

MARKETIZATION OF THE CHINESE ECONOMY AND REFORM OF THE GRAIN DISTRIBUTION SYSTEM

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I. INTRODUCTION

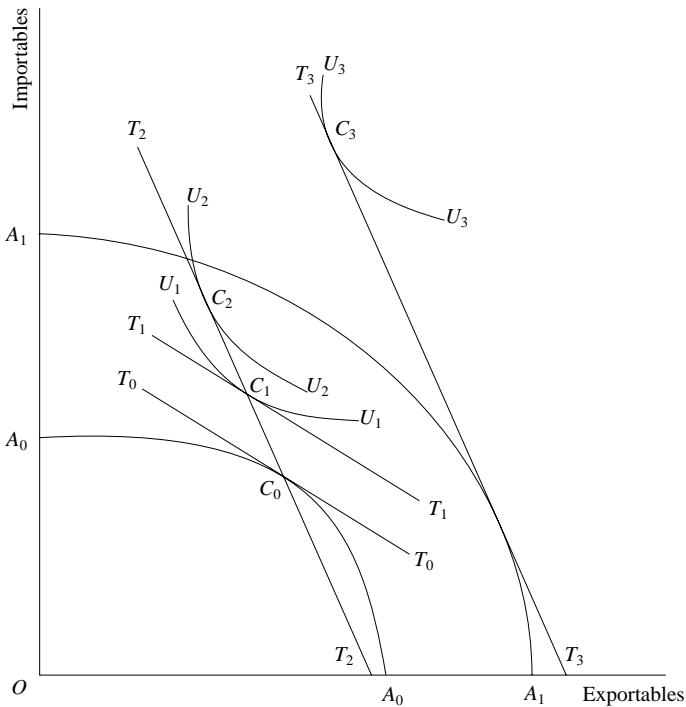
THIS study will examine the reforms that have taken place in China's grain distribution system and use this examination to undertake a quantitative economic analysis of China's agricultural reforms since they began in 1978. Following this introduction, Section II will provide a theoretical analysis and hypothesis of the relationship between China's economic liberalization and its grain distribution reforms. Section III will look at the historical changes that have occurred in grain distribution since the founding of the People's Republic, and will seek to economically quantify these changes. This section will also discuss the terms of trade between agriculture and industry. Section IV will discuss the changeover from the centralized government-controlled procurement system (the compulsory delivery quota system) to the government contract purchasing system which was the first step in reforming the grain distribution system. The section will look at the introduction of the contract system for purchasing and distributing grain and the rise in grain prices that consumers have experienced. Section V will discuss the new eight-point policy dealing with the production, purchasing and sale of grain, and it will discuss the Agricultural Law that has been enacted and the organization of the grain distribution system. As a result of the reforms, the distribution system has moved away from direct to indirect controls, has established a "protective price" system (what in agricultural economics would be termed a "guaranteed price" system), and has provided measures for protecting the interests of the farmers; but the system has had trouble trying to determine the level to set the protective prices. The reforms have also brought about a gap between domestic and international prices, and China's grain prices have been losing international competitiveness showing that a change is needed more in structural adjustment policy than in price policy. Section VI will talk about the prospects for further reforms in the grain distribution system.

II. ECONOMIC LIBERALIZATION AND REFORM OF THE GRAIN DISTRIBUTION SYSTEM

A. *An Economic Analysis of Economic Liberalization*

Figure 1 explains the effects of economic liberalization. The vertical axis represents industrial products while the horizontal axis agricultural products (here meaning grain). AA indicates the production possibility curve, and UU indicates the social preference curve. Under the planned economy during the Mao Zedong regime, the equilibrium point in production was at point C_0 . The TT curve touching this equilibrium point is the relative price line and indicates the price ratio for agricultural and industrial products. This price ratio TT curve indicates the terms of trade between agriculture and industry. If a tariff is levied, the price curve shifts from T_0T_0 to T_1T_1 , and the equilibrium point now becomes C_1 . In order to maintain this new equilibrium point, price policy will have to raise the price of industrial products while lowering the price of agricultural products. During Mao's time price policy in China adopted from the Russian economist Preobrazhensky the concept of socialist primi-

Fig. 1. Effects of Economic Reforms and Open-Door Policy



tive capital accumulation which maintained that the price of agricultural products should be set low so that grain as wage-goods could be kept low thereby reducing wage costs; meanwhile the price of industrial products should be set high so that the industrial sector could secure high profits and accumulate capital.

But economic liberalization brings along price liberalization, and this is shown in Figure 1 by the shift of price curve T_1T_1 to T_2T_2 . With the introduction of the price mechanism in 1984, China officially sanctioned the free market. This led to a two-tiered pricing system, the so-called double-track system, of government-set prices alongside free market prices. Thereafter the relative prices of agricultural and industrial products, i.e., the terms of trade between agriculture and industry, moved to a new equilibrium point C_2 . One would expect this new point to be approaching the terms of trade on the international market. This means that the price of agricultural products has risen in the course of liberalization, and the price of industrial products has fallen. This has in effect improved China's terms of trade.

Strictly speaking, the equilibrium point of China's economy has lain inside the production possibility curve because of the economy's inefficiency. With the introduction of the price mechanism, it is now possible for production factors to become completely mobile, and there is now an outward shifting of the production possibility curve, shown in Figure 1 as a shift from A_0A_0 to A_1A_1 . This shift describes the impact of China's economic reforms.

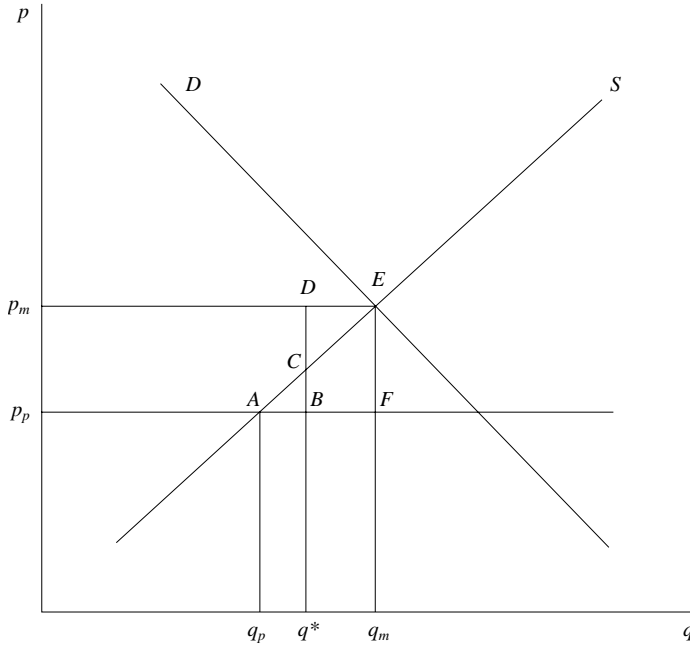
If a tariff is now levied, the equilibrium point moves from C_0 to C_1 . If it is assumed that this tariff is soon paid back to the consumer, the slope of the relative price curve will not change. With the liberalization of trade and the abolition of tariffs, the relative price curve shifts from T_1T_1 to T_2T_2 , and C_2 becomes the point of equilibrium. Then if U_3U_3 is made the social preference curve, relative price curve T_2T_2 shifts to T_3T_3 , the equilibrium point moves from C_2 to C_3 , and the level of the consumers' welfare rises to its highest. In this way economic reform causes the production possibility curve to shift outward, and because China's policy of opening its market to overseas trade has improved its terms of trade, it is finding that it has to carry out reform and openness at the same time. Deng Xiaoping grasped the economic significance of this relationship when he declared that reform without openness or openness without reform would produce a level of welfare clearly lower than that of reform with openness.

B. *Farmers' Economic Behavior under the Double-Track System*

1. *Macroeconomic approach*

Figure 2 describes the behavior of farmers when selling grain under the double-track system. Curve D is the demand curve for grain, and S is the supply curve; p_m is the market price, and p_p is the government purchasing price. When the government purchasing price is at p_p , farmers will sell up to point A . However, the government wants to purchase grain up to point B . Curve S is the marginal cost curve,

Fig. 2. Supply and Demand of Grain under the Double-Track System



therefore the triangle *ABC* describes the losses that farmers incur. Wanting to reduce their losses, farmers try to move from *B* back to *A*, which is the same as moving from q^* to q_p .

This effort to avoid selling up to point *B* has been dubbed “quota evasion,”¹ and the government needed to raise its purchasing price in order to increase the deliveries of grain it received. To this end the State Council decided that when farmers delivered grain to the government beyond the quantity contracted, the government would pay a premium on top of the quota price, what in effect became a “negotiated price,” for the purchase of this extra grain.

2. *Microeconomic approach*

We can analyze this grain delivery problem with a model of the subjective equilibrium of a farm household which will describe the behavior of supplying grain at the microeconomic level.²

¹ For quota evasion, see Chow (1985, Chap. 3); Jin (1990); and Zheng, Zheng, and Chen (1993).

² For the subjective equilibrium theory of the farm household theory, see Nakajima (1970, 1984) and Maruyama (1984).

The utility function of the farm household is given by $u = u(A, y)$, where $A =$ labor and $y =$ income. We assume $u_A < 0, u_y > 0$.

The grain production function is given by $q = f(a, k)$, where $q =$ grain output, $a =$ labor input, and $k =$ land. In the production function, marginal productivity is positive, and it is assumed that there are diminishing returns on this productivity; $f_a > 0, f_k > 0, f_{aa} < 0, f_{kk} < 0$.

The farm household income is as given below. It is assumed that the household sells β portion of its grain to the government and $(1 - \beta)$ portion on the market.

$$y = p_p \beta q + p_m q (1 - \beta) + w(A - a) - rk,$$

where $p_p =$ government purchasing price, $p_m =$ market price, $w =$ market wage, $r =$ rent, and $k =$ land.

Under China's double-track system, the government purchasing price is lower than the market price, therefore $p_p = \alpha p_m$. Here $0 < \alpha < 1$. When $A > a$, members of the household will leave the farm to find work. When $A < a$, there is a shortage of family labor and the household will hire outside workers to help with the farm work. λ is a Lagrange multiplier.

The optimization problem of the farm household is as follows.

$$\text{Max}_{\{A, y, a, k\}} V = u(A, y) + \lambda [y - p_p \beta q - p_m q (1 - \beta) - w(A - a) + rk],$$

$$\frac{\partial V}{\partial A} = u_A - \lambda w = 0, \quad (1)$$

$$\frac{\partial V}{\partial y} = u_y + \lambda = 0, \quad (2)$$

$$\frac{\partial V}{\partial a} = \lambda \left\{ p_m \frac{\partial f}{\partial a} [\beta(\alpha - 1) + 1] - w \right\} = 0, \quad (3)$$

$$\frac{\partial V}{\partial k} = -\lambda \left\{ p_m \frac{\partial f}{\partial k} [\beta(\alpha - 1) + 1] - r \right\} = 0, \quad (4)$$

$$\frac{\partial V}{\partial \lambda} = y - \alpha p_m \beta q - p_m q (1 - \beta) - w(A - a) + rk = 0. \quad (5)$$

From equation (1) and equation (2)

$$-\frac{u_A}{u_y} = w. \quad (6)$$

The left side of equation (6) indicates the marginal valuation of family labor. The equation means that the farm household will rely on its own labor input until it equals the market wage.

From equation (3),

$$p_m \frac{\partial f}{\partial a} [\beta(\alpha - 1) + 1] = w. \quad (7)$$

From equation (7), when $\beta = 1$

$$p_m \frac{\partial f}{\partial a} [\alpha] = w, \tag{8}$$

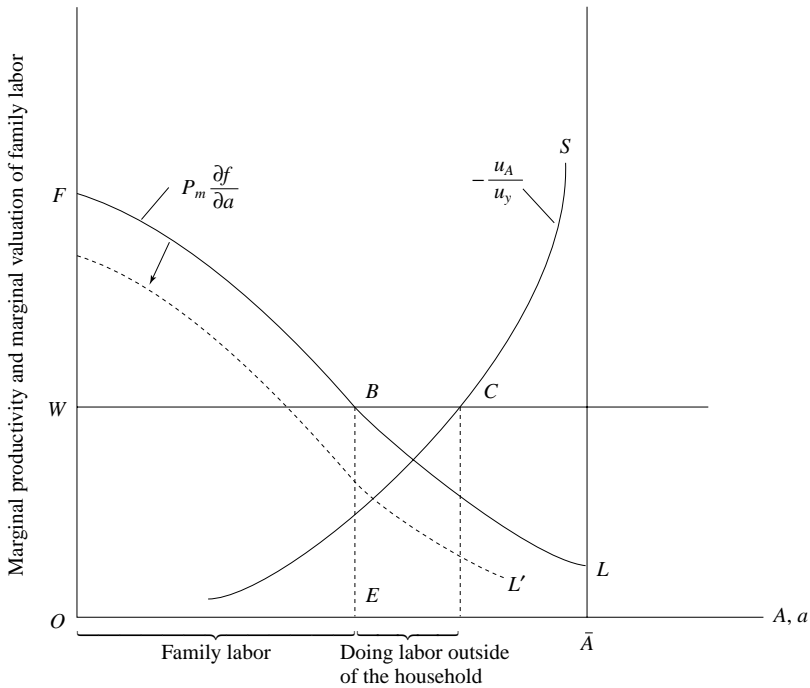
and when $\beta = 0$

$$p_m \frac{\partial f}{\partial a} = w. \tag{9}$$

Equation (8) expresses the equilibrium condition when the farm household sells all of its grain to the government. Equation (9) expresses the equilibrium condition when the farm household sells all of its grain on the market.

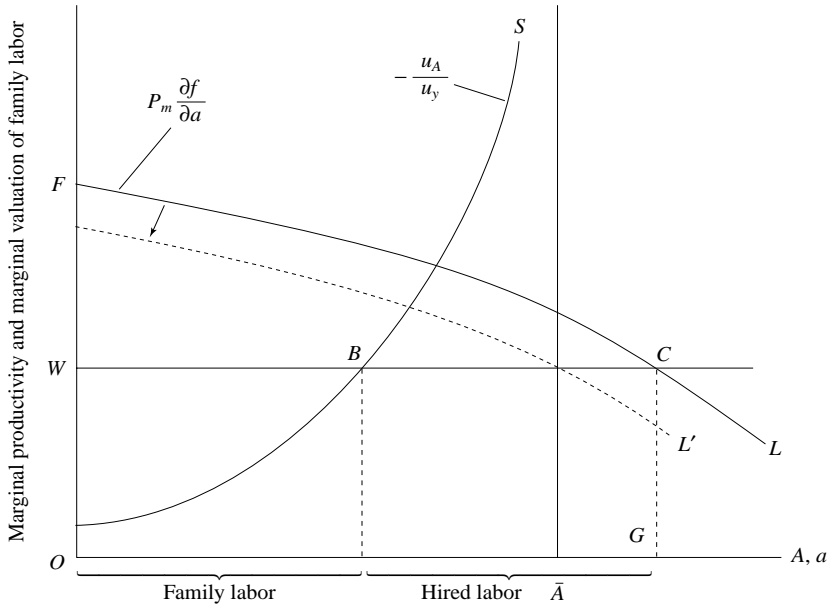
The results of diagramming the farm household equilibria in equations (6), (7), and (8) are shown in Figures 3 and 4. Figure 3 describes the condition where $A > a$ when the household has surplus labor. \bar{A} indicates the physiologically possible maximum hours of labor; OW indicates the market wage, while curve L shows the household's marginal-productivity-of-labor curve, and S is the household's marginal-valuation-of-family-labor curve. When the farm household sells all of its grain

Fig. 3. Economic Behavior of a Farm Household under the Double-Track System ($A > a$)



Note: The inequality equation $A > a$ means that the farm household has surplus labor. In this figure only BC is where member can go out and earn wage outside of the household.

Fig. 4. Economic Behavior of a Farm Household under the Double-Track System ($A < a$)



Note: The inequality equation $A < a$ means that the farm household uses hired labor. In this figure the farm household uses hired labor BC .

on the market, the household will use its own family labor up to point B ; BC is where members of the household will leave the farm to find work. The household's total grain production is the quadrilateral $OBEF$. Under the double-track system, when the household sells all of its grain to the government (when $\beta = 1$), the marginal value productivity of labor curve will shift from L to L' ; consequently the amount of grain delivered will decrease. If the household were to sell only a part of the β portion to the government (when $0 < \beta < 1$), then the marginal value productivity of labor curve would come to lie between L and L' , but the amount of grain would still be less than were the whole amount to be sold on the market.

The study by Wang, Murayama, and Kikuchi (2000), contained in this special issue, is a survey study of migrant workers from a rice-growing village and a corn-growing village on the outskirts of Harbin City in Heilongjiang Province. Their study provides good corroborating evidence for the model I am presenting here.

Figure 4 describes the condition where the farm household hires outside labor, meaning that $A < a$. The household will use its own labor up to point B ; BC is where it will hire outside labor. Under the double-track system, as with Figure 3, when all of the grain is sold to the government, it will be less than compared with when it is

sold on the market. When the household sells all of its grain on the market, the total amount is the quadrilateral *OGCF*.

Farming households who operate large-scale farms and hire outside labor are known as “*jiating nongchang*” (family farms) or “*zhongdian dahu*” (large farmers). These types of farms are developing in increasing numbers in the villages of the coastal provinces.³ The study by Kako and Zhang (2000) in this special issue deals with the production and distribution problems of rice farmers who are part of the Jiansanjiang Branch of the Department of Land Reclamation in Heilongjiang Province. These family farms have come into being with the dismantling of the state farms and the introduction of the household responsibility system. This study is noteworthy as there are very few surveys of these sorts of large family farms that were under the state farms.

In all of the situations under the double-track system, as discussed above, the amount of grain supplied by the farmers declines, an indication that they are evading their quotas. To eliminate this quota evasion the government has to raise its purchasing price.

Under a situation where there is a surplus of grain, Figure 2 also shows that the official price would become a price support similar to the agricultural policies in the advanced economies where the government-set price is above the market price. In this situation the “protective” price would be the same as the government’s officially set price. In microeconomic terms, $\alpha > 1$ in equation (8), and in Figures 3 and 4 marginal productivity shifts outward.

III. QUANTITATIVE ANALYSIS OF GRAIN DISTRIBUTION UNDER THE PEOPLE’S REPUBLIC OF CHINA

From 1952 until 1978, when the Deng Xiaoping government began its economic reforms, the volume of grain purchased by the Chinese government, in terms of the total amount of traded grain, reached its highest in 1959 at 64.115 million tons (see Table I).

Looking at the volume of commercialized grain since reforms began in 1978, in 1982 it surpassed 70 million tons to reach 72.085 million tons, and in 1983 it went over 90 million reaching 96.735 million tons. Then in 1984 it reached a historic high of 107.48 million tons. That was also the year when the government introduced the agricultural responsibility system and when the people’s communes were dismantled throughout the country. The “household responsibility system for management” (*baogan daohu*) which was linked to the volume of production brought about this historically high grain production, and the government in turn was able to buy up its highest volume ever.

³ For family farms, see Guowuyuan Yanjiuzhi Katizu (1996).

TABLE I
GRAIN PURCHASING IN THE PUBLIC AND PRIVATE SECTORS, 1952–96

(Million tons)

Year	Grain		Purchases / Production	Year	Grain		Purchases / Production
	Production	Purchases			Production	Purchases	
1952	31.010	163.92	0.189	1975	52.615	284.52	0.185
1953	43.030	166.83	0.258	1976	49.145	286.31	0.172
1954	50.890	169.52	0.300	1977	47.670	282.73	0.169
1955	47.540	183.94	0.258	1978	50.725	304.77	0.166
1956	40.220	192.75	0.209	1979	57.570	332.12	0.173
1957	45.435	195.05	0.233	1980	57.070	320.56	0.178
1958	51.830	200.00	0.259	1981	63.235	325.02	0.195
1959	64.115	170.00	0.377	1982	72.085	354.50	0.203
1960	46.535	143.50	0.324	1983	96.735	387.28	0.250
1961	36.550	147.50	0.248	1984	107.480	407.31	0.264
1962	32.180	160.00	0.201	1985	90.616	379.11	0.239
1963	36.995	170.00	0.218	1986	96.148	391.51	0.246
1964	40.135	187.50	0.214	1987	102.023	402.98	0.253
1965	39.220	194.53	0.202	1988	102.012	394.08	0.259
1966	41.415	214.00	0.194	1989	104.518	407.55	0.256
1967	41.375	217.82	0.190	1990	122.564	446.24	0.275
1968	40.405	209.06	0.193	1991	116.275	435.29	0.267
1969	38.450	210.97	0.182	1992	111.461	442.66	0.252
1970	46.490	239.96	0.194	1993	107.359	456.49	0.235
1971	43.825	250.14	0.175	1994	89.600	445.10	0.201
1972	38.535	240.48	0.160	1995	92.440	466.62	0.198
1973	48.405	264.94	0.183	1996	86.600	504.54	0.172
1974	46.890	275.27	0.170				

Sources: Purchases of grain during the 1952–86 period are based on Guowuyuan Nongyebu Jihuasi (Planning Section of the Ministry of Agriculture of the State Council), ed., *Zhongguo nongcun jingji tongji daquan (1949–1986)* [Complete statistics of the rural economy of China] (Beijing: Nongye Chubanshe, 1989). Grain production during the 1952–96 period is based on *Zhongguo tongji nianjian* [Statistical yearbook of China], various years. Purchases of grain during the 1987–93 period are based on *Zhongguo nongcun tongji nianjian 1994* [Rural statistical yearbook of China 1994] (Beijing: Zhongguo Tongji Chubanshe, 1994). Purchases of grain during the 1994–96 period are based on *Zhongguo guonei maoyi nianjian* [Almanac of China's domestic trade] (Beijing: Zhongguo Guonei Maoyi Nianjianshe), various years.

Notes: 1. Production is in terms of paddy while purchases are in terms of 'trade grain' where potatoes are calculated into grain equivalents measured at the ratio of five to one in terms of weight.

2. Grain purchases during the 1994–96 period are those by the government.

Looking at the volume of commercialized grain since 1985 (from 1987 to 1993 the figures show total purchases for the government and the private sector combined, while the figures for the 1994–96 period are only those for the government), in 1985 and 1986 it fell back to the 90 million ton level; then in 1987, 1988, and 1989 it returned to the 100 million ton level, but it never surpassed the record of

1984. Then in 1990 it again set a new record when purchases reached 122.564 million tons. They stayed around that level for the next two years, then fell back to 107.359 million tons in 1993.

Looking at the rate of commercialized grain purchasing (which can be derived from dividing the amount of grain purchased by the amount produced), the highest the rate has ever been was 37.7% which was reached in 1959. In 1978 with the start of agricultural reforms, the rate of commercialization was 16.6%; by 1984 this had risen to 26.4%, and in 1990 it reached a post-reform record high of 27.5%. Thereafter it fell back to 23.5% in 1993. This low rate of commercialized grain purchasing is clear indication that most of the grain produced in China is consumed in the locations it is grown. It also indicates that the country's grain distribution system is still underdeveloped.

Looking at the changes in the terms of trade between industry and agriculture, shown in Table II and Figure 5, from 100 in 1950 it decreased to 52.5 in 1977. This meant that the terms of trade moved advantageously for the agricultural sector. Then with the agricultural reforms the terms of trade fell from 50.5 in 1978 to 26.8 in 1996, a clear indication that economic liberalization is approaching the terms of trade for international prices as was noted earlier. Looking closer at the figures for the terms of trade between industry and agriculture, it fell from 50.5 in 1978 to 28.6 in 1988 becoming more advantageous for agriculture; but in 1989 it reversed moving up to 29.6, then to 31.7 in 1990, and 33.4 in 1991. Thereafter the figures changed only slightly to 33.3 in 1993, then 32.8 1994 which in effect brought the terms of trade back to the 1986 level, meaning a worsening of terms for the agricultural sector. This worsening has held back the commercialization of grain purchasing. The terms of trade again improved for agriculture in 1994 and 1995, but once again worsened in 1996. In 1997 the index for farm and sideline products fell by 4.5%. As a result, the terms of trade further worsened to 28.3.

This worsening of the terms of trade for the agricultural sector can be attributed to inflation. A wage-price spiral arose where the price of goods went up leading to wage increases. Between 1978 and 1984 the rate of increase in the general retail price index and the urban consumer price index, which is a wage indicator, went up largely in tandem. But in 1985 economic reforms based on market principles were introduced and broad-based price reforms begun. Thereafter until 1996, with the exceptions of 1989 and 1990, the annual rise in the urban consumer price index outpaced that of the general retail price index. In 1988 and 1989, when double-digit inflation prevailed, the rise in the general retail price index was 18.5% and 17.8% respectively, while the rise in the urban consumer price index was 20.7% and 16.3%. In 1993, 1994, and 1995 there was again double-digit inflation, and the rise in the urban consumer price index outstripped the increase in the general retail price index in all three years. Meanwhile the general rural price index of industrial goods was also rising, going up 15.2% in 1988 and 18.7% in 1989, then in 1993, 1994,

TABLE II
PRICE INDICES, 1951-98

Year	(1950 = 100)					
	General Retail Price Index	General Consumer Price Index for Urban Areas	General Farm and Sideline Products Purchasing Price Index	General Industrial Products Rural Retail Price Index	Terms of Trade ^a between Industry and Agriculture	
1951	112.2 (12.2)	112.5 (12.5)	119.6 (19.6)	110.2 (10.2)		92.1
1952	111.8 (-0.4)	115.5 (2.7)	121.6 (1.7)	109.7 (-0.5)		90.2
1953	115.6 (3.4)	121.4 (5.1)	132.5 (9.0)	108.2 (-1.4)		81.7
1954	118.3 (2.3)	123.1 (1.4)	136.7 (3.2)	110.3 (1.9)		80.7
1955	119.5 (1.0)	123.5 (0.3)	135.1 (-1.2)	111.9 (1.5)		82.8
1956	119.5 (0.0)	123.4 (-0.1)	139.2 (3.0)	110.8 (-1.0)		79.6
1957	121.3 (1.5)	126.6 (2.6)	146.2 (5.0)	112.1 (1.2)		76.7
1958	121.6 (0.2)	125.2 (-1.1)	149.4 (2.2)	111.4 (-0.6)		74.6
1959	122.7 (0.9)	125.6 (0.3)	152.1 (1.8)	112.4 (0.9)		73.9
1960	126.5 (3.1)	128.8 (2.5)	157.4 (3.5)	115.5 (2.8)		73.4
1961	147.0 (16.2)	149.6 (16.1)	201.4 (28.6)	121.2 (4.9)		60.2
1962	152.6 (3.8)	155.3 (3.8)	200.1 (-0.6)	126.6 (4.5)		63.3
1963	143.6 (-5.9)	146.1 (-5.9)	194.4 (-2.8)	125.3 (-1.0)		64.5
1964	138.3 (-3.7)	140.7 (-3.7)	189.5 (-2.5)	122.9 (-1.9)		64.9
1965	134.6 (-2.7)	139.0 (-1.2)	187.9 (-0.8)	118.4 (-3.7)		63.0
1966	134.2 (-0.3)	137.3 (-1.2)	195.8 (4.2)	115.0 (-2.9)		58.7
1967	133.2 (-0.7)	136.4 (-0.6)	195.5 (-0.1)	114.1 (-0.8)		58.4
1968	133.3 (0.1)	136.5 (0.1)	195.2 (-0.2)	113.8 (-0.3)		58.3
1969	131.8 (-1.1)	137.8 (1.0)	194.9 (-0.2)	112.1 (-1.5)		57.5
1970	131.5 (-0.2)	137.8 (0.0)	195.1 (0.1)	111.9 (-0.2)		57.4
1971	130.5 (-0.7)	137.7 (-0.1)	198.3 (1.6)	110.2 (-1.5)		55.6
1972	130.2 (-0.2)	137.9 (0.2)	201.1 (1.4)	109.6 (-0.5)		54.5
1973	131.0 (0.6)	138.0 (0.1)	202.8 (0.8)	109.6 (0.0)		54.0
1974	131.7 (0.5)	138.9 (0.7)	204.5 (0.8)	109.6 (0.0)		53.6
1975	131.9 (0.2)	139.5 (0.4)	208.7 (2.1)	109.6 (0.0)		52.5
1976	132.3 (0.3)	139.9 (0.3)	209.7 (0.5)	109.7 (0.1)		52.3
1977	135.0 (2.0)	143.7 (2.7)	209.2 (-0.2)	109.8 (0.1)		52.5
1978	135.9 (0.7)	144.7 (0.7)	217.4 (3.9)	109.8 (0.0)		50.5
1979	138.6 (2.0)	147.4 (1.9)	265.5 (22.1)	109.9 (0.1)		41.4
1980	146.9 (6.0)	158.5 (7.5)	284.4 (7.1)	110.8 (0.8)		39.0
1981	150.4 (2.4)	162.5 (2.5)	301.2 (5.9)	111.9 (1.0)		37.2
1982	153.3 (1.9)	165.8 (2.0)	307.8 (2.2)	113.7 (1.6)		36.9
1983	155.6 (1.5)	169.1 (2.0)	321.3 (4.4)	114.8 (1.0)		35.7
1984	160.0 (2.8)	173.7 (2.7)	334.2 (4.0)	118.4 (3.1)		35.4
1985	174.1 (8.8)	194.4 (11.9)	362.9 (8.6)	122.2 (3.2)		33.7
1986	184.5 (6.0)	208.0 (7.0)	386.1 (6.4)	126.1 (3.2)		32.7
1987	198.0 (7.3)	226.3 (8.8)	432.4 (12.0)	132.2 (4.8)		30.6
1988	234.6 (18.5)	273.1 (20.7)	531.9 (23.0)	152.3 (15.2)		28.6
1989	276.4 (17.8)	317.6 (16.3)	611.7 (15.0)	180.8 (18.7)		29.6
1990	282.2 (2.1)	321.7 (1.3)	585.8 (-2.6)	189.1 (4.6)		31.7
1991	290.4 (2.9)	338.1 (5.1)	583.9 (-2.0)	194.8 (3.0)		33.4
1992	306.4 (5.4)	366.6 (8.6)	603.8 (3.4)	200.8 (3.1)		33.3
1993	346.5 (13.2)	425.6 (16.1)	684.7 (13.4)	224.5 (11.8)		32.8
1994	421.5 (21.7)	532.2 (25.0)	957.2 (39.9)	262.8 (17.2)		27.5
1995	483.9 (14.8)	621.6 (16.8)	1,147.7 (11.9)	301.5 (14.7)		26.2
1996	513.4 (6.1)	676.3 (8.8)	1,195.9 (4.2)	320.2 (6.2)		26.8
1997	517.5 (0.8)	693.3 (2.5)	1,142.0 (-4.5)	323.7 (1.1)		28.3
1998	504.0 (-2.6)	686.4 (-1.0)	1,050.7 (-8.0)	316.6 (-2.2)		30.1

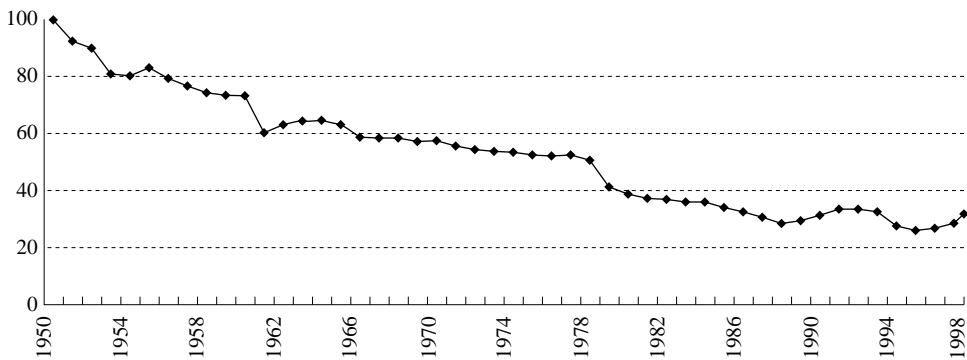
Source: State Statistical Bureau, ed., *Zhongguo tongji nianjian* [Statistical yearbook of China] (Beijing: Zhongguo Tongji Chubanshe), various years.

Notes: 1. Figures in parentheses show growth rates.

2. The general consumer price index for urban areas before 1978 is from living cost index of workers and staff.

^a Terms of trade is the ratio of the rural retail price index of overall industrial products to the purchasing price index of overall farm and sideline products.

Fig. 5. Terms of Trade between the Industrial and Agricultural Sectors, 1950–98



Notes: 1950=100.

and 1995 it rose 11.8%, 17.2%, and 14.7% respectively. These figures show that it is no longer possible as it had been under China's planned economy to set the terms of trade between industry and agriculture independent from the setting of wages in the industrial sector. A rise in wages is now transformed into a rise in the price of inputs, and this has caused the worsening of the terms of trade for agriculture. This is a clear indication that China's economy is still in transition from being a planned economy to becoming a developing economy.⁴

In 1996 and 1997 the general retail price index, the urban consumer price index, and the general rural price index of industrial products all showed single-digit increases, an indication that the economy was suffering from excess production. The fact that the index for farm and sideline products fell by 4.5% in 1997 shows particularly that the bumper harvests of 1996 and 1997 produced an excess of grain, and that other agricultural products were also in oversupply.

A few figures can provide an indication of the extent that marketization is progressing in the Chinese economy. Looking at the purchasing of farm and sideline products, for example, of the total amount of such products purchased in 1978, the amount bought at government purchase prices, at government guided prices (for above-quota purchasing), and at market prices accounted for 92.6%, 1.8%, and 5.6% of the total, respectively; in 1997 these figures were 16.1%, 3.4%, and 80.5%, showing a huge increase in the portion bought on the market, a clear sign that the marketization of China's rural economy is moving ahead. Looking at similar figures for producer/intermediate goods, in 1997 the three ratios were 13.6%, 4.8%, and 81.6%; for total retail sales in the same year the ratios were 5.5%, 1.3%, and

⁴ The relationship among terms of trade, wage determination, and constraints of foreign trade in a socialist country is quite different from that in a developing country. Concerning this problem, see Sah and Stiglitz (1987). Their articles on the theory of the price scissors are included in Sah and Stiglitz (1992).

93.2%, further indication that marketization of the Chinese economy is rapidly progressing.⁵

IV. THE INITIAL PHASE OF REFORMING THE GRAIN DISTRIBUTION SYSTEM

A. *From Centralized Procurement to Government Contract Purchasing*

In 1984 China produced a record making 473.1 million tons of grain, and the government used this as an opportunity to complete the dismantling of the people's communes. At the same time it pushed ahead with the introduction of market principles in the agricultural sector. Party Document No. 1 of January 1985, "Ten Policies for Further Invigorating the Rural Economy,"⁶ announced the changeover from the centralized government procurement system⁷ to the contract purchase system. The new system allowed farmers to sell their surplus grain on the market after they had fulfilled their contract quotas for grain sales to the government. The farmers were also formally given freedom over planting. These changes ushered in the "double-track system" (*shuangguizhi*) of government-set quota prices standing alongside market-set prices, and signaled the beginning of price reforms in the agricultural sector.

The next year in Party Document No. 1 of January 1986, "On the Arrangement for 1986 Rural Works,"⁸ it was announced that under the double-track system the amount of grain purchased at quota prices was being reduced and that purchased at negotiated prices was being expanded. In October 1986 the government issued a "Circular on Improving the Grain Contract Purchasing System"⁹ which announced that the government had decided to supply a set amount of chemical fertilizer and heavy oil which it was linking to the amount of grain it purchased at quota prices; it was doing this in order to achieve the quotas of grain it had contracted to purchase. In February 1987 the Ministry of Commerce, the Ministry of Agriculture, Husbandry, and Fisheries, and the Chinese Petrochemical Company issued a joint announcement, "Practical Methods for Supplying Chemical Fertilizers and Heavy Oil Linked with Grain Purchases,"¹⁰ which said the government would give cash advances for its purchases, and this began the "three links" (*san guagou*) policy which linked chemical fertilizer, diesel oil, and cash advances to quota grain purchases. Then June 1987 the State Council issued a "Circular on Firmly Securing the

⁵ For the data on the prices of agricultural products, capital goods, and retail goods, see Zhongguo Wujia Nianjian Bianjibu (various years).

⁶ See "Zhonggong Zhongyang Guowuyuan sheng" (1985).

⁷ See "Zhonggong Zhongyang guanyu shixing" (1988) and "Zhengwuyuan" (1988).

⁸ See "Zhonggong Zhongyang Guowuyuan yijiubaliu" (1985).

⁹ See "Guowuyuan fachu" (1986).

¹⁰ See "Guowuyuan Bangongting zhuanfa" (1987).

‘Three Links’ Policy for Purchasing Grain.”¹¹ This was followed in January 1988 by a “Circular on Improving the ‘Three Links’ Policy for Purchasing Grain,”¹² issued by the Ministry of Commerce and announcing the government’s target of purchasing 50 million tons of grain.

In August 1994 the government issued a “State Council Circular on Reforming the Distribution System for Agricultural Production Materials” (Meng 1995, pp. v-11–12) which implemented the following reforms. (1) The central government and local governments would set up their own systems for maintaining reserves of chemical fertilizers and pesticides; (2) companies producing fertilizers could sell 10 per cent of their total production on their own; and (3) controls on the prices of agricultural materials would be strengthened—for the seventeen largest producers, the ex-factory price for urea was set at 1,000 yuan per ton; for ammonium nitrate it was 700 yuan per ton, and prices could fluctuate 15 per cent higher or lower. The price of imported fertilizers would be 10 per cent higher than domestically produced fertilizers, and an imported fertilizer price risk fund would be set up. There was to be a unified standard for price differentials in the retail sale of chemical fertilizers excluding transportation and miscellaneous costs, and within the same province there could be a 10 per cent difference in price. Pesticides and agricultural films were to be handled in the same way as chemical fertilizers. These reforms showed that the government was working to assure the availability of these modern agricultural inputs.

B. *The Contract System for Purchasing and Distributing Grain*

The State Council worked through the problems surrounding the policy begun in 1979 for distributing grain, and in 1980 under a plan that gave joint control over grain to the central and local governments, the council put into effect the grain procurement contract system in the provinces of Guizhou, Yunan, Kansu, and Inner Mongolia.¹³ In 1982 the system was implemented in all provinces, municipalities, and autonomous regions (excluding Tibet and Xinjiang). After the new system went into effect, the State Council set up a method of two-tiered grain control between the central and local governments. The central government was given authority over: grain imports and exports, national grain reserves, centrally administered stockpiles of grain for distribution, inter-provincial grain shipments for adjusting insufficiencies among the provinces, centrally administered “*yi zhuan ping*” grain (grain bought at the higher negotiated prices [*yijia*] and sold at the lower quota prices [*pingjia*]), grain used by the military, and grain for encouraging sales of cotton and sugar. Local governments were given control over grain purchasing and selling,

¹¹ See “Guowuyuan guanyu jianshi” (1987).

¹² See “Guowuyuan guanyu wanshan” (1988).

¹³ Based on Dangdai Zhongguo Congshu Bianji Weiyuanhui (1988, Chap. 6, Sec. 2).

fixed stockpiles of grain for distribution, the stockpile of grain purchased at negotiated prices, and reserves for production teams.

In November 1982 the State Council issued a “Circular on the Diligent Execution of All Operations Affecting Grain”¹⁴ which instructed all provinces, municipalities, and autonomous regions to increase the procurement and distribution of grain over and above their contracted targets. They were told: (1) to increase the amount of grain purchased at negotiated prices, (2) to make adjustments for inter-provincial insufficiencies by procuring grain bought at negotiated prices, and (3) that the provinces that borrowed grain from the central government would have to shoulder the interest payments and other costs. Borrowed grain was to be repaid in three years.

Previously in February 1982 the Twenty-Second Standing Committee of the Fifth National People’s Congress had passed a decision to restructure the State Council. This decision brought about the merger of the Ministry of Commerce, the National Federation of Supply and Marketing Cooperatives, and the Ministry of Food to form the Ministry of Commerce. This merger and the establishment of the Ministry of Commerce brought control of all grain operations under one body.

In 1987 the government implemented in all provinces, municipalities, and autonomous regions the “contract system for purchasing and distributing grain” and the “revenue contracting system” (*caizheng baogan*).¹⁵ The government then supplied Beijing, Tianjin, and Shanghai with “*yi zhuan ping*” grain to cover shortages in these cities and also took over their financial debts.

In November 1988 the Ministry of Commerce issued a “Circular on Problems concerning Organizing Grain Distribution between Regions at the Negotiated Price”¹⁶ which declared that problems with adjusting grain distribution among regions could be dealt with by the provinces through direct transactions among themselves or through procurements made at trade meetings. In 1989 the State Council suspended the purchase of “*yi zhuan ping*” grain from farmers citing the government’s growing financial deficit, and it also declared that after farmers had delivered over to the government their contracted amounts of grain, they were free to sell the rest of their grain on the open market. Thereafter a nationwide adjustment took place in the amount of grain the government purchased under contract, and during 1991–92 it bought up only 25 million tons of grain, indicating that the central government was losing its authority over the control of grain.

Turning to the subject of the government’s purchase price for grain (Table III), the average of the purchase prices for 50 kg of six different kinds of grain went from 5.55 yuan in 1950 to 20.01 yuan in 1990, a 3.6 fold increase. Looking at the change in purchase price of specific grains during that forty-year period, wheat went from 7.66 to 23.53 yuan, a 3.3 fold increase; the average for rice went from

¹⁴ See “Guowuyuan guanyu renzhen” (1988, p. 191).

¹⁵ See “Guowuyuan guanyu zuohao” (1987).

¹⁶ See “Shangyebu guanyu zizhi diqu” (1989).

TABLE III
PRODUCER PRICES OF MAJOR GRAINS, 1950–90

(Yuan per 50 kg)

Year	Purchasing Price					
	Average of Six Kinds of Grains	Wheat	Rice			Corn
			Average	Indica	Japonica	
1950	5.55	7.66	5.42	5.30	6.75	3.90
1951	5.71	8.36	5.44	5.31	6.78	3.81
1952	6.04	8.40	5.77	5.60	7.58	4.26
1953	6.76	9.74	6.17	5.93	8.76	5.02
1954	6.59	9.28	6.14	5.91	8.65	5.01
1955	6.63	9.21	6.14	5.91	8.58	5.12
1956	6.68	9.15	6.20	5.99	8.53	5.19
1957	6.73	9.20	6.26	6.04	8.60	5.22
1958	6.94	9.23	6.45	6.23	8.56	5.22
1959	6.98	9.24	6.47	6.24	8.34	5.64
1960	7.16	9.37	6.13	6.46	8.39	5.66
1961	8.92	11.60	8.34	8.12	10.11	5.73
1962	8.96	11.62	8.39	8.17	10.12	7.18
1963	8.96	11.63	8.39	8.16	10.12	7.22
1964	8.96	11.63	8.38	8.16	10.13	7.24
1965	9.09	11.77	8.54	8.34	10.14	7.31
1966	10.55	13.54	9.76	9.52	11.65	8.82
1967	10.55	13.54	9.76	9.52	11.65	8.82
1968	10.55	13.54	9.76	9.52	11.65	8.82
1969	10.55	13.54	9.76	9.52	11.67	8.83
1970	10.55	13.54	9.76	9.52	11.67	8.83
1971	10.59	13.54	9.76	9.52	11.67	8.83
1972	10.60	13.54	9.76	9.52	11.67	8.83
1973	10.60	13.54	9.77	9.52	11.74	8.83
1974	10.61	13.54	9.79	9.52	11.93	8.83
1975	10.63	13.54	9.83	9.52	12.25	8.83
1976	10.63	13.54	9.83	9.52	12.25	8.83
1977	10.63	13.54	9.83	9.52	12.25	8.83
1978	10.76	13.54	9.85	9.54	12.25	8.83
1979	12.99	16.42	11.93	11.58	14.65	10.70
1980	12.99	16.42	11.93	11.58	14.66	10.70
1981	13.54	16.30		11.58	14.71	10.84
1982	13.85	16.20		11.58	14.75	10.94
1983	13.50	16.26		11.58	13.47	10.78
1984	13.41	16.31		11.58	14.05	10.86
1985	18.64	22.07		15.66	19.90	14.66
1986	18.78	22.10		15.70	20.24	15.22
1987	19.35	22.14		17.32	21.19	16.01
1988	20.01	23.83	18.31	17.34	22.13	16.10
1989	20.01	25.34	23.53	22.61	27.82	17.12
1990	20.01	25.34	23.53	27.61	22.82	17.12

Source: Han and Feng (1992, pp. 101–2, Table 7-2).

- Notes: 1. The consumer and the producer price of six kinds of grains during the 1950–84 period was the average price of wheat, rice (Indica and Japonica varieties), millet, corn, sorghum, and soybean. The consumer price during the 1985–88 period was the average price of wheat, rice (Indica and Japonica varieties), corn, and soybean.
2. The standard of the producer and the consumer price is average quality. The producer and consumer price during the 1950–80 period was the weighted average price of the purchasing and selling quantity during the 1976–80 period. The producer and consumer price during the 1981–88 period was the weighted average price of the purchasing and selling quantity each year.

TABLE IV
GRAIN QUANTITIES PURCHASED AND SOLD AT NEGOTIATED PRICES, 1978–92

(10,000 tons of traded grain)

Year	Purchases at Negotiated Prices		Sales at Negotiated Prices	
	Quantities	Share of Total Purchases at Procurement Price and Negotiated Price (%)	Quantities	Share of Total Purchases at Procurement Price and Negotiated Price (%)
1978	325	7	45	0.8
1979	525	10	225	4
1980	860	17	490	8
1981	1,045	20	650	10
1982	1,750	31	795	11
1983	755	8	1,035	15
1984	930	9	2,670	34
1985	1,964	24.8	2,050	23.9
1986	3,233	34.2	2,193	23.4
1987	4,228	43	2,668	29
1988	4,382	46.4	3,316	32.9
1989	5,155	51.8	2,447	27.4
1990	4,374	45.8	2,476	27.4
1991	5,151	53	2,995	40.3
1992	5,152	52.2	3,816	42.4

Sources: Data during the 1978–92 period are based on Han and Feng (1992, pp. 105, Table 7-3). Data during the 1990–92 period are based on *Zhongguo shangye nianjian* [Almanac of China's commerce] (Beijing: Zhongguo Shangye Nianjianshe), various years.

5.42 to 23.53 yuan, a 4.3 fold increase (Indica varieties rose from 5.3 to 27.61 yuan, up 5.2 times; Japonica varieties rose from 6.75 to 22.82 yuan, up 3.4 times); corn went up from 3.9 to 17.12 yuan, a 4.4 fold increase. If we look at the rate of increase since economic reforms began in 1978, as of 1990 Indica varieties had gone up 2.89 times showing the largest increase; next was corn which rose 1.94 times, then wheat up 1.87 times, then Japonica varieties up 1.86 times. Looking at the relative price of rice and wheat, it can be seen that the prices of the two types of rice have been converging as the price of Japonica varieties outpaced wheat in 1989, and Indica varieties did so in 1990.

Looking at the amount of grain purchased by the government at negotiated prices (Table IV), in 1978 it was only 7 per cent of the total 3.25 million tons that the government purchased at quota and negotiated prices. In 1981 the government purchased a total of 10.45 million tons, and in 1982 it reached 17.50 million tons; then in the following years it dropped, but rose again to a total of 19.64 million tons in 1985 with the start of price reforms at which time the amount the government purchased at negotiated prices accounted for 24.8 per cent. Thereafter the total amount purchased continued to increase reaching 51.55 million tons in 1989, of which 51.8 per cent was bought up at negotiated prices. In 1990 the total dipped to 43.74 mil-

lion tons, but in 1991 and 1992 it again surpassed 51.50 million tons with the amount purchased at negotiated prices in 1992 making up 53.2 per cent.

C. *Increase in the Consumer Prices of Grain*

The central government's growing financial deficit brought about a change in policy for the selling of grain. In 1978 the deficit had stood at 3.6 billion yuan; by 1980 it had jumped to 10.8 billion yuan, and by 1990 it had ballooned to 44 billion yuan. To control the surging deficit, the government in 1988 introduced uniform grain purchase and sale prices on an experimental basis in the provinces of Guangdong, Fujian, and Shanxi in an effort to eliminate the negative spread between purchase and sale prices.

In May 1991 the government for the first time in twenty-five years raised the selling price of grain and edible oil for urban residents.¹⁷ It raised these prices again in March 1992 and for the most part was able to eliminate the negative price spread.¹⁸ Also in 1992 the government resolved to bring an end to the food stamp rationing system (*liangpiao*). With the first price increase in May 1991, the price of 500 grams of wheat flour, rice and corn went up from 0.14 yuan to 0.24 yuan; the March 1992 price increase put the price up a further 0.11 yuan.

Looking at the movement in the government's selling price for grain (Table V), the average of the selling prices for 50 kg of six different kinds of grain went up from 10.52 yuan in 1950 to 14.77 yuan in 1990, a 1.4 fold increase. For wheat flour the price rose from 16.45 yuan in 1950 to 18.44 in 1963, but later it fell and was 17.75 yuan in 1990, only 1.1 times higher than the 1950 selling price. The selling price of Indica varieties went up from 9.37 yuan in 1950 to 13.85 in 1984, and was 13.8 yuan in 1990, 1.4 times higher than the 1950 selling price. Japonica varieties went from 12.24 yuan in 1950 to 16.87 yuan in 1982, but then fell back and was 16.33 yuan in 1990, 1.3 times above its 1950 selling price. Corn went from 4.84 yuan in 1950 to 9.27 in 1984, but it too fell back and was 9.05 yuan in 1990, 1.9 times above its 1950 selling price. These figures show that the sale price of corn rose the most followed by Indica varieties. Interestingly too, it can also be seen that the sale price of wheat flour was higher than that for Indica and Japonica varieties which was the reverse of the international market price for these commodities.¹⁹

Looking at the change in the government's selling price of grain from the start of economic reforms in 1978 until 1990, the average price for the six different kinds of grain rose 4.8%. For the separate different grains, the selling price for Indica varieties went up 0.1% while at the same time the prices for wheat, Japonica varieties and corn fell by 0.2%, 1.7%, and 1.0% respectively.

¹⁷ See "Guowuyuan jue ding" (1990).

¹⁸ See "Guowuyuan zui jin" (1992).

¹⁹ Concerning the international comparison of relative prices between food crops and between food and commercial crops, and China's exchange rate policy, see Sicular (1989).

TABLE V
CONSUMER PRICES OF MAJOR GRAINS, 1950-90

(Yuan per 50 kg)

Year	Consumer Price					
	Average of Six Kinds of Grains	Wheat	Rice			Corn
			Average	Indica	Japonica	
1950	10.52	16.45	9.76	9.37	12.24	4.84
1951	10.67	17.24	9.46	8.95	12.76	4.67
1952	10.97	17.16	9.98	9.35	14.10	5.14
1953	11.68	18.10	10.31	9.54	15.16	5.85
1954	11.69	17.96	10.36	9.58	15.32	5.87
1955	11.76	17.96	10.43	9.67	15.27	6.07
1956	11.88	18.18	10.49	9.76	15.14	6.23
1957	11.92	18.13	10.58	9.87	15.12	6.30
1958	11.91	18.01	10.59	9.88	15.11	6.34
1959	12.01	18.27	10.65	9.93	14.63	6.30
1960	12.06	18.22	10.70	9.96	14.82	6.39
1961	12.07	18.23	10.66	9.94	15.16	6.41
1962	12.09	18.29	10.65	9.94	15.15	6.41
1963	12.21	18.44	10.81	10.17	14.82	6.49
1964	12.15	18.22	10.88	10.17	14.86	7.64
1965	13.06	18.21	12.38	11.84	15.46	9.10
1966	14.10	17.82	14.22	13.79	16.62	9.10
1967	14.10	17.81	14.22	13.79	16.62	9.10
1968	14.10	17.81	14.22	13.79	16.62	9.13
1969	14.11	17.81	14.23	13.79	16.65	9.12
1970	14.11	17.81	14.22	13.79	16.64	9.12
1971	14.11	17.81	14.22	13.79	16.64	9.12
1972	14.11	17.80	14.22	13.79	16.64	9.12
1973	14.10	17.80	14.22	13.79	16.62	9.12
1974	14.10	17.80	14.22	13.79	16.62	9.12
1975	14.10	17.78	14.22	13.79	16.61	9.12
1976	14.10	17.78	14.22	13.79	16.61	9.12
1977	14.10	17.78	14.22	13.79	16.61	9.12
1978	14.10	17.78	14.22	13.79	16.61	9.12
1979	14.09	17.78	14.22	13.79	16.59	9.09
1980	14.09	17.78	14.21	13.79	16.58	9.09
1981	14.05	17.71		13.79	16.80	9.14
1982	14.17	17.70		13.77	16.87	9.16
1983	14.44	17.72		13.81	16.60	9.22
1984	14.52	17.72		13.85	16.18	9.27
1985	14.69	17.72		13.82	16.26	9.06
1986	14.89	17.72		13.83	16.23	9.10
1987	14.95	17.74		13.80	16.35	9.12
1988	14.77	17.75		13.80	16.33	9.05
1989	14.77	17.75		13.80	16.33	9.05
1990	14.77	17.75		13.80	16.33	9.05

Sources: Same as for Table III.

Notes: Same as for Table III.

A comparison of the government's purchasing and selling prices in Tables III and V shows that between 1950 and 1984 the average purchase price for the six different kinds of grain was consistently higher than the selling price, but in 1985 this relationship reversed which can be attributed to the price reforms which took place at that time. From 1985 the purchase price of wheat was higher than the selling price of wheat flour, and the purchase prices of rice indica and japonica was likewise higher than their selling prices. The purchase price of corn went above its selling price after 1979. This negative spread in the relationship of purchasing and selling prices amounted to a food subsidy for consumers and was a cause for the government ballooning deficit.

V. A NEW PHASE IN REFORMING THE GRAIN DISTRIBUTION SYSTEM

A. *Eight-Point Policy for the Production, Purchase, and Sale of Grain*

In February 1993 State Councilor Chen Chunsheng announced the government's "Eight-Point Policy for the Production, Purchase, and Sale of Grain."²⁰ The major features of this policy were as follows.

(1) A two-tiered administration of grain operations

The central government would be responsible for national grain reserves, while local governments would be responsible for an annual balance of demand and supply of grain and grain reserves within their jurisdictions. Grain for inter-provincial shipments was to be purchased through direct trading or bought up on wholesale markets. Local governments were to set up stockpile systems which were to be used to insure a balance of intra-provincial grain supplies. Matters concerning such stockpile systems had already been determined with the establishment of the national grain reserve system in September 1990.²¹ The main points of this system were: (a) the national government would purchase farmers' surplus grain at the protective prices, and it would maintain a 17.5-million ton reserve of grain purchased at the negotiated prices; (b) the funds for these grain purchases would come from the People's Bank of China and from the finances of the central government; (c) the problems of insufficient storage facilities were to be dealt with. In April 1991 the National Grain Reserve Bureau was set up. Then in February 1993 a grain trade meeting was held in Beijing to promote inter-provincial grain trading, but only 7.8 million tons in grain trades took place.²² There were three reasons for this slack inter-provincial grain trading. For one, only 3 per cent of total grain production was distributed through inter-provincial trading. Secondly, at those times when

²⁰ See "Guowuyuan zhaoshang" (1993). See also "Guowuyuan youguan bu" 1993.

²¹ See "Guowuyuan weiyuan Chen Chunsheng." 1990. See also Qin (1992, p. IV-10).

²² See "Liangshi jihua" (1993).

there was an abundant supply of grain, local governments in consumer areas did not want to have immediate procurement and transportation because it might make grain prices unstable and the local farmers might suffer great losses from decreasing prices; on the other hand when grain supplies were low, producing areas held back grain from the market in an effort to raise prices. In either case buyers or sellers would not observe their contracts. To overcome this problem the government decided that for inter-provincial trading in 1993, buyers would deposit a 1 per cent guarantee in money, although there were doubts about the effectiveness of this measure. As things turned out, buyers frequently did not provide the guarantee money while sellers considered the amount too small. A third reason for the slack trading was that grain reserves were used to adjust for changes in demand and were an important means for maintaining price stability, therefore they were kept in those areas that were supply and sales centers. This was because the stockpiling of grain in production areas pressed farmers to reduce production because of the losses they incurred due to the stores of excess grain (Sun 1994, pp. 13–18).

(2) Adherence to the grain contract purchase system

The grain contract purchase system was to be adhered to, and 50 million tons of grain would be purchased annually. Farmers who concluded contracts to sell grain would be provided with market information and superior seed varieties to promote production. Areas needing grain would conclude contracts with areas supplying grain. Areas supplying grain would conclude purchasing contracts with farmers. Also the system of deposit a guarantee for purchasing would be retained.

(3) A system of protective prices

During times of falling prices, protective prices would be applied only to grain purchased under the contract purchase system and bought up for special reserves. For other purchases negotiated prices would be used. The protected price for grain purchased by the central government would be based on the contract purchasing system price; for grain purchased by local governments, the price would be based on the market price prevailing on the local market.

The central and local governments together would set up a Food Risk Fund for their jurisdictions. The money for this fund would be covered by a subsidy curtailed by increases in the price of grain for consumers. In October 1993 the State Council approved “Provisional Regulations for Managing the Food Risk Fund.”²³ These regulations stipulated that the Food Risk Fund had to be established starting with the 1993 grain year, that each province, autonomous region and autonomous city would decide the way of setting up the fund in its own jurisdiction, and that the finance sections/departments at each level of government would be responsible for procuring money for the Food Risk Fund. These regulations also stipulated that the authority to utilize the Food Risk Fund would lie with the government that set up

²³ See “Guowuyuan pizhuan” (1993) and “Liangshi fengxian” (1994, pp. 180–81).

the fund, and that responsibility for the actual management of the fund would be with the finance sections and grain offices of each government. The regulations stipulated further that the Food Risk Fund would be under the special supervision of the finance sections and grain offices, that its funding would be appropriated as part of each government's budget, that no individual or government body would be permitted to monopolize the fund or divert it for other uses, and that the falsifying of fund reports would also not be permitted.

(4) Adherence to the policy of the "three links"

The price differential of chemical fertilizers and heavy oil compared with quota prices and negotiated prices was to be added to purchasing prices. This signified the change from the long-standing supplies in kind to subsidies in cash. Until this change the government's usual method had been to provide the farmers with coupons for procuring chemical fertilizers and heavy oil, but with the introduction of the double-track system, fertilizer manufacturers and heavy-oil producers could sell their products on the market and try to maximize profits, and the government began to find it difficult to procure these products in the amounts it had contracted for. In September 1988 and December 1989 the State Council issued directives declaring the sale of fertilizers, pesticides, and agricultural films to be a state monopoly, but the government found it difficult to actually enforce this monopoly. As a result farmers found it difficult to get fertilizers and heavy oil at the quota prices. To overcome this problem the government introduced its "three links" policy.

(5) Strengthened price controls on capital goods for agriculture

Upper limits were to be set on the prices for chemical fertilizers, pesticides, and agricultural films sold outside of the state plan.

(6) Priority allocation of agricultural investment to grain-producing counties

(7) A tax rate cut for agricultural and forestry products

(8) Further reform of the grain distribution system, and the separation of management of state grain enterprises from the administration of grain reserves

B. *Enactment of the Agricultural Law*

In July 1993 the Agricultural Law was enacted. When the law was being drafted, it was known as the Basic Law for Agriculture, but when it came into effect, it had become the Agricultural Law ("Zhongguo Renmin" [1993]). Former Vice Premier Tian Jiyun, in an address given in October 1993, stated that the Agricultural Law was the first such law ever to have the "force, stability, and authority" to protect the interests of farmers (Tian 1993).

Chapter 4 of the new law, composed of six articles dealing with the distribution of agricultural products, shows clearly the law's concern for the farmers' interests. Article 41, for example, states that "The people's government from the county level and above will organize departments or units relevant for (farmers') financial and monetary affairs, grain production, and supply and marketing. This same govern-

ment will provide as needed the funds for purchasing agricultural products, and no unit or individual of the government shall keep these funds or appropriate them for other purposes. Government units responsible for purchasing agricultural products must without fail pay the agricultural production units or farmers for the products at the time of purchase. These same government units shall not reduce the grade or the price of the agricultural products purchased, and no costs shall be deducted from the amount paid to the producers. This law and its administrative regulations stipulate that the deduction and collection of taxes by proxy will be conducted in accordance with this law and its administrative regulations.” The article also stipulates the legal measures for dealing with the “*baitiao*” problem (the problem of local governments not paying farmers for the products that are purchased). Chapter 8 containing seven articles explains legal responsibilities. Article 60 of this chapter stipulates that persons who are in violation of Article 41, discussed above, will return the misappropriated money within the designated time limit or will be dealt with in accordance with the prescribed administrative procedures.

Looking at the other articles of Chapter 4, Article 35 states that the national government will exercise macro-control over important agricultural products, and that the State Council and local governments can charge designated purchasing organizations with the task of buying up agricultural products. Article 36 deals with the protected purchase price system and the Food Risk Fund. Article 37 stipulates that state commercial organizations and cooperative organizations for purchases and sales have to step up construction of storage facilities, improve their purchasing operations, and provide farmers with information; it also states that the national government has to encourage farmers to pursue a variety of ways of distributing their products. Article 38 states that the national government is responsible for supporting and encouraging enterprises, public utilities units, and individuals to work jointly and in compliance with the law for the production, processing and sale of agricultural products beyond individual areas and business sectors. Article 39 states that the national government is responsible for supporting and encouraging the establishment and development of free markets and wholesale markets for agricultural products, and that the supervisors of retail markets for agricultural products cannot become involved in the wholesale markets for such products. Article 40 stipulates that agricultural production and management organizations and other economic organizations which meet the required conditions can, in compliance with the stipulations of the State Council and upon ratification of this law, obtain the right to conduct international trade.

C. *Prospects for Reforming Grain Distribution*

1. *The 1993 grain distribution problem*

(a) The grain market and the “*baoliang fangjia*” policy

The distribution reforms discussed in the previous section pertained to the “*baolian*

fangjia” policy through which the government secured the amount of grain it needed while at the same time allowing grain prices to be liberalized. This new policy was put into effect in 1993. In October of that year grain prices on the free market began to rise, first in Guangzhou City where by November 11 the price of rice had gone up 30 per cent. In Fujian Province the price of rice in early November stood at 1.6 yuan per kilogram in eleven cities, more than 15 per cent higher than a month earlier. The rising prices spread to Jiangxi Province and even reached into the grain-producing provinces of Hunan, Hubei, Sichuan, and Anhui (Li and Zhang 1994).

This rise in prices was due primarily to the monopolistic behavior of the state grain enterprises.²⁴ These enterprises are the transportation, storage, and processing enterprises of the grain department under the Ministry of Commerce.

There are a variety of enterprises involved in China’s grain operations. In the 1992 Statistics of Social and Commerce, China’s commercial organizations were divided into three major categories: administrative organizations of enterprises, management organizations of enterprises, and warehouse/transportation organizations. The total number of these organizations in 1992 was 10.62 million, and they employed 32 million workers.²⁵

The number of administrative organizations of enterprises in 1992 was 97,000, employing 1.56 million people. The number of management organizations of enterprises was 10.5 million employing 29.59 million people. These organizations could be broken down into: state organizations, collective-managed organizations, jointly managed organizations, and individual-operated organizations.

State organizations numbered 512,000 employing 7.72 million workers. Among these were 107,000 organizations purchasing agricultural sideline products which employed 1.57 million workers.

Cooperative-managed organizations in 1992 numbered 1.44 million employing 9.18 million workers. Selling-and-purchasing cooperatives made up 675,000 of these organizations employing 3.66 million workers. The remaining 765,000 cooperatives were of other types and employed 5.52 million workers. Among the selling-and-purchasing cooperatives, those purchasing agricultural sideline products numbered 67,000 and employed 516,000 workers.

There were 3,000 jointly managed organizations employing 57,000 people, while individual-operated organizations numbered 8.54 million and employed 12.64 million workers. These latter organizations made up 81.4 per cent of all managed organizations in 1992 and employed 42.7 per cent of all workers. At the start of economic reforms, individual-operated organizations were not permitted, and their later

²⁴ This is the point which many articles, including Li and Zhang (1994), make.

²⁵ These statistics are a bit dated, and after 1993 the above three statistical categories were done away with following the administrative reforms and reorganization of the Ministry of Commerce into the Ministry of Domestic Trade.

rapid growth to become the most numerous of economic organizations is one of the significant outcomes of distribution system reform. In terms of the scale of their operations, however, these individual-operated organizations are extremely small, averaging 1.5 persons per organization compared with 15.1 persons per state organization and 6.4 persons per collective-managed organization.

As for warehouse/transportation organizations, in 1992 these numbered 27,000 and employed 743,000.

As of the end of 1989 the total number of organizations under the grain department of the Ministry of Commerce was 143,000 employing 3.01 million workers. The six main divisions within the grain department were the grain administration offices, the administrative organizations of enterprises, management organizations of enterprises, transportation organizations, processing and production organizations, and organizations under an independent profit system.

There were 2,802 grain administration offices in the whole country with 136,000 workers. The administrative organizations of enterprises numbered 20,000 with 398,000 workers. Among these organizations were 9,684 that also had business activities employing 182,000 workers. The management organizations of enterprises numbered 106,000 employing 1.57 million workers.

The amount of agricultural sideline products purchased by the Ministry of Commerce rose from 43.54 billion yuan in 1978 to 101.465 billion yuan in 1986, topping 100 billion yuan for the first time. In 1992 it reached 150.13 billion yuan, 3.4 time greater than in 1978. Of the total amount of agricultural sideline products purchased within the economy, that accounted for by the Ministry of Commerce fell from 78% in 1978 to 61.8% in 1992. A breakdown of these figures by units within the ministry shows that for the same time period purchases by the commerce department fell from 18.6% to 10.2%, and for selling-and-purchasing cooperatives the rate fell from 32.6% to 21.2%; but for the grain department it rose from 26.9% to 30.5%. In the area of retail sales, in 1978 the Ministry of Commerce accounted for 76.9% of the economy's total retail sales; by 1992 its share had fallen to 34.4%. A breakdown of these figures shows that the portion accounted for by the commerce department fell from 32.7% to 14.7%, for the grain department it slipped from 8.8% to 7.2%, and for selling-and-purchasing cooperatives it dropped from 35.4% to 12.6%.

Looking at the situation for grain distributed outside of state planning, meaning grain purchased at negotiated prices, according to the statistics for 1987, a total of 75.8 million tons of grain was purchased at negotiated prices, 42.28 million tons of this purchased by the grain department. (In comparison, the volume of grain bought up by the government under the contract purchase system totaled 65.23 million tons.) Broken down by grain purchasing organizations, the grain department accounted for 55.78% of the total grain purchased at negotiated prices; grain processing enterprises accounted for 18.04%; commercial enterprises (not under the com-

merce department) purchased 11.13%, selling-and-purchasing cooperatives 7.70%, and individual merchants 7.35% (Gao 1990). The ability of individual merchants to purchase nearly as much grain as selling-and-purchasing cooperatives is another indication that the distribution system is being liberalized. Another example is the portion of agricultural sideline products sold on the open market by farmers. In 1991 this reached 65% of the total volume of such products transacted by state commercial organization and selling-and-purchasing cooperatives combined (Chen 1992). The fact that the grain department was able to purchase over half of the grain bought up at negotiated prices is good evidence that the organizations under this department could easily act monopolistically. Certainly within the regions and provinces where they carried on their operations they could act monopolistically.

(b) Causes for the rise in grain prices

The rise in grain prices was a manifestation of localized shortages in grain stockpiles. Traditionally in China it is said that “grain from the south provides for the north” (*nanliang beidiao*). But in 1993 the situation was reversed with the government procuring grain in the north and shipping it south in an effort to overcome the rising prices (Yu 1994). One reason for the price rise was an earlier slump in prices for the early crop of rice indica which led to a large-scale reduction in the amount of rice planted.²⁶

A second reason was the delay in government countermeasures. The government did nothing even after grain stockpiles had dwindled to very low levels. A third cause was psychological and human factors which induced rampant speculative behavior. Producers held back their grain from the market while consumers rushed to buy up and hoard the dwindling supply; both behaviors accelerated the rise in grain prices. A fourth cause was the increase in the prices at which the state enterprises sold grain.

The rise in grain prices eventually subsided after which they began to fall causing producers to dump their grain on the market which accelerated the price fall. Such producer and consumer behavior exaggerated the fluctuation in grain prices, but from the start of rising prices the government should have worked to stabilize prices by using its grain reserves to counter any speculative behavior by employing counter-speculation.²⁷ However, one of the big contradictions in the situation was the fact that state enterprises were among the price speculators. The biggest factor causing state grain enterprises to get involved in such price speculation was the “*yi zhuan ping*” system (where grain was bought at the higher negotiated prices and sold at the lower quota prices) which was pushing these enterprises ever deeper into debt. The effects of this system can be seen from Table IV.

Between 1978 and 1992 there were only three years, 1983 through 1985, when

²⁶ See *Zhongguo xinxi bao*, September 20, 1993.

²⁷ For the concept of counter-speculation, see Lerner (1944, Chap. 4).

the volume of grain purchased at negotiated prices was less than the volume sold at negotiated prices, which meant that in the other years the state grain enterprises suffered financial losses because of the “*yi zhuan ping*” system. The volume of “*yi zhuan ping*” sold grain reached 10.4 million tons in 1986, rose to 15.6 million tons in 1987 and peaked at 27.07 million tons in 1989 after which it fell back to 21.56 million tons in 1991, then 13.36 million tons in 1992.

Looking at the accumulating losses of state grain enterprises among state commerce enterprises, the debt on total realized profits and taxes of organizations under the grain department, increased from 3.538 billion yuan in 1984 to over 4 billion in 1986, then to 5.688 billion yuan in 1988; in 1989 it reached 10.733 billion yuan, and in 1990 it jumped to 20.401 billion yuan, then to 29.022 billion in 1992, a record high.

Table VI shows the changes in the various policy-oriented subsidies on grain and edible oil. Subsidies for price rises on grain and edible oil were provided to consumers while various other subsidies were provided to the state grain enterprises, such as subsidies for losses resulting from policies (mainly market losses), for grain and edible oil purchasing premiums, for “*yi zhuan ping*” price differences, for grain purchasing and procurement costs (for grain that local governments procured and delivered over to the central government which did not include grain that these government contracted to purchase from the central government), for costs related to national grain and edible oil reserves (costs for newly increased reserves up to 1990, then for the government’s new system of reserves after 1992).

Subsidies to consumers reached 8.58 million yuan in 1987, but in 1992 producer and consumer prices were equalized which in effect did away with subsidies. Policy-oriented subsidies, which had stood at 2.849 billion yuan in 1979, rose steadily to over 20 billion yuan in 1990 and reaching 25.477 billion yuan in 1992. The grain/edible oil purchasing premium continued increasing from 3.172 billion yuan in 1979 to 12.988 billion in 1984. Thereafter it declined, but in 1989 it was 9.472 billion yuan, and 10.243 billion in 1990. Subsidies for “*yi zhuan ping*” price differences stood at 68 million yuan in 1979 and reached a record high of 5.33 billion yuan in 1989, but then dropped rapidly to 1.974 billion yuan in 1992. Costs connected with the national grain and edible oil reserves were 4.011 billion yuan in 1991 and increased to 5.098 billion in 1992.

Looking at the profits of state grain enterprises, shown in Table VI, these continued to rise from 773 million yuan in 1979 to a record high of 6.527 billion yuan in 1989, but they dropped precipitously to 541 million yuan in 1990, then recovered to 1.923 billion in 1992. Looking at the breakdown of year-on-year profits, industrial profits were the highest, topping profits on negotiated prices for grain/edible oil, except in the years 1987 and 1988. A point to note is that between 1991 and 1993 negotiated prices for grain/edible oil resulted in losses rather than profits.

TABLE VI
 SUBSIDIES ON GRAIN AND EDIBLE OILS AS PART OF AGRICULTURAL POLICY, 1979-92

Item	(100 million yuan)													
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Total amount of subsidies	85.39	113.59	142.93	160.76	187.55	234.29	197.33	206.39	243.61	282.34	408.98	477.13	475.09	365.35
Subsidies for price increases on grain and edible oils	24.50	35.61	40.68	45.91	46.63	47.91	—	66.61	85.79	61.17	79.10	—	47.10	—
Subsidies for losses due to policies	28.49	32.41	36.26	40.95	42.80	46.82	—	—	—	108.95	174.03	222.12	248.72	254.77
Subsidies for above-quota prices of grain and edible oil	31.72	41.90	60.25	64.29	88.04	129.88	90.48	89.58	79.18	75.50	94.72	102.43	79.76	—
Subsidies for differentials on "yi zhuan pin"	0.68	3.36	5.15	9.10	9.50	—	—	—	22.40	32.01	53.30	50.75	33.23	19.74
Subsidies for purposes other than contract purchase and procurement of grain	—	—	—	—	—	8.97	—	—	—	—	—	—	—	—
Subsidies for the costs of state grain and edible oil reserves	—	0.31	0.59	0.51	0.58	0.71	—	—	—	—	—	—	40.11	50.98
Profits of enterprises	7.73	11.07	15.04	19.39	21.58	25.20	36.57	39.81	45.18	58.27	65.27	5.41	7.49	19.23
Profits on negotiated prices of grain and edible oils	0.90	3.99	6.94	9.21	9.26	10.37	16.84	17.67	18.45	25.58	31.22	-19.91	-20.31	-5.09
Profits on industry	5.92	6.70	7.61	9.35	10.99	13.11	17.58	18.12	21.30	24.88	27.27	21.48	22.77	21.77
Profits on feed	—	—	—	—	0.43	0.69	2.85	2.88	4.26	5.69	5.46	2.81	3.70	2.78
Profits on transportation	0.44	0.35	0.40	0.62	0.80	0.82	—	—	—	0.91	1.13	0.79	0.86	0.32
Other profits	0.07	0.03	0.09	0.21	0.10	0.13	—	—	—	—	—	—	—	—

Sources: Dangdai Zhongguo Gongshu Bianji Weiyuanhui (1988, p. 435, Table 24 and p. 436, Table 25), and *Zhongguo shangye nianjian* [Almanac of China's commerce], various years.

Notes: 1. Subsidies as part of agricultural policy do not include subsidies on imports.

2. Subsidies for the costs of state grain and edible oil reserves means subsidies for the newly increased reserves of grain and edible oil during the 1979-84 period and subsidies for the reserves of grain and edible oil after 1991.

2. *Prospects for reforming the distribution system*

(a) Commercialization of state grain enterprises

In 1993 the monopolistic activities of the state grain enterprises in their regions of operation pointed out the clear need for the “separation of these enterprises from government administration” (*zhengqi fenkai*). There is indeed a need to make the state grain enterprises purely commercial entities operating independent of government organizations.²⁸ For this to happen the “*yi zhuan ping*” price structure has to be changed, and it will also be necessary to separate these enterprises from their functions in maintaining the national grain reserves.

However, in a speech on September 6, 1994, Premier Li Peng recognized only the need to separate the national grain reserves into those provided for by policy and those for grain enterprise operations.²⁹

At the National Work Conference on Reforming the Grain Distribution System held in Beijing in April 1998, Premier Zhu Rongji asserted that the principles for reforming the grain distribution system consisted of “four separations” and “one completeness.”³⁰ The four separations meant the separation of government and grain enterprises, the separation of central and local government responsibilities, the separation of grain reserves and grain enterprise operations, and the separation of old and new financial accounts; the one completeness meant the realization of a grain pricing system. Premier Zhu’s clarified his “four separations and one completeness” statement as follows.

(1) The separation of government and grain enterprises means that the government administrative sector should not be involved in the operations of the state grain enterprises. The state grain enterprises all the way down to the grain storage facilities at the township and village level have to become market oriented. They have to implement independent cost accounting systems, lower the costs of production and management, strengthen their competitiveness, and they need to become autonomously operating, independently profitable, self-developing economic entities.

(2) The separation of central and local government responsibilities means the separation of the central government’s and the local governments’ responsibilities and powers over grain operations. The central government should concentrate on maintaining the nation-wide balance of supply and demand in grain while the local governments need to be responsible for grain production and distribution within the areas under their jurisdiction; they also need to promote the development of grain production, increase grain reserves, guarantee grain supplies, and maintain the stability of grain prices.

(3) The separation of grain reserves and grain enterprise operations means the

²⁸ For instance, see Zhou (1994).

²⁹ See “Li Peng zai quanguo” (1994).

³⁰ See “Quanguo liangshi” (1998).

separation of national and local reserves from grain stockpiles for firm management, and the need to make proficient use of grain reserves and lower the costs of maintaining these reserves. The grain reserve systems at the national and local levels have to be completed. Governments in the grain-producing and grain-purchasing areas need to maintain reasonably sufficient reserves; governments in purchasing areas need to share in the burden of maintaining grain reserves to lighten the financial pressure on grain-producing areas.

(4) The separation of old and new financial accounts means that the financial losses of the state grain enterprises held by banks have to be repaid within a set time frame, and the liquidation of these losses have to be shared by the central and local governments. During the set time frame the central government will cover the interest charges on the losses with the exception of grain enterprises in a few major grain-purchasing areas. Henceforth grain enterprises will have to adhere to the principle of making a profit in the buying and selling of grain, will have to avoid incurring new debt, and will have to repay their debt principal from their operating profits within the set repayment time frame. Banks should control funds for purchasing grain by the method of linking credit with grain stockpiles, namely, the method of making money flow with grain, and after purchasing and selling grain, the enterprises will retain a sufficient amount of funds for repaying the principal and interest on their loans from the Agricultural Development Bank of China. For its part, the bank needs to strengthen its supervision over the flow of funds used for the purchase, sale, and stockpiling of grain.

(b) National grain price stabilization system

The government has already worked out a three-tiered system of grain reserves made up of stockpiles under the central government, local governments, and at the village level. The most important of these are the national grain reserves under the central government which function as a buffer stockpile for maintaining price stability. It is said that the minimum amount of the national grain reserves is 25 million tons (Zhou 1994) or the FAO standard (15–20 per cent of total sales) (Wang 1995), but this information is a state secret and not made public. But an estimation of China's optimal grain reserves is an interesting question and one that needs to be studied from the theoretical standpoint as well.³¹ Another important problem plagu-

³¹ For the theory of optimal buffer stock, see Newbery and Stiglitz (1981). They conclude that: "The optimal buffer stock rule can be characterized by an (approximately) piecewise linear function: no storage when the stock carried over plus the harvest is below a critical number, with a constant fraction of the excess over this critical amount being placed into storage. Very roughly the optimal storage rule is to carry forward slightly more than one-half of the excess of initial supply (including the stock on hand) over some critical level, itself slightly greater than the average harvest . . . The net gains from the optimal storage scheme, though small, are significantly greater than those obtained from alternative storage policies (e. g. maintaining prices within a band width) often proposed. It should be observed, however, that the optimal buffer stock scheme leaves considerable remaining price variability." (p. 433)

ing the country's grain reserves is the serious shortage of storage facilities. As of 1996 China was capable of storing only 10 million tons of grain (Chen 1996, pp. I-1-8).

(c) Setting up a grain futures market

The establishment of a grain futures market will link the domestic grain market with the international market, and China needs to consider the procurement of grain on the international market. The government has already applied for membership in the WTO and has expressed China's desire to participate in the international economic community. In response to these developments, the State Council set up a Working Team to Study a Futures Market for China which in January 1989 submitted a "Preliminary Proposal on Implementing an Agricultural Products Futures Market" ("Nongchanpin xianwu shichan shishi zhubufeng'an"). Thereafter the Zhengzhou grain wholesale market was set up in October 1990, and in May 1993 an agricultural commodities exchange was formally established in Zhengzhou. Later an exchange was set up in Shanghai, and by 1995 there was a total of fifteen exchanges operating in the country, twelve of which carried on futures trading in agricultural commodities.³² There were six commodity exchanges (in Zhengzhou, Shanghai, Beijing, Dalian, Suzhou, and Shenyang), two unified commodity exchanges (in Tianjin and Changchun), two unified futures exchanges (in Chengdu and Guangzhou); there was also the Shanghai Grain and Edible Oil Exchange and the Hainan Medium-Term Futures Exchange (Wong 1997).

In June 1994 the Securities Committee of the State Council exhibited a cautious attitude toward futures trading when it issued "Some Opinions about Completely Prohibiting Reckless Developments in the Futures Market."³³ Then in October of that year when prices rose because of speculation, the committee decided to halt futures trading in rice (japonica) and rape seed oil for a time.³⁴ In October of 1998 it was decided to close down the Beijing exchange because of the difficulty of maintaining sound trading operations. Finally the government announced that the operations of eleven of the country's exchanges were to be concentrated in Shanghai, Zhengzhou, and Dalian.³⁵

(d) "Grain Purchasing Regulations"

In May 1998 while inspecting grain operations in Anhui Province, Premier Zhu commented that when state grain enterprises cannot purchase grain at the protective prices, it falls into the hands of private merchants, and the grain enterprises are not able to sell at a profit. Therefore the grain purchasing market should not be

³² In Beijing in 1997 when this author visited the Qinpeng Futures Trading Company, China's largest futures trader, he observed that trading was computerized, but the company carried on only domestic transactions for a small number of members and had not yet expanded into international trading.

³³ See "Guowuyuan Bangongting zhuanfa Guowuyuan" (1994).

³⁴ See "Guowuyuan Bangongting zhuanfa Zhengjianhui" (1994).

³⁵ See *Nikkan kogyo shimbun*, October 7 and 21, 1998.

liberalized. State grain enterprises only should be permitted to purchase grain at the village level, and all individuals, private firms and other types of enterprises should not be allowed to enter the villages for purchasing grain. Grain-processing companies and other units can purchase the grain they need on the exchange markets at the county level and above. The exchange markets at these higher levels are open throughout the year.³⁶ These points by Zhu were specifically expressed in the “Grain Purchasing Regulations”³⁷ which the General Office of the Central Committee of the CCP and the General Office of the State Council issued in June 1998.

This new distribution policy for grain markets at the village level means that private merchants and enterprises are banned from purchasing grain in the villages and that state grain enterprises will buy up grain from the villagers at the protective prices. This guarantees the villagers’ income, but it puts the state grain enterprises in a position to monopsonize grain which means that at times of a grain surplus it will be quite possible for these enterprises to lower the protective prices.

Liberalizing the grain markets from the county level up but not liberalizing the market at the village level means maintaining a controlled market which is different from an open liberalized market. In this sense market liberalization at the village level is regressing.

Despite the new “Grain Purchasing Regulations” and the ban on private grain transactions at the village level, the actual situation is likely rather different. A study up to January 1999 by Kako and Zhang, contained in this special issue, reports that after villagers (in the researchers’ study village in Heilongjiang Province) fulfill their contracted rice sales to the government, they sell the rest of their rice to merchants at prices above the quota prices. This is a clear indication that private merchants are still carrying on grain transactions directly with village households, which shows how difficult it actually is to hold back market liberalization at the village level.

(e) The difference in foreign and domestic grain prices

The change in the nominal rate of protection for agricultural products in the course of China’s marketization of its economy is shown in Table VII. The average rate of protection for nine products rose from -17.92 in 1986 to -2.57 in 1995. The average during the same period for five agricultural exports rose from -38.88 to -20.29 ; for four agricultural imports it rose from 26.54 to 38.96 . Over the whole period from 1986 to 1995, the nominal rate of protection for agricultural imports showed a plus value while for agricultural exports it was minus, indicating that China has been following an import substitution strategy in agricultural production.

But this import-substitution strategy is reaching its limits. In the area of imported

³⁶ See “Zhu Rongji” (1998).

³⁷ See “Liangshi shougou tiaoli” (1998).

TABLE VII
CHANGES IN THE NOMINAL TARIFF RATES OF AGRICULTURAL PRODUCTS IN CHINA, 1986-95

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Average of nine agricultural products ^a	-17.92	-6.86	1.89	11.65	-16.61	-19.58	-16.46	-5.52	-21.07	-2.57
Agricultural exports										
Average ^a	-38.88	-31.52	-31.19	-14.77	-35.53	-51.31	-47.66	-38.41	-40.48	-20.29
Beef	-45.23	-42.81	-19.54	-11.76	-35.36	-31.11	-24.11	-22.53	-24.37	2.56
Pork	-83.92	-82.86	-75.78	-69.52	-76.53	-74.93	-75.47	-78.29	-77.46	-72.63
Rice	-15.58	8.47	-6.84	22.04	-13.16	-27.89	-27.96	-1.80	18.41	34.13
Corn	17.55	38.53	39.16	52.09	11.86	-35.44	-34.35	-40.00	-41.66	20.82
Soybean	28.77	32.11	42.63	38.46	-5.73	-15.50	45.04	59.41	22.51	54.80
Agricultural imports										
Average ^a	26.54	53.07	87.74	72.97	22.13	39.19	44.75	67.75	33.00	38.96
Wheat	-5.00	61.60	117.55	62.84	8.12	21.34	3.35	10.94	22.40	11.78
Sugar	130.12	159.18	145.75	153.62	62.76	129.99	151.89	135.73	104.18	131.79
Cotton	35.24	-50.77	-32.39	1.63	-17.32	-24.08	-27.50	-19.78	-22.70	-5.28
Edible oil	68.93	93.68	105.53	133.17	98.56	102.30	111.05	170.67	67.78	77.61

Source: Cheng Guoqiang and Sun Dongsheng, "Zhongguo nongye zhengce gaige de duyiyang" [An analysis of the effect of China's agricultural policy reform], *Jingji yanjiu*, 30, no.4 (1998), p. 60, Table 2.

^a Weighted average using quantities of exports and imports.

TABLE VIII
PRODUCER SUBSIDY EQUIVALENTS OF MAJOR AGRICULTURAL PRODUCTS IN CHINA, 1991-95

	1991	1992	1993	1994	1995
					(%)
Agricultural exports					
Average	-36.30	-22.44	-34.66	-49.27	-9.49
Beef	-23.17	-25.82	-116.03	-2.76	-6.56
Pork	-3.26	1.39	-69.92	-118.28	-98.37
Rice	-87.76	-62.07	-37.29	-13.33	31.4
Corn	-50.68	-52.08	-68.41	-109.59	15.11
Soybean	-16.62	26.37	18.04	-2.39	10.97
Agricultural imports					
Average	22.04	16.47	21.92	10.14	20.33
Wheat	15.06	-4.29	1.19	-12.63	-7.42
Sugar	62.39	63.03	59.78	51.88	57.9
Cotton	-35.24	-37.41	-30.36	-35.65	-10.66
Edible oil	45.93	44.55	57.08	36.97	41.49

Source: Same as for Table VII.

agricultural products, in 1995 only cotton was internationally competitive, and even its competitiveness was declining. For exported agricultural products, only pork was internationally competitive. Rice was internationally competitive until 1993, but it is noteworthy that since 1994 and 1995, competitiveness in this product has also been lost. Since the start of agricultural reforms in 1978, the State Council has been raising the purchasing prices of grain, but this price reform is also reaching its limits.

This problem is examined in Table VIII which uses the producer subsidy equivalent (PSE) developed by T. Joseling (1973).

$$PSE = \frac{(GPP - NDP)Q_p + (NDP - NBP * NER) * Q + D - L + B}{Q * NDP + D - L} \times 100,$$

where GPP = support price of agricultural products, NDP = domestic price, Q_p = government purchases, NBP = international price, NER = nominal exchange rate, Q = domestic production, D = direct subsidies to the agricultural sector, L = agricultural taxes, and B = expenditures on agriculture.

The PSE for rice rose from -87.76 in 1991 to 15.11 in 1995. Compared with other agricultural products in 1995, this was the third highest rise behind only that for sugar and edible vegetable oils.

Considering the growing gap between foreign and domestic agricultural prices, it is apparent that dependence on pricing policies has reached its limits. The time has now come when the government has to shift from price policy to structural adjustment policy.

VI. CONCLUSION

At the Third Meeting of the Eighth National People's Congress in May 1995, Premier Li Peng presented his "Report on the Work of the Government" (Li 1995) in which he stated that one of the objectives of efforts in the agricultural sector for that year was reform of the distribution system. He said that the distribution system for agricultural products was being reformed and policy set down for conducting their purchase and sale, and that plans were being drawn up to establish a system for stockpiling major agricultural commodities such as grain and to set up a risk fund system to maintain regional and structural balance in the supply and demand for grain. The premier stated that the government would adhere to "the mayor responsibility system for the 'basket of vegetables'" (*cailanzi shizhang fuzezhi*) and "the provincial governor responsibility system for the 'rice bags'" (*midaizi shengzhang fuzhezhi*). By responsibility for the rice bags Li meant that the provinces were responsible for supplying their citizens with grain, and this would require that they maintain the amount of land under cultivation, increase production per unit of land, increase stockpiles, keep the balance in supply and demand, and maintain price stability.

At the Fourth Meeting of the Eighth National People's Congress in March 1996, in his "Report on the Outline of the Ninth Five-Year Plan for National Economic and Social Development and the Long-Term Targets Up to the Year 2010" (Li 1996), Premier Li Peng again called for adherence to the "rice bag" responsibility system of the governors and the "vegetable basket" responsibility system of the mayors. He also called for the rationalization of agricultural finances and prices and the establishment of an agricultural commodities market system based on wholesale markets. Then in its 1997 "Report on the Work of the Government" (Li 1997), the government again emphasized reform of the grain distribution system, adjustment of the protective price system, enhancing grain production and stockpiling, and stressed the importance of encouraging the farmers' enthusiasm to produce and the importance of adhering to the principle of what the government called "having one primary and many secondaries," meaning making the state grain sector the primary area while the large grain consumers, the purchasing and sales cooperatives, the agricultural production and land development agencies and other sectors would be secondary areas in the government's plans to revitalize grain distribution.

In Li Peng's last "Report on the Work of the Government" in 1998 (Li 1998), the premier again stressed the same matters along with emphasizing the government's intention to keep to a policy of purchasing grain based on protective prices. A move toward a form of indirect control through the protective price system for controlling grain is now just beginning to take place, and the fact that the government has been compelled to introduce its system of governors responsible for "rice bags" is a sure sign that China is experiencing a period of excess grain.

For China to reduce the gap between foreign and domestic grain prices, rather than resorting to price policies, it has to reform its production systems to achieve economies of scale, reorganize its agricultural infrastructure, and bring down production costs through technological reforms in the agricultural sector. The government's policies will have to move in this direction if China intends to participate in the World Trade Organization.

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