures in the face of the global food crisis. To show how domestic prices changed during the pre-crisis, crisis and post-crisis periods, Figure 5 traces the monthly price fluctuations for rice, wheat and maize on international and China's domestic markets. The prices are measured in RMB yuan at nominal exchange rates. The results show that China did well in keeping domestic prices from rising as much as international prices. Between January 2005 and December 2008 the trajectories of domestic and international prices differed distinctly. While international prices of the three cereals increased steeply starting in 2007, domestic prices went upward only gradually (Figure 5).

Why were China's grain-price trends so different from those on the international markets? The explanation is, of course, the policy responses introduced. Although trade liberalization policies had allowed domestic prices to move towards international prices before the middle 2000s (Huang et al. 2009), the pattern was broken when China released grain stocks onto domestic markets and closed its borders. This forced domestic prices to fall below world market prices after 2007 (Figure 5).

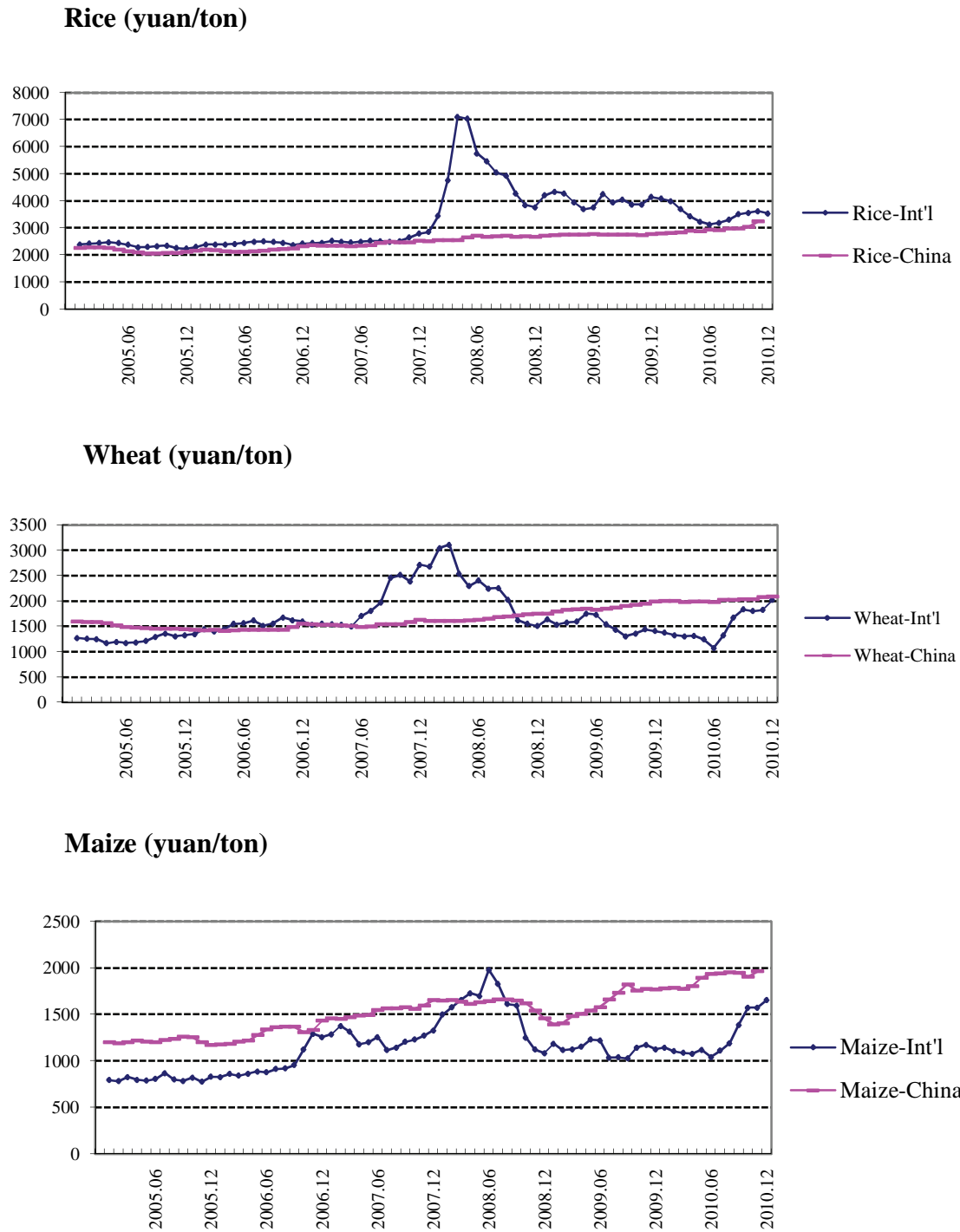
The trends in soybean prices, however, reveal another interesting story. China is the world largest importer of soybean, more than third-fourth of the domestic soybean consumption is imported. As shown in Figure 6, domestic and international soybean prices moved very closely because, unlike grains, soybean is not a state-traded product, and was thus subjected to only a 3 per cent tariff and 13 per cent VAT. China had no policy measures in place to force down domestic prices in the short run.

The evolution of food prices after the global financial crisis is twofold and different for export- and import-oriented crops (Figures 5 and 6). Prices for import-oriented crops (e.g., soybean) came down sharply, reflecting the fact that since these crops are closely linked with global markets, the dip in 2009 in world food prices also affected China (Figure 6).

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<sup>13</sup> For example, in drafting the Number-One Policy Documents on agriculture and rural development for approval by the CPC central committee and the State Council, the LG-FE works closely with NDRC, MOST, the ministries of finance, of agriculture, and of water resources as well as other ministries related to agriculture. These policy documents, together with the 12th Five-Year Plan (2011-15) in agriculture, as prepared by the Ministry of Agriculture and approved by the State Council, have become the national guidelines for agricultural policy and investment.

Figure 5: A comparison of the monthly price of rice, wheat and maize on the international market and the domestic market in China, January 2005-December 2010



Note: See Figure 3 for an explanation of international prices.

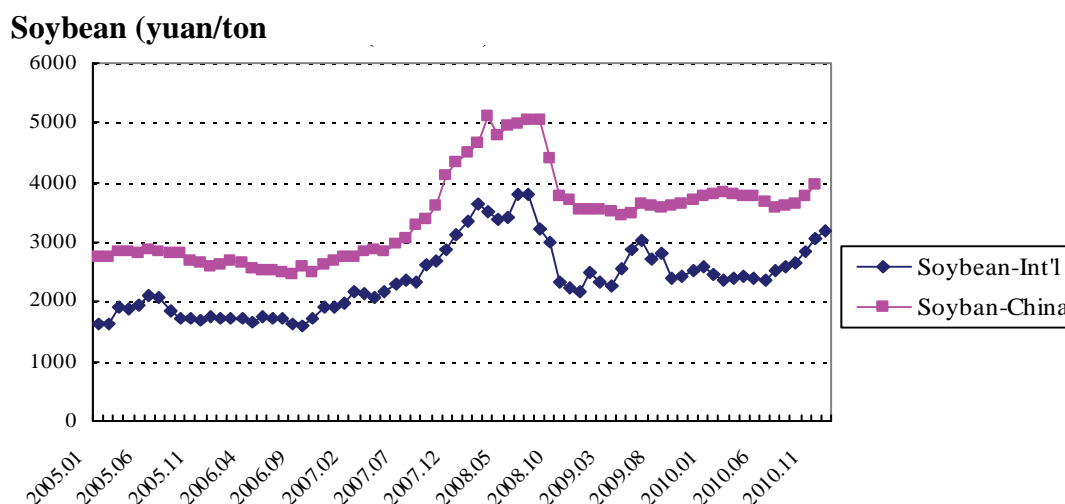
Source: Computed by the authors based on data from IMF for international prices and NSBC and the MOA for domestic prices.

Importantly, the relation between China's grain prices and those on the international market was restored roughly two years after the onset of the financial crunch. For example, the domestic price of rice moved slightly upward and has been approaching the international



level since late 2008 (Figure 5). Prior to 2006, the price of wheat in China corresponded roughly to the global level, but during the crisis, world market price surpassed China's (Figure 5). Since late 2008, the two price trajectories have moved in parallel. The price development of maize is similar (Figure 5). By the end of 2010, the price difference between China and international markets reflected just international transportation costs plus value-added tax at the border.

Figure 6: A comparison of the monthly price of soybean on the international market and the domestic market in China, January 2005-June 2008



Source: Computed by the authors based on data from IMF for international prices and NSBC and the MOA for domestic prices.

#### *Impacts examined with a simulation model analysis<sup>14</sup>*

Impacts of the major factors affecting China's grain prices in 2005-08 have been quantitatively analysed by Yang et al. (2008). The analysis here is based on the hypothesis that if we can first measure what grain prices would have been without a policy response, then we should be able to determine whether these efforts had any collective effect. To do this, we constructed a modelling framework based on the global trade analysis project (GTAP) approach (Yang et al. 2008); the main results are summarized in Yang et al. (2008)

The earlier analysis by Yang et al. (2008) finds that rising international oil prices and the biofuel expansion had affected grain prices in China. Had there been no other effects, the higher international price of oil would have pushed up the price of rice, wheat and maize from 16.6 to 27.9 per cent (ibid.). This would have been enough to account for 85 per cent of the actual price increase in rice. Similarly, had there been no other factors, the price of wheat and maize within China would have risen by 190 per cent and 105 per cent, respectively, while in reality these rose by 11.2 per cent for wheat and 26.5 per cent for maize. The price of oil would have also forced up soybean price by 39 per cent. We also find that the emergence of the global biofuel production added a similar upward pressure on China's grain prices. All other factors being equal, biofuel expansion in 2005-08 would have pushed up the price of rice by about 16 per cent, maize 20.6 per cent and soybean 24.5 per cent.

<sup>14</sup> This part of the discussion is mainly based on the earlier study by Yang et al. (2008).

The results also find evidence of the effectiveness of China's price stabilization policies during the global food crisis. Although other factors may have had some role, it is likely that the government's policy responses did lower the price of rice by 16.6 per cent. Given the actual 19.5 per cent increase during 2005-08, this implies that had it not been for government measures, the upsurge would have been 35.1 per cent. Likewise, wheat would have increased by an additional 29.6 per cent and maize 27.7 per cent. The results on soybean also show that domestic policy does not matter for fully liberalized commodities (Yang et al. (2008).

#### *Impacts based on price transmission analysis*

The price transmission analysis presented in previous section shows that China was fully integrated into world markets and international prices could have been transmitted to domestic markets prior to 2006. However, based on recent data, our analysis finds that the above results either disappear or become considerably weaker in 2007-08 (Table 3). The results further indicate that China's policy responses were important and that they were effective in preventing price transmission from international to domestic markets.

Table 3 also shows that during the 2006-08 global food crisis, the previous and significant long-run correlation between rice and wheat faded (column 2, Table 3). While a long-run association still existed for maize, the estimated parameter (0.18) was much smaller (0.50) than in 2003-06.<sup>15</sup> The short-term price transmission in 2007-08 did not affect rice and wheat, and even for maize, the degree of price transmission in the short run fell from 0.15 to 0.08. Moreover, the speed of adjustment was not statistically significant. Over time, however, the transmission of price seems to have become pronounced, as the long-run cointegration coefficient increased from previous 0.84 to 0.99. The short-term price transmission for soybean also speeded up somewhat, from -0.16 to -0.18. Greater change occurred in the short-run adjustment parameter, which increased from 0.22 in 2003-06 to 0.90 in 2007-08. This is as expected because (i) China's soybean imports have increased significantly in recent years (rising from about one million tons in 1996 to more than 52 million tons in 2009) (NBSC 2000-10); (ii) China's soybean market has been fully integrated in the world market, and (iii) no policy instruments existed that could effectively intervene, as was discussed earlier.

Table 3: Transmission of international prices to China's domestic market prices during the global food price crisis, January 2007 to December 2008.

	Unit root in domestic and international price (ADF test)	Long-run relationship exists?		ECM, if long-run relationship is confirmed	
		Yes/no	If yes, then long-run adjustment	Speed of adjustment	Short-run adjustment
Rice	Yes	No			
Wheat	Yes	No			
Maize	Yes	Yes	0.18**	-0.10	0.08*
Soybeans	Yes	Yes	0.99**	-0.18*	0.90**

Note: \*\* and \* are statistically significant at 1% and 5%, respectively.

Source: Authors' calculations, see text.

<sup>15</sup> For a comparison with the pre-food crisis period, see Table 1.

## 7 Concluding remarks

Given China's unique characteristics—its economic and political environment, the nature of the agricultural market, the national goal of food security, the large share of food expenditure in consumption budget, the country's past experiences in responding to external economic shocks—it is not surprising that the government's reaction to the global food crisis was swift and decisive. Counter-measures were introduced in the early stages of the crisis and covered a wide ranges of domestic and border policies. Short-term counter-measures, implemented with considerable speed, were comprehensive, and extended to domestic grain supply, demand and trade. Moreover, fulfilment of the national goal of improved food security was further boosted through modifications to the biofuel development strategy and strengthening of the nation's commitment to agricultural development and food security. Investment in agriculture, particularly agricultural technology and water, has increased significantly in recent years and is expected to continue to increase further.

The decision-making process in China reflects the country's unique characteristics. The decision on the overall direction to stabilize domestic food prices and ensure national food security in the short term was made by the CPC and the State Council in the fall of 2007. The NDRC (National Development and Reform Commission) and the LG-FE (leading group on finance and economy) as well as some major government-sponsored think-tanks played an important role. Media reports had some influence as they collated information and options from different stakeholders. Once the overall policy direction had been set by the CPC and the State Council, each relevant ministry established its own path for promoting the policy goals in the short term.

There was no significant resistance from the relevant stakeholders to neither the decisions nor implementation. Again, China's political system—decision-making based democratic centralism and balanced policies—directed the different stakeholders. The primary focus of agricultural policies is food security, and this objective was commonly sanctioned by all ministries. Although there were debates among scholars over grain price control and the trade-off between producers and consumers, the decision to stabilize food prices and concurrently to increase subsidies to producers and low-income consumers was made by the national leaders. Furthermore, even though limiting fertilizer exports for a few months delayed its upward price trend, the chemical industry did benefit from price increases on the domestic market. All stakeholders related to agriculture, including farmers and consumers, will benefit from China's renewed commitment to invest in food and agriculture.

Policy response impacts were impressive. With the exception of soybean which was fully liberated, domestic grain price increased only moderately. After the global financial crunch, grain prices in relation to the international trend returned to levels that had existed prior to the global food crisis. Soybean and edible oil prices increased, and consumers faced higher prices on several commodities, but fortunately most of China's poor live in rural areas. This means that they might have some land for subsistence farming and there are few truly destitute residents. On the other hand, China has significantly increased investment in agriculture, and this will have important implications for long-term food security.

China's food price stabilization policies have helped the nation to reach its food security goals by safeguarding domestic grain prices from the increasing trends seen on international markets, but it is worth noting that this does not imply that all of these policies are beneficial

for the world. China's counter-measures to keep domestic food prices down might also have helped to exacerbate the difficult global food situation, as the levy of export tariffs prevented major grains and fertilizers, agricultural commodities and other inputs from reaching world markets. Of course, China did not act alone: 28 other countries (World Bank 2008) responded to rising international prices with measures to levy export taxes or to prohibit exports. To deal with similar emergencies in the global food supply, it is essential there is a new global governance system, which can effectively coordinate action among major food importers and exporters.

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