

**Table 1. Soybean Price Determination Regression for All Markets in China for All Periods (1999 to 2003).**

Explanatory Variables	All Markets	
	Model I: Prices in Linear Form	Model II: Prices in Log Form
Distance from Tianjin/Shanghai/Guangdong (1000 km)	-76.26* (-8.32)	-0.035* (-8.20)
Group Dummies (Northeast/North China; Eastern China; Southern China)	Included	Included
Time Period Dummies	Included	Included
Constant	2109.86* (76.98)	7.65* (559.42)
Adjusted R-square	0.902	0.89
No. of Observations	570	570

Notes: T-statistics are in parentheses; coefficients marked with \* indicating statistically significant from zero at the 1% level.

Data source: Datasets 1 (see text for description of data)

**Table 2. Soybean Price Determination Regression for All Periods (1999 to 2003) for 3 Groups of Markets.**

Explanatory Variable	Dependent Variable: Price					
	Group 1: Tianjin		Group 2: Shanghai		Group 3: Guangdong	
	Linear	Log	Linear	Log	Linear	Log
Distance from Tianjin/Shanghai/Guangdong (1000 km)	-86.55* (-4.67)	-0.042* (-4.63)	-162.60* (-6.49)	-0.0712* (-6.78)	-59.04* (-6.26)	-0.026* (-6.42)
Time Period Dummies	Included	Included	Included	Included	Included	Included
Constant	2250.6* (42.04)	7.72* (291.74)	2096.64* (61.85)	7.65* (534.79)	2131.31* (57.21)	7.66* (486.23)
Adjusted R- square	0.848	0.82	0.948	0.95	0.94	0.94
No. of Observations	228	228	171	171	171	171

Notes: T-statistics are in parentheses; coefficients marked with \* indicating statistically significant from zero at the 1% level.

Data source: Datasets 1 (see text for description of data)

**Table 3. Correlation Coefficients between Each Pair of Price Series for Soybean Markets in China, 1999- 2003.**

	Guang dong	Shang hai	Jiang su	Jiangxi	Hebei	Henan	Shang dong	Tianjin	Hei Long Jiang	Jilin
Guang- dong	1	0.998	0.997	0.996	0.874	0.914	0.916	0.865	0.926	0.920
Shanghai	0.998	1	0.999	0.998	0.874	0.918	0.920	0.863	0.926	0.921
Jiangsu	0.997	0.999	1	0.998	0.877	0.923	0.924	0.867	0.927	0.924
Jiangxi	0.996	0.998	0.998	1	0.891	0.933	0.935	0.881	0.940	0.937
Hebei	0.874	0.874	0.877	0.891	1	0.956	0.965	0.992	0.956	0.953
Henan	0.914	0.918	0.923	0.933	0.956	1	0.990	0.948	0.966	0.986
Shang dong	0.916	0.920	0.924	0.935	0.965	0.990	1	0.955	0.971	0.981
Tianjing	0.865	0.863	0.867	0.881	0.992	0.948	0.955	1	0.946	0.941
Heilong Jiang	0.926	0.926	0.927	0.940	0.956	0.966	0.971	0.946	1	0.978
Jilin	0.920	0.921	0.924	0.937	0.953	0.986	0.981	0.941	0.978	1

Data source: Datasets 1 (see text for description of data)

**Table 4. Cointegration Tests on China's Soybean Markets with Heilongjiang and Guangdong as Reference Markets (Part I, Test of Stationarity), 1999- 2003.**

Market	Test Statistics	Conclusion	
<b>Augmented Dickey-Fuller Tests (Lags=10)</b>		5% critical value with constant	
Jilin	-0.20	no trend: -2.89	Each series is unit root, and thus, I(1).
Heilongjiang	-1.05		
Tianjin	-0.48		
Hebei	-0.26		
Shanghai	-1.15		
Jiangsu	-1.08		
Jiangxi	-1.09		
Shangdong	-0.33		
Henan	-0.17		
Guangdong	-1.22		

Data source: Datasets 1 (see text for description of data)

**Table 5. Cointegration Tests on China's Soybean Markets, Testing Comovement of Prices Between Each Market and Heilongjiang/Guangdong as Reference Markets (Part II, Test of Integration), 1999-2003.**

<b>Augmented Dickey-Fuller Tests for Pair Markets</b>		Critical value with constant and trend: (5%) -3.46 (1%) -4.06	
Reference Market: Heilongjiang			
Tianjin	-3.87*	Ü	All markets are integrated with Heilongjiang.
Hebei	-3.73*	Ü	
Shanghai	-4.11**	Ü	
Jiangsu	-4.07**	Ü	
Jiangxi	-4.23**	Ü	
Shangdon	-4.77**	Ü	
Henan	-4.8**	Ü	
Guangdong	-4.01*	Ü	
Reference Market: Guangdong			
Heilongjiang	-4.1**	Ü	All markets are integrated with Guangdong.
Tianjin	-3.6*	Ü	
Hebei	-3.54*	Ü	
Shanghai	-3.61*	Ü	
Jiangsu	-3.63*	Ü	
Jiangxi	-3.67*	Ü	
Shangdong	-4.27**	Ü	
Henan	-4.52**	Ü	

Notes: 1. Augmented Dicky-Fuller test was implemented over the pair markets.  
 2. Program in Eview.  
 3. Data set used "beanPrice.xls" in Eview file "sbprice.wf1" (Dataset 1)

**Table 6. Cointegration Tests on China's Soybean Markets, Testing Comovement of Prices Between Each Market and Heilongjiang as Reference Market (Part I and Part II, Tests of Stationarity and Test of Integration), 1999-2004 (March).**

Market	Test Statistics		Conclusion
<b>Augmented Dickey-Fuller Tests (Lags=14)</b>			
		5% critical value with constant and no trend: -2.89	
Heilongjiang	0.45		Each series is unit root, and thus, I(1).
Hebei	0.45		
Shangdon	1.03		
Henan	1.0		
<b>Augmented Dickey-Fuller Tests for Pair Markets</b>			
		Critical value with constant and trend: (5%) -3.46 (10%) -2.59	
Center Marekts:			
Heilongjiang			All Markets are integrated with Heilongjiang.
Hebei	-3.84**	Û	
Shangdon	-3.17*	Û	
Henan	-3.41*	Û	

Data source: Datasets 1 (see text for description of data)

**Table 7. Soybean, Maize and Wheat Village Price Regressions Used as Test of Regional Market to Village Integration in China, 2000.**

Explanatory Variables	(1) Soybean Price	(2) Maize Price	(3) Wheat Price
Distance to the nearest county market	<b>-0.029</b> (2.37)**	-0.00064 (-1.63)*	-0.0095 (3.24)**
Village-Level Shock to Production	<b>-0.04</b> (-0.17)	0.12 (-1.34)	0.081 (-1.02)
Other Variables not shown	timing of sales / net purchase or seller /		

Data source: Dataset 2 (see text for description of data).

**Table 8. Import tariff rates on major agricultural products subject to tariff-only protection in China.**

	Actual tariff rates in 2001	Effective as of 1 January	
		2002	2004
Barley	114 (3) <sup>a</sup>	3	3
Soybean	3 <sup>b</sup>	3	3
Citrus	40	20	12
Other fruits	30-40	13-20	10-13
Vegetables	30-50	13-29	10-15
Beef	45	23.2	12
Pork	20	18.4	12
Poultry meat	20	18.4	10
Dairy products	50	20-37	10-12
Wine	65	45	14
Tobacco	34	28	10

a: Barley was subjected to licence and import quota, the tariff rate was 3% for import within the quota and no above-quota barley with 114% tariff was imported in 2001.

b: Tariff rate was as high as 114% before 2000 and lowered to 3% in after the early of 2000.

Source: China's WTO *Protocol of Accession*, November 2001.



**Table 9. China's market access commitments on farm products subject to tariff rate quotas.**

	Import volume (mmt) (State trading share, %)			Quota growth (%pa)	In-quota tariff (%)	Out-of-quota tariff (%) (%, as of 1 January)		
	Actual 2000	Quota 2002	Quota 2004			2002	2003	2004
Rice	0.24 (100) <sup>a</sup>	3.76 (50)	5.32 (50)	19	1	74	71	65
Wheat	0.87 (100)	8.45 (90)	9.64 (90)	8	1	71	68	65
Maize	0.0 (100)	5.70 (67)	7.20 (60)	13	1	71	68	65
Cotton	0.05 (100)	0.82 (33)	0.89 (33)	5	1	54.4	47.2	40
Wool <sup>b</sup>	0.30	0.34	0.37	5	1	38	38	38
Edible oils <sup>c</sup>	1.79 (100)	5.69 (40)	6.81 (10)	15	9	75	72	68
Sugar <sup>d</sup>	0.64	1.68	1.95	8	20	90	72	50

a: Figures in parentheses are the share (%) of non-state trading in import quota.

b: Designated trading in 2002-2004 and phased out thereafter.

c: TRQ regime will be phased out in 2006. In 2005, import quota will be 7.27 mmt with 9% in-quota tariff and 65% out-of-quota tariff.

d: Phased out quota for state trade.

Source: China's WTO *Protocol of Accession*, November 2001; CNSB, Statistical Yearbook of China, 2001.

**Table 10. Nominal Protection Rates (NPR) for Major Grains and Soybeans, 1978-2002.**

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	Rice	Wheat	Maize	Soybean
1978-79	10	89	92	40
1980-84	9	58	46	44
1985-89	-4	52	37	39
1990-94	-7	30	15	26
1995-96	-2	21	20	30
1998	-4	20	38	38
1999	-4	25	35	35
2000	-5	15	28	20
2001	-3	12	32	17
2002	-3	8	15	16

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Data Source: Huang and Rozelle, 2003.

**Table 11. Policy Distortions and Nominal Protection Rates of Major Commodities in China 1997-2003 (Units: Percent).**

	Import				Export			
	Tariff rate	VAT	NTB	NPR	Tax rebate	Subsidy	NTB	NPR
1997-2001								
Rice	1	13	3	17	1	0	-10	-9
Wheat	1	13	6	20				
Maize	1	13	11	25	13	24	21	34
Cotton	3	13	2	18	5	10	0	20
Oilseeds	18	13	17	48				
Sugar	29	15	6	50				
Vegetable	35	15	0	50	1	0	-11	-10
Fruits	35	15	0	50	1	0	-11	-10
Pork	20	15	0	35	5	0	-25	-20
Beef	45	15	0	60	5	0	-13	-8
Poultry	20	15	0	35	13	0	-30	-17
Fish	14	13	0	27	5	0	-20	-15
Soybean								
1997	3-114	13	24	40				
1998	3-114	13	22	38				
1999	3	13	19	35				
2000	3	13	4	20				
2001	3	13	1	17				
2002	3	13	0	16				
2003	3	13	0	16				

Data Source: Huang and Rozelle, 2003

**Table 12. Annual Imports and Exports of Soybean and Soybean Oil, 1997-2003. (Units: Thousand Tons)**

Commodity	Period	Import	Export	Net export
Soybean	1980-84	302	323	21
	1985-89	144	1393	1249
	1990-95	95.7	720.7	625
	1996	1114	190	-924
	1997	2886	190	-2696
	1998	3201	170	-3031
	1999	4320	200	-4120
	2000	10420	217	-10203
	2001	13940	250	-13690
	2002	11320	280	-11040
	2003	20740	270	-20470
Soybean oil	1980-84	47.6	1	-46.6
	1985-89	233.8	0.4	-233.4
	1990-95	615.5	27.7	-587.8
	1996	1295	127	-1168
	1997	1225	556	-669
	1998	832	186	-646
	1999	804	53	-751
	2000	308	35	-273
	2001	70	60	-10
	2002	870	47	-823
	2003	880	11	-869

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Data Sources: China Customs Data Base.

**Table 13. Real wholesale prices of major agricultural commodities, Yuan/Ton, 1990-2003.**

	Rice	Wheat	Maize	Soybean	Pork	Poultry
1990	2087	1757	1338	3086	10275	11623
1991	1860	1566	1232	2830	11430	12162
1992	2114	1867	1250	3273	12047	12904
1993	2060	1752	1165	3250	13222	13601
1994	2589	2066	1571	3304	14621	12885
1995	2637	1978	1766	2982	14797	12920
1996	2464	1873	1514	3314	14494	13440
1997	2041	1644	1383	3556	15849	12036
1998	1855	1511	1254	2693	14176	10737
1999	1659	1458	1117	2190	11936	9572
2000	1581	1328	983	2303	12695	8636
2001	1639	1243	1093	2229	13603	9123
2002	1630	1236	1132	2171	12594	9421
2003	1685	1355	1216	2658	11157	9460

Note: Prices deflated by CPI and in 2003 Yuan.

Data source: China National Statistical Bureau.

**Table 14. Soybean Production and Sown Area in China, 1980 to 2003.**

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Year	Production (1000 tons)	Sown Area (1000 hectares)
1980	7590	--
1981	9300	--
1982	9050	--
1983	9750	--
1984	9700	--
1985	10500	--
1986	11614	--
1987	12184	--
1988	11602	--
1989	10228	--
1990	11100	7560
1991	9887	7041
1992	10424	7221
1993	15307	9454
1994	15999	9222
1995	13504	8127
1996	13222	7471
1997	14730	8346
1998	15150	8500
1999	14250	7962
2000	15410	9307
2001	15410	9482
2002	16510	8720
2003	15393	9313

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Data Source: China National Statistical Yearbook, 2004

**Table 15. Provincial share of soybean area and production in China, 2003.**

	Production Area share		Production share
	1000 ton	%	%
China	15393	100	100
Heilongjiang	5608	36.4	36.4
Jilin	1503	4.6	9.8
Anhui	999	9.2	6.5
Shandong	692	3.1	4.5
Liaoning	646	3.3	4.2
Jiansu	568	2.6	3.7
Henan	567	5.4	3.7
Inner Mongolia	536	7.5	3.5
Hebei	464	3.0	3.0
Sichuan	460	2.2	3.0
Hubei	447	2.1	2.9
Hunan	397	2.1	2.6
Guanxi	360	2.8	2.3
Shanxi	298	2.2	1.9
Zhejiang	264	1.3	1.7
Xinjiang	198	0.7	1.3
Jiangxi	192	1.3	1.2
Fujian	180	1.0	1.2
Guizhou	177	1.4	1.2
Shaanxi	159	3.3	1.0
Guandong	154	0.9	1.0
Yunnan	148	1.2	1.0
Gansu	131	0.9	0.9
Chongqing	100	0.9	0.7
Tianjin	61	0.3	0.4
Beijing	28	0.2	0.2
Ningxia	20	0.2	0.1
Shanghai	17	0.1	0.1
Hainan	16	0.1	0.1
Tibet	4	0.0	0.0
Qinghai	0	0.0	0.0

Data source: China National Statistical Bureau (Dataset 3).



**Table 16. Household-level Income and Other Indicators in Sample Soybean Production Provinces in China , 2003.**

	Per capita income	Wage income share (%)	Agricultural income share (%)	Living expenditure	Food expenditure share (%)	Household population	Household labor	Labor employed in non-agri.	Illiteracy rate (%)	Primary school rate (%)	Middle / high school & college rate (%)
China											
Gov poverty	337	38	59	4745	52	4.6	2.9	0.4	14	36	50
WB poverty	572	28	64	4658	54	4.7	3.0	0.4	14	36	51
Average	2704	37	44	7992	46	4.1	2.8	0.8	7	30	63
Richest	8336	40	30	16204	36	3.4	2.6	1.4	4	24	72
Liaoning											
Gov poverty	273	61	43	4913	51	3.7	2.8	0.6	2	36	63
WB poverty	481	38	59	4437	52	3.7	2.7	0.5	3	33	64
Average	2934	36	49	6519	43	3.5	2.6	0.7	2	25	74
Richest	8204	37	40	9935	37	2.9	2.3	0.9	0	18	81
Jilin											
Gov poverty	32	Na	na	6205	46	4.1	2.9	0.2	3	24	73
WB poverty	329	28	70	5985	46	4.1	3.0	0.2	3	26	71
Average	2532	17	75	6754	44	3.7	2.8	0.3	4	30	66
Richest	7144	15	76	9555	36	3.1	2.4	0.4	4	30	66
Heilongjiang											
Gov poverty	161	48	61	5254	42	4.0	2.9	0.1	2	32	66
WB poverty	394	17	73	5242	42	4.0	3.0	0.1	2	31	67
Average	2514	15	75	6231	41	3.7	2.8	0.3	3	28	69
Richest	7467	13	77	9235	34	3.2	2.5	0.4	1	25	74
Inner Mongolia											
Gov poverty	69	Na	na	6580	39	4.0	2.8	0.1	5	38	57
WB poverty	369	38	45	5808	42	4.2	2.8	0.2	6	37	57
Average	2281	16	76	6965	41	3.9	2.7	0.2	6	30	64
Richest	6575	13	77	12929	34	3.6	2.6	0.3	6	32	62

Source: China National Statistical Bureau (Dataset 3).

**Table 16. Household-level Income and Other Indicators in Sample Soybean Production Provinces in China , 2003. (continued).**

	Per capita income	Wage income share (%)	Agricultural income share (%)	Living expenditure	Food expenditure share (%)	Household population	Household labor	Labor employed in non-agriculture	Illiteracy rate (%)	Primary school rate (%)	Middle / high school & college rate(%)
Henan											
Gov poverty	488	27	65	4013	57	4.3	2.7	0.3	10	22	68
WB poverty	663	26	67	4042	57	4.3	2.7	0.4	9	23	68
Average	2236	28	53	6198	48	4.1	2.7	0.7	7	21	72
Richest	6560	18	46	10432	49	3.6	2.6	1.0	4	16	80
Anhui											
Gov poverty	486	23	68	4725	51	4.6	3.0	0.6	13	26	60
WB poverty	676	25	65	4700	52	4.6	3.0	0.8	12	26	62
Average	2127	38	46	6547	46	4.1	2.8	1.0	11	27	62
Richest	4873	45	31	10245	38	3.4	2.6	1.2	9	29	62
Hunan											
Gov poverty	477	19	78	4065	62	4.1	2.7	0.2	9	31	60
WB poverty	651	25	65	4312	62	4.1	2.7	0.3	6	37	57
Average	2535	39	39	8323	52	3.9	2.7	0.9	3	32	65
Richest	5796	38	28	14137	43	3.5	2.7	1.4	2	27	71
Sichuan											
Gov poverty	495	14	81	4529	65	5.4	3.6	0.5	28	40	32
WB poverty	679	19	73	4539	65	5.1	3.4	0.6	22	38	40
Average	2230	34	50	6793	54	3.9	2.7	0.9	8	38	54
Richest	5500	33	35	10038	44	3.0	2.4	1.0	5	34	61
Guangxi											
Gov poverty	484	28	66	4071	63	5.1	3.1	0.2	5	40	55
WB poverty	653	26	70	5227	59	5.2	3.2	0.3	7	37	56
Average	2095	37	52	8285	51	4.7	3.2	0.8	4	33	63
Richest	4859	37	46	12231	45	4.0	3.1	1.1	3	23	74

Source: China National Statistical Bureau (Dataset 3).

**Table 17. Household-level Sown Area of Major Crops, Including Soybeans, in the Sample Soybean Production Provinces in China, 2003 (Units: Mu).**

	Rice	Wheat	Corn	Soybean	Cotton	Oilcrop	Sugar	Vegetable	Fruit	Others
China										
Gov poverty	1.26	4.44	2.93	1.91	0.28	1.23	0.05	0.54	0.05	4.78
WB poverty	1.30	3.44	2.75	1.39	0.29	1.07	0.06	0.57	0.05	3.16
Average	2.44	1.98	2.50	1.08	0.47	2.66	0.11	1.13	0.13	1.35
Richest	2.02	1.13	1.93	1.30	0.67	1.18	0.10	1.72	0.23	0.38
Liaoning										
Gov poverty	0.25	0.06	5.78	0.61	0	0.53	0.00	0.53	0.00	1.56
WB poverty	0.25	0.05	5.40	0.57	0.01	0.58	0.00	0.48	0.03	1.55
Average	1.55	0.02	7.06	0.77	0.01	0.49	0.00	0.87	0.12	0.75
Richest	1.31	0.02	7.10	1.03	0.02	0.52	0.00	1.16	0.26	0.36
Jilin										
Gov poverty	3.16	0.01	7.94	0.92	0	0.45	0.00	0.76	0.01	1.08
WB poverty	3.07	0.01	8.82	0.76	0	0.42	0.00	0.66	0.01	0.88
Average	2.78	0.00	12.68	1.92	0	0.81	0.04	0.76	0.08	1.46
Richest	2.59	0.00	15.82	3.69	0	1.65	0.00	1.26	0.18	2.13
Heilongjiang										
Gov poverty	4.34	0.16	7.47	17.26	0	0.84	0.04	0.94	0.01	1.01
WB poverty	3.33	0.17	8.95	15.71	0	1.09	0.03	0.91	0.01	0.79
Average	3.96	0.21	10.45	19.24	0	0.82	0.15	1.03	0.06	0.46
Richest	5.51	0.23	12.46	34.10	0	0.74	0.57	1.83	0.13	0.27
Inner Mongolia										
Gov poverty	0.09	0.40	7.82	4.33	0	2.46	0.12	0.22	0.02	10.48
WB poverty	0.11	0.52	7.78	3.10	0	2.89	0.10	0.28	0.02	10.46
Average	0.41	1.24	8.41	2.93	0	4.62	0.12	0.39	0.44	9.37
Richest	0.43	1.17	8.18	5.86	0	5.29	0.16	0.51	0.76	3.75

Source: China National Statistical Bureau (Dataset 3).

**Table 17. Household-level Sown Area of Major Crops, Including Soybeans, in the Sample Soybean Production Provinces in China, 2003 (Units: Mu—Continued).**

	Rice	Wheat	Corn	Soybean	Cotton	Oilcrop	Sugar	Vegetable	Fruit	Others
<b>Henan</b>										
Gov poverty	0.12	4.87	2.15	0.51	1.49	0.62	0.00	0.36	0.06	0.10
WB poverty	0.22	4.71	2.26	0.65	1.08	0.67	0.00	0.33	0.04	0.16
Average	0.48	5.16	2.77	0.66	0.93	1.27	0.00	0.58	0.08	0.31
Richest	0.42	4.97	3.20	0.63	0.74	1.12	0.01	1.18	0.10	0.19
<b>Anhui</b>										
Gov poverty	2.34	2.82	0.45	1.52	0.36	1.90	0.00	0.58	0.03	0.67
WB poverty	2.48	2.96	0.52	1.36	0.48	1.68	0.00	0.62	0.07	0.59
Average	3.36	2.92	0.68	1.29	0.54	1.67	0.01	1.02	0.06	0.40
Richest	4.13	1.88	0.44	0.87	0.57	1.86	0.01	0.98	0.03	0.30
<b>Hunan</b>										
Gov poverty	2.63	0.07	0.38	0.19	0	0.23	0.00	0.83	0.00	0.31
WB poverty	2.76	0.03	0.36	0.17	0.01	0.31	0.00	0.70	0.03	0.34
Average	4.59	0.01	0.25	0.12	0.23	0.56	0.01	0.70	0.05	0.26
Richest	4.61	0.00	0.10	0.09	0.09	0.27	0.02	0.67	0.05	0.14
<b>Sichuan</b>										
Gov poverty	1.06	1.04	1.55	0.24	0	0.77	0.02	0.64	0.00	1.04
WB poverty	1.32	1.11	1.40	0.18	0	0.71	0.01	0.93	0.00	1.16
Average	2.02	1.14	1.39	0.18	0	1.02	0.02	1.43	0.01	1.34
Richest	2.03	0.91	1.00	0.10	0	1.09	0.02	1.36	0.06	1.05
<b>Guangxi</b>										
Gov poverty	2.82	0.03	2.26	0.33	0	0.10	0.13	0.53	0.01	0.42
WB poverty	3.37	0.02	2.08	0.36	0	0.14	0.52	0.63	0.02	0.36
Average	4.55	0.00	1.40	0.25	0	0.31	1.59	0.84	0.10	0.28
Richest	4.69	0.00	0.99	0.23	0	0.27	3.15	0.88	0.17	0.26

Source: China National Statistical Bureau (Dataset 3).

**Table 18. Concentration of Sown Area of Households in Soybean Production in China, 2003.**

	Per capita income (yuan)	Soybean area (mu)			Soybean area share (%)		
		WB poverty	Average	Richest	WB poverty	Average	Richest
China	2704	1.39	1.08	1.3	9.9	7.8	4.9
Heilongjiang	2514	15.71	19.24	34.10	50.7	52.9	61.1
Inner Mongolia	2281	3.10	2.93	5.86	12.3	10.5	22.4
Jilin	2532	0.76	1.92	3.69	5.2	9.3	13.5
Anhui	2127	1.36	1.29	0.87	12.6	10.8	7.9
Tibet	1585	2.10	0.91	0.73	2.1	2.4	4.3
Liaoning	2934	0.57	0.77	1.03	6.4	6.6	8.7
Henan	2236	0.65	0.66	0.63	6.4	5.4	5.0
Shanxi	2299	0.98	0.63	0.45	11.4	6.2	3.8
Shaanxi	1675	0.93	0.58	0.15	9.0	6.3	1.7
Yunnan	1694	0.56	0.58	0.49	6.7	6.5	6.0
Ningxia	2043	0.09	0.49	0.54	0.6	2.7	3.1
Hubei	2567	0.28	0.48	0.98	4.0	4.1	5.6
Guizhou	1565	0.52	0.43	0.29	6.3	4.9	3.6
Jiangsu	4239	0.35	0.29	0.19	4.7	3.2	2.7
Guangxi	2095	0.36	0.25	0.23	4.8	2.7	2.2
Hebei	2853	0.20	0.22	0.22	2.4	2.2	2.6
Gansu	1673	0.14	0.21	0.21	0.5	1.1	1.7
Jiangxi	2458	0.13	0.20	0.18	1.7	1.9	1.5
Shandong	3153	0.16	0.20	0.21	1.8	1.6	1.8
Sichuan	2230	0.18	0.18	0.10	2.6	2.1	1.4
Chongqing	2215	0.12	0.12	0.14	1.8	1.5	1.8
Hunan	2535	0.17	0.12	0.09	3.5	1.7	1.4
Xinjiang	2106	0.05	0.11	0.18	0.4	0.5	0.4
Zhejiang	5431	0.05	0.06	0.03	1.7	1.0	0.4
Guangdong	4055	0.01	0.04	0.01	0.3	0.6	0.2
Hainai	2588	0.02	0.02	0.00	0.3	0.2	0.0
Fujian	3825	0.02	0.02	0.00	0.7	0.1	0.2
Qinghai	1815	0.00	0.00	0.00	0.0	0.0	0.0

Data Source: China National Statistical Bureau (Dataset 3).

**Table 19. Household-level Production of Major Crops, Including Soybeans, in the Sample Soybean Production Provinces in China, 2003 (Units: Kilograms).**

	Rice	Wheat	Corn	Soybean	Cotton	Oilcrop	Sugarcrop	Vegetable	Fruit
<b>China</b>									
Gov poverty	321	451	896	105	31	18	12	548	146
WB poverty	336	494	846	90	33	20	14	569	162
Average	626	507	993	113	82	34	36	1093	400
Richest	630	359	888	162	135	33	28	1808	703
<b>Liaoning</b>									
Gov poverty	82	17	2279	113	0	17	0	731	164
WB poverty	87	17	2234	93	1	20	0	764	277
Average	559	7	3519	126	2	21	0	1753	546
Richest	473	4	3509	177	13	23	0	2320	703
<b>Jilin</b>									
Gov poverty	1151	1	3943	141	0	12	0	526	11
WB poverty	1066	1	4483	116	0	11	0	515	8
Average	939	1	7081	307	0	23	11	1040	167
Richest	891	0	8992	655	0	63	0	2356	564
<b>Heilongjiang</b>									
Gov poverty	889	10	1791	902	0	11	2	1277	7
WB poverty	719	11	2076	975	0	15	2	1062	9
Average	1098	34	3956	1977	0	14	27	1342	85
Richest	1542	64	5730	4019	0	11	130	3689	173
<b>Inner Mongolia</b>									
Gov poverty	24	61	1838	160	0	38	25	300	24
WB poverty	28	71	1964	132	0	51	21	393	21
Average	124	268	3279	191	0	117	26	741	205
Richest	142	366	4038	399	0	162	34	1249	732

Data Source: China National Statistical Bureau (Dataset 3).

**Table 19. Household-level Production of Major Crops, Including Soybeans, in the Sample Soybean Production Provinces in China, 2003 (Units: Kilograms—Continued).**

	Rice	Wheat	Corn	Soybean	Cotton	Oilcrop	Sugarcrop	Vegetable	Fruit
<b>Henan</b>									
Gov poverty	27	1569	453	44	80	15	0	501	126
WB poverty	54	1540	488	58	67	18	0	455	110
Average	134	1734	797	65	94	46	1	1020	310
Richest	168	1760	1080	69	93	46	2	2705	433
<b>Anhui</b>									
Gov poverty	604	658	90	156	50	43	0	254	58
WB poverty	619	667	117	132	48	39	0	329	106
Average	895	740	152	136	71	54	1	594	104
Richest	1117	518	107	104	84	64	1	822	78
<b>Hunan</b>									
Gov poverty	681	5	130	19	0	5	0	661	60
WB poverty	736	2	119	19	1	7	0	607	119
Average	1281	1	81	15	45	14	3	873	256
Richest	1314	0	30	12	20	7	6	1041	367
<b>Sichuan</b>									
Gov poverty	309	211	489	20	0	28	0	528	20
WB poverty	423	236	436	21	1	26	0	766	50
Average	681	252	439	23	0	37	6	1322	182
Richest	707	220	326	15	0	39	4	1613	399
<b>Guangxi</b>									
Gov poverty	678	2	451	22	0	3	43	566	80
WB poverty	810	2	427	30	0	4	154	601	95
Average	1103	1	341	25	0	11	548	929	394
Richest	1158	0	250	25	0	10	1239	1183	733

Data Source: China National Statistical Bureau (Dataset 3).

**Table 20. Household-level Livestock Production in the Sample Soybean Production Provinces in China, 2003 (Units: Kilograms).**

	Pork	Beef	Mutton	Poultry	Egg	Milk	Fish
<b>China</b>							
Gov poverty	85	8	15	38	23	21	24
WB poverty	87	6	13	24	17	17	14
Average	150	12	14	35	38	34	38
Richest	215	29	30	147	137	122	190
<b>Liaoning</b>							
Gov poverty	134	2	3	29	114	0	na
WB poverty	107	1	7	21	78	0	na
Average	205	19	4	50	122	0	35
Richest	358	42	4	148	530	0	46
<b>Jilin</b>							
Gov poverty	50	35	2	13	15	0	0
WB poverty	46	22	1	13	22	0	5
Average	135	54	5	23	45	7	1
Richest	500	277	5	71	155	1	0
<b>Heilongjiang</b>							
Gov poverty	96	6	4	11	11	37	0
WB poverty	81	4	3	12	13	23	1
Average	132	24	13	46	60	141	6
Richest	360	111	41	198	392	571	41
<b>Inner Mongolia</b>							
Gov poverty	69	55	112	12	11	53	0
WB poverty	67	35	93	11	12	52	0
Average	106	52	176	9	18	242	0
Richest	133	275	756	12	33	1267	0

Data Source: China National Statistical Bureau (Dataset 3).



**Table 20. Household-level Livestock Production in the Sample Soybean Production Provinces in China, 2003 (Units: Kilograms—Continued).**

	Pork	Beef	Mutton	Poultry	Egg	Milk	Fish
Henan							
Gov poverty	63	3	11	3	22	0	1
WB poverty	69	6	12	4	15	0	1
Average	166	12	9	21	57	0	17
Richest	526	18	10	148	330	5	138
Anhui							
Gov poverty	84	1	1	na	76	0	5
WB poverty	56	1	3	na	47	0	5
Average	119	1	4	56	72	16	80
Richest	100	0	7	139	321	98	429
Hunan							
Gov poverty	82	4	3	12	10	0	4
WB poverty	93	4	4	18	11	0	2
Average	120	14	5	31	33	0	10
Richest	174	10	3	86	95	0	25
Sichuan							
Gov poverty	127	0	0	19	3	0	7
WB poverty	155	1	0	17	8	0	8
Average	226	1	1	26	13	0	36
Richest	406	0	0	58	23	0	106
Guangxi							
Gov poverty	173	1	1	73	5	0	10
WB poverty	154	3	1	77	3	0	9
Average	232	5	2	47	3	0	43
Richest	315	8	8	112	3	0	162

Data Source: China National Statistical Bureau (Dataset 3).

**Table 21: Impact of soybean and soybean oil trade on output prices of selected agricultural commodities in China, 1997-2003.**

Commodity	Period	Actual price in 2003 yuan (yuan/ton)	Percentage change over previous period	Percentage change over previous period due to	
				Soybean and soybean oil trade	Others
Soybean	1997	3556			
	2001	2229	-37.3	-49.9	12.5
	2003	2658	19.2	-70.0	89.2
Edible oil	1997	8292			
	2001	6213	-25.1	-9.6	-15.4
	2003	7608	22.5	-10.6	33.1
Rice	1997	2041			
	2001	1639	-19.7	-1.3	-18.4
	2003	1685	2.8	-1.2	4.0
Wheat	1997	1644			
	2001	1243	-24.4	-1.8	-22.6
	2003	1355	9.0	-2.1	11.1
Maize	1997	1383			
	2001	1093	-21.0	-7.8	-13.2
	2003	1216	11.3	-2.1	13.4
Pork	1997	15849			
	2001	13603	-14.2	-1.8	-12.3
	2003	11157	-18.0	-0.6	-17.4
Poultry	1997	12036			
	2001	9123	-24.2	-1.6	-22.6
	2003	9460	3.7	-0.6	4.3

Note: Results from authors' CAPSIM analysis.

**Table 22. Impact of soybean and soybean oil trade on production of selected agricultural commodities in China, 1997-2003.**

Commodity	Period	Production (thousand tons)	Percentage change over last period	Percentage changes due to	
				Soybean and soybean oil trade	Others
Soybean	1997	14732			
	2001	15406	4.6	-33.3	37.9
	2003	15393	-0.1	-46.7	46.6
Oil crops (oil equivalent)	1997	6041			
	2001	7305	20.9	-4.2	25.1
	2003	7460	2.1	-5.0	7.1
Rice	1997	140515			
	2001	124306	-11.5	0.1	-11.7
	2003	112459	-9.5	0.3	-9.9
Wheat	1997	123289			
	2001	93873	-23.9	0.6	-24.4
	2003	86488	-7.9	0.7	-8.6
Maize	1997	104309			
	2001	114088	9.4	-1.5	10.9
	2003	115830	1.5	-0.4	1.9
Pork	1997	29747			
	2001	32300	8.6	1.0	7.6
	2003	35900	11.2	0.3	10.8
Poultry	1997	6948			
	2001	9102	31.0	1.5	29.5
	2003	10050	10.4	0.4	10.0

Note: Results from authors' CAPSIM analysis.

**Table 23. Impact of soybean and soybean oil trade on per capita consumption of selected major foods in rural China, 1997-2003.**

Commodity	Period	Per capita consumption (kg)	Change over previous period (kg)	Changes (kg) due to	
				Soybean and soybean oil trade	Others
Soybean	1997	5.96			
	2001	6.57	0.61	0.91	-0.30
	2003	7.06	0.49	1.38	-0.89
Soybean oil	1997	0.86			
	2001	1.28	0.42	0.24	0.18
	2003	2.00	0.72	0.49	0.23
Other oil	1997	4.77			
	2001	5.78	1.01	0.04	0.97
	2003	6.42	0.64	0.05	0.59
Rice	1997	103.02			
	2001	96.65	-6.37	0.13	-6.50
	2003	96.63	-0.02	0.03	-0.05
Wheat	1997	85.62			
	2001	81.71	-3.91	0.28	-4.19
	2003	78.95	-2.76	0.33	-3.09
Pork	1997	18.81			
	2001	21.89	3.08	0.22	2.86
	2003	22.42	0.53	0.10	0.43
Poultry	1997	3.86			
	2001	5.37	1.51	0.05	1.46
	2003	5.36	-0.01	0.03	-0.04

Note: Results from authors' CAPSIM analysis.

**Table 24. Impact of soybean and soybean oil trade on per capita consumption of major foods in urban China, 1997-2003.**

Commodity	Period	Per capita consumption (kg)	Change over previous period (kg)	Changes (kg) due to	
				Soybean and soybean oil trade	Others
Soybean	1997	5.96			
	2001	6.57	0.61	0.79	-0.18
	2003	7.06	0.49	1.21	-0.72
Soybean oil	1997	3.11			
	2001	4.15	1.04	0.74	0.30
	2003	5.86	1.71	1.37	0.34
Other oil	1997	5.89			
	2001	6.77	0.88	0.03	0.85
	2003	7.29	0.52	0.04	0.48
Rice	1997	57.89			
	2001	56.48	-1.41	0.20	-1.61
	2003	50.57	-5.91	0.15	-6.06
Wheat	1997	45.19			
	2001	39.34	-5.85	0.34	-6.19
	2003	37.36	-1.98	0.31	-2.29
Pork	1997	27.89			
	2001	30.65	2.76	0.26	2.50
	2003	35.34	4.69	0.08	4.61
Poultry	1997	8.70			
	2001	10.80	2.10	0.13	1.97
	2003	12.37	1.57	0.05	1.52

Note: Results from authors' CAPSIM analysis.

**Table 25. Impact of soybean and soybean oil trade on annual per capita food expenditure in China, 1997 to 2003.**

	Rural	Urban
1997-2001		
Impact on expenditures (yuan)	-15.23	-36.40
Percentage of food expenditure	-1.83	-1.81
Percentage of living expenditure	-0.87	-0.69
1997-2003		
Impact on expenditures (yuan)	-35.90	-49.58
Percentage of food expenditure	-3.99	-2.02
Percentage of living expenditure	-1.85	-0.76

Note: Results from authors' CAPSIM analysis.

**Table 26. Impact of soybean and soybean oil trade on household soybean production for the selected income groups in major soybean production provinces, 1997-2003 (Units = kilograms).**

	PG1 <sup>a</sup>	PG2 <sup>a</sup>	Average	Richest
<b>China</b>				
Production in 1997: actual	100	86	109	155
Production in 2003: actual	105	90	113	162
Impacts	-85	-73	-92	-131
Production in 2003: w/o TradeLib	189	163	205	292
<b>Liaoning:</b>				
Production in 1997: actual	108	89	121	169
Production in 2003: actual	113	93	126	177
Impacts	-92	-75	-102	-143
Production in 2003: w/o TradeLib	205	168	229	320
<b>Jilin</b>				
Production in 1997: actual	135	111	294	627
Production in 2003: actual	141	116	307	655
Impacts	-114	-94	-248	-530
Production in 2003: w/o TradeLib	256	210	555	1185
<b>Heilongjiang</b>				
Production in 1997: actual	863	933	1892	3846
Production in 2003: actual	902	975	1977	4019
Impacts	-729	-788	-1598	-3248
Production in 2003: w/o TradeLib	2706	1763	3575	7266
<b>Inner Mongolia</b>				
Production in 1997: actual	153	126	183	381
Production in 2003: actual	160	132	191	340
Impacts	-129	-107	-154	-322
Production in 2003: w/o TradeLib	290	238	346	398
<b>Henan</b>				
Production in 1997: actual	42	55	62	66
Production in 2003: actual	44	58	65	69
Impacts	-35	-47	-52	-56
Production in 2003: w/o TradeLib	79	104	117	125
<b>Anhui</b>				
Production in 1997: actual	149	127	130	100
Production in 2003: actual	156	132	136	104
Impacts	-126	-107	-110	-84
Production in 2003: w/o TradeLib	282	239	246	188
<b>Hunan</b>				
Production in 1997: actual	18	19	15	12
Production in 2003: actual	20	19	15	12
Impacts	-15	-16	-12	-10
Production in 2003: w/o TradeLib	36	35	28	22
<b>Sichuan</b>				
Production in 1997: actual	20	20	22	14
Production in 2003: actual	20	21	23	15
Impacts	-17	-17	-18	-12
Production in 2003: w/o TradeLib	37	38	41	27
<b>Guangxi</b>				
Production in 1997: actual	21	29	24	24
Production in 2003: actual	22	30	25	25
Impacts	-18	-24	-20	-20
Production in 2003: w/o TradeLib	41	55	45	46

Notes: Results from authors' CAPSIM analysis.

<sup>a</sup> PG1 includes for households below the government of China's poverty line; PG2 include households below the World Bank's poverty line.

**Table 27. Impact of soybean and soybean oil trade on household s soybean output value and income for selected income groups in major soybean production provinces, 1997-2003.**

Province	PG1 <sup>a</sup>	PG2 <sup>a</sup>	Average	Richest
<b>China</b>				
Change in soybean output value	-211	-182	-228	-326
% of household income	13.5	6.8	2.1	1.1
% of agricultural value	4.2	3.7	2.8	2.4
<b>Liaoning:</b>				
Change in soybean output value	-228	-187	-255	-357
% of household income	22.5	10.4	2.5	1.5
% of agricultural value	3.9	3.6	2.6	2.2
<b>Jilin</b>				
Change in soybean output value	-285	-234	-619	-1320
% of household income	217.8	17.4	6.5	6.0
% of agricultural value	3.9	3.3	5.2	5.5
<b>Heilongjiang</b>				
Change in soybean output value	-1816	-1964	-3983	-8095
% of household income	281.5	123.1	42.3	33.7
% of agricultural value	25.7	27.8	29.6	27.2
<b>Inner Mongolia</b>				
Change in soybean output value	-323	-266	-385	-803
% of household income	117.2	17.3	4.3	3.4
% of agricultural value	4.6	3.9	3.0	2.7
<b>Henan</b>				
Change in soybean output value	-88	-116	-130	-139
% of household income	4.2	4.1	1.4	0.6
% of agricultural value	2.1	2.6	1.7	0.9
<b>Anhui</b>				
Change in soybean output value	-315	-267	-274	-210
% of household income	13.9	8.7	3.1	1.3
% of agricultural value	7.5	6.1	4.2	2.5
<b>Hunan</b>				
Change in soybean output value	-38	-39	-31	-24
% of household income	1.9	1.4	0.3	0.1
% of agricultural value	1.1	1.0	0.5	0.3
<b>Sichuan</b>				
Change in soybean output value	-41	-43	-46	-30
% of household income	1.5	1.2	0.5	0.2
% of agricultural value	0.8	0.8	0.6	0.3
<b>Guangxi</b>				
Change in soybean output value	-45	-61	-50	-51
% of household income	1.8	1.8	0.5	0.3
% of agricultural value	0.9	1.1	0.6	0.3

Notes: Results from authors' CAPSIM analysis.

<sup>a</sup> PG1 includes for households below the government of China's poverty line; PG2 includes households below the World Bank's poverty line.



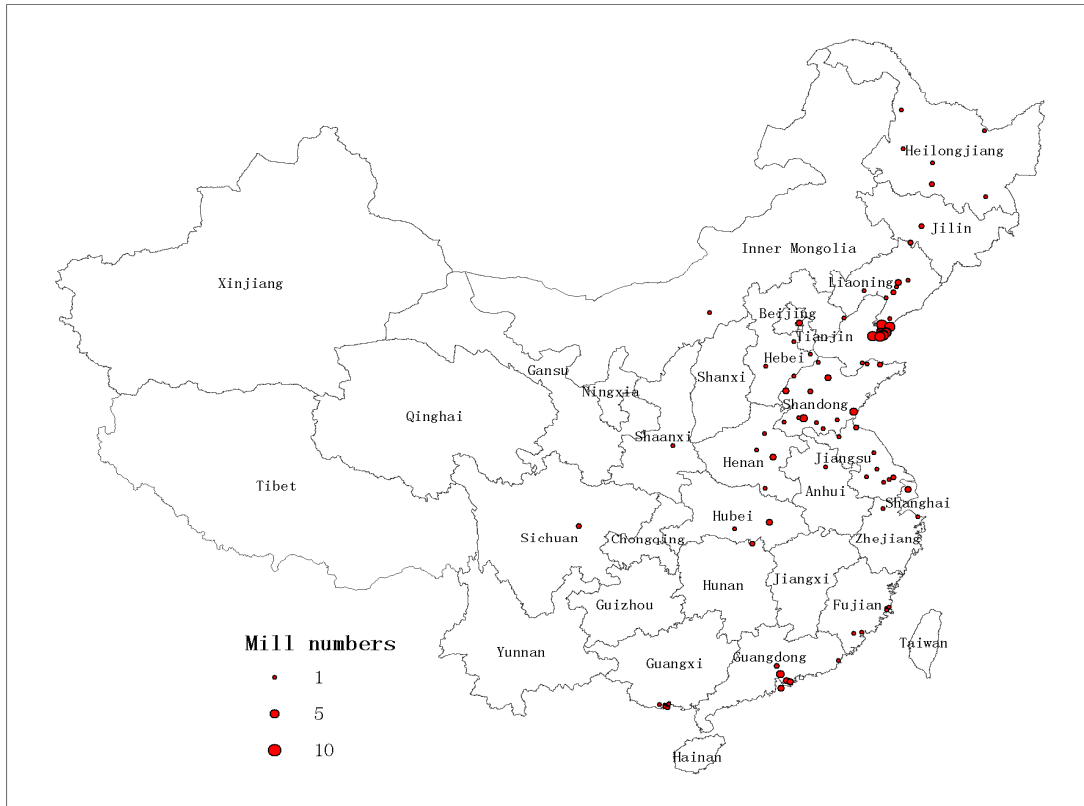


Figure 1. Location of Soybean Crushing Mills in China, 2003

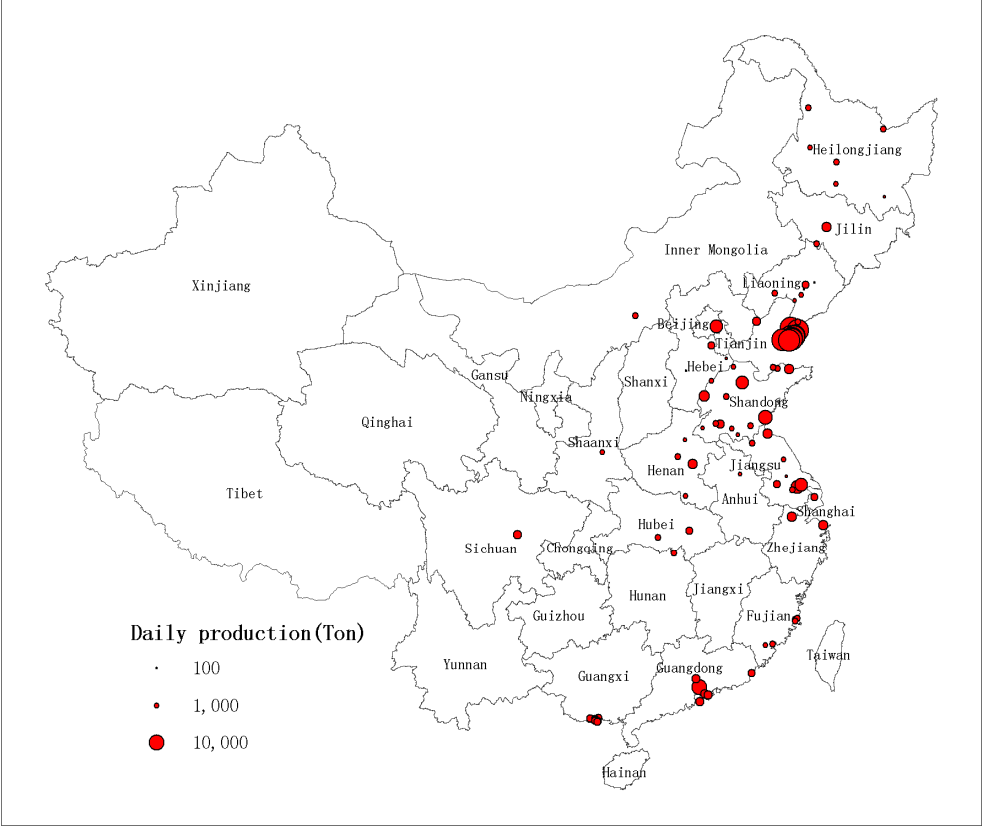
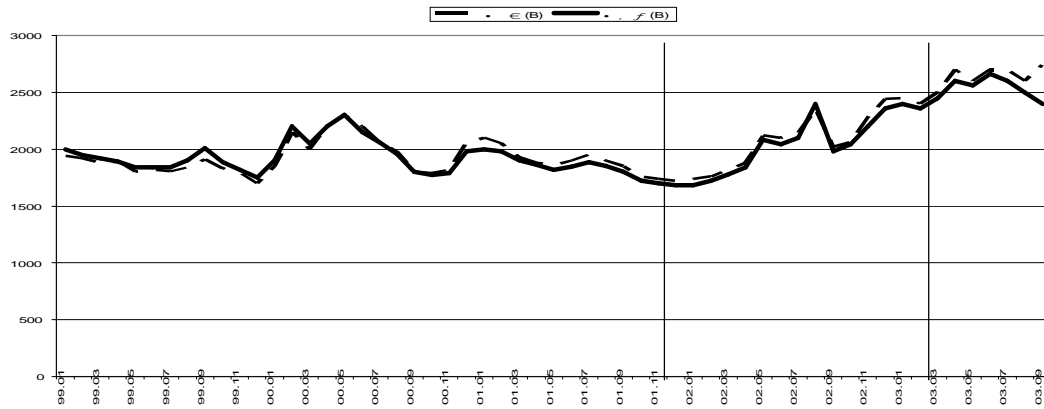
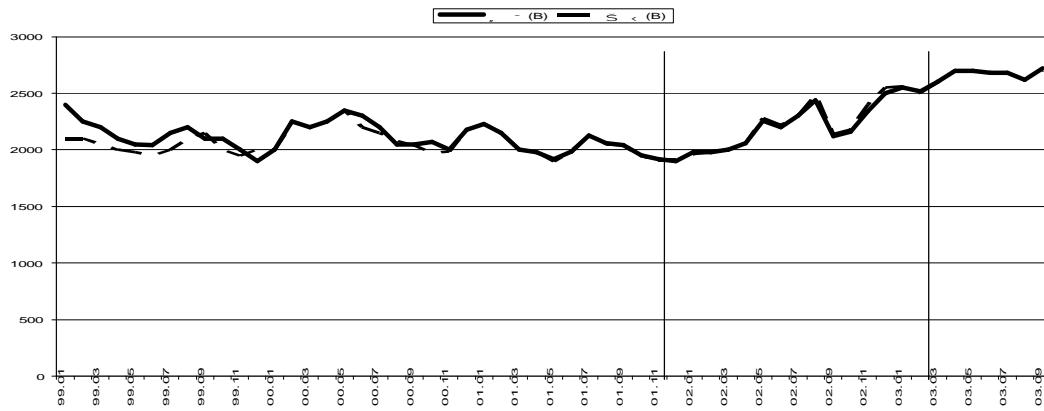


Figure 2. Location of China's Soybean Oil Crushing Capacity, 2003

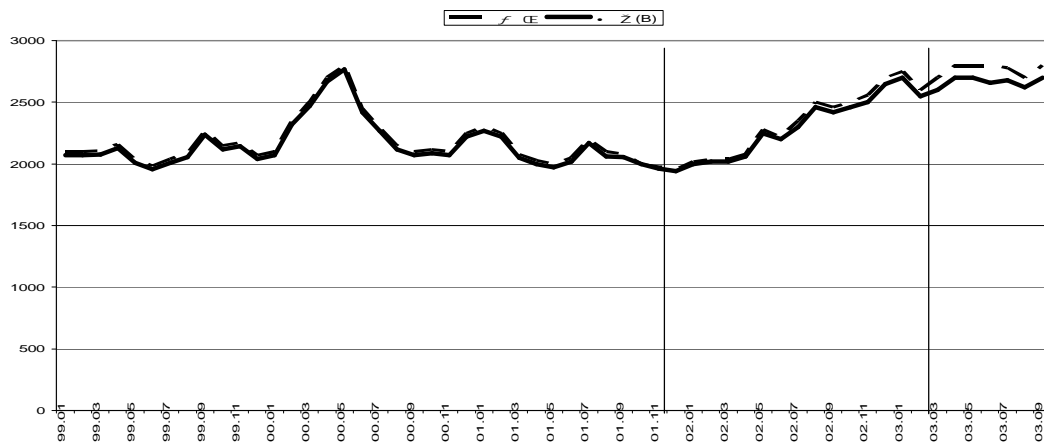
Panel A. Heilongjiang and Jilin



Panel B. Hebei and Shandong



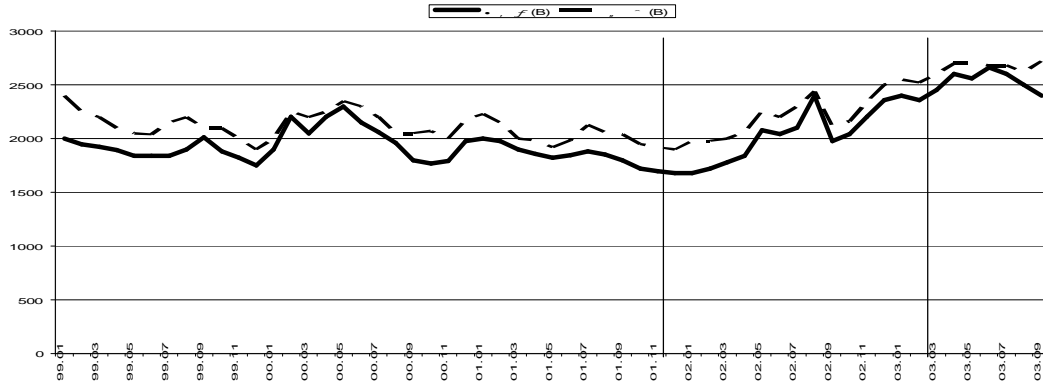
Panel C. Shanghai and Jiangxi



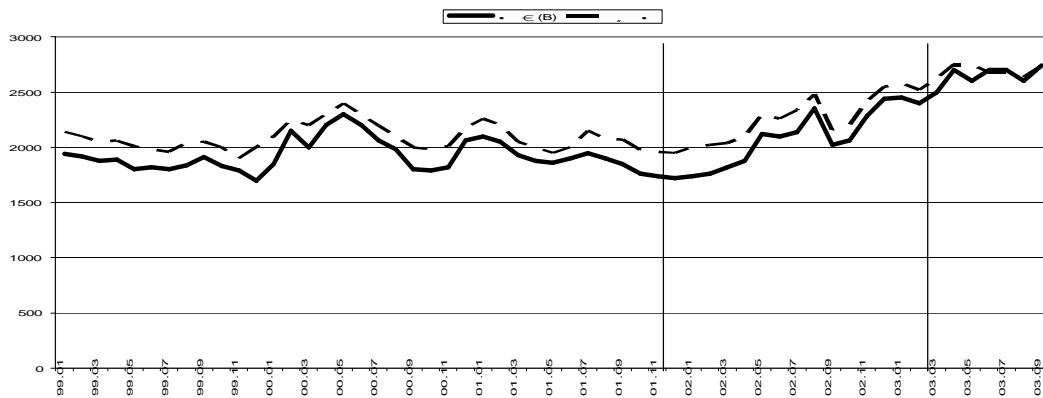
Data source: Dataset 1

Figure 3. Price Trends for Soybeans (RMB/Metric Ton) within Major Production/Consumption Regions, 1999 to 2003.

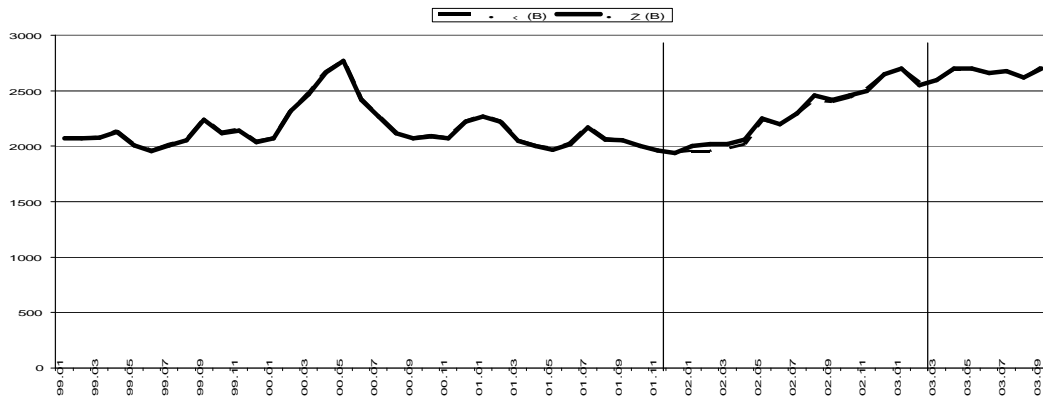
Panel A. Heilongjiang and Hebei



Panel B. Jilin and Henan



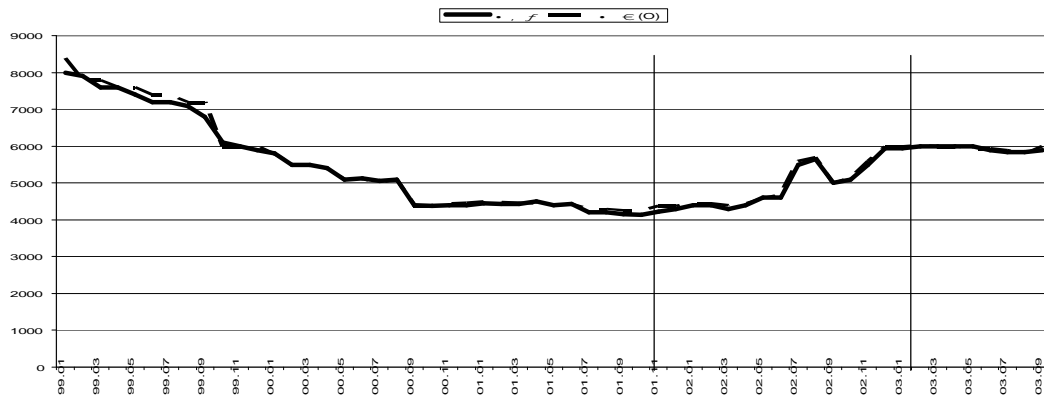
Panel C. Guangdong and Shanghai



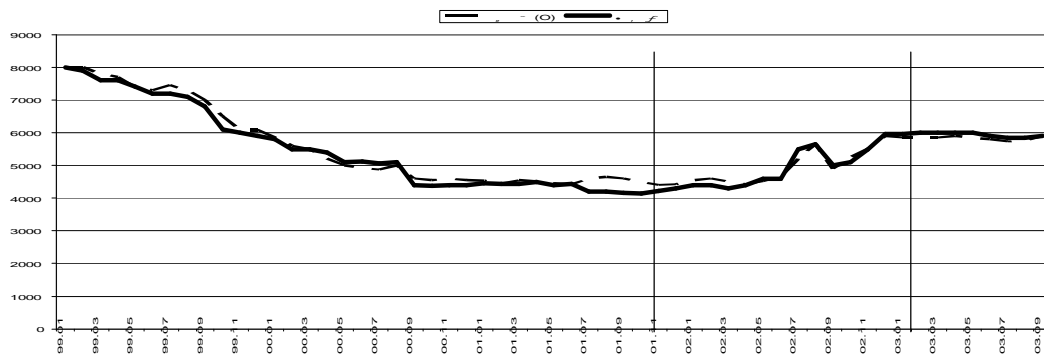
Data Source: Dataset 1

Figure 4. Price Trends for Soybeans (RMB/Metric Ton) between Major Production/Consumption Regions, 1999 to 2003. (Data Source: Dataset 1)

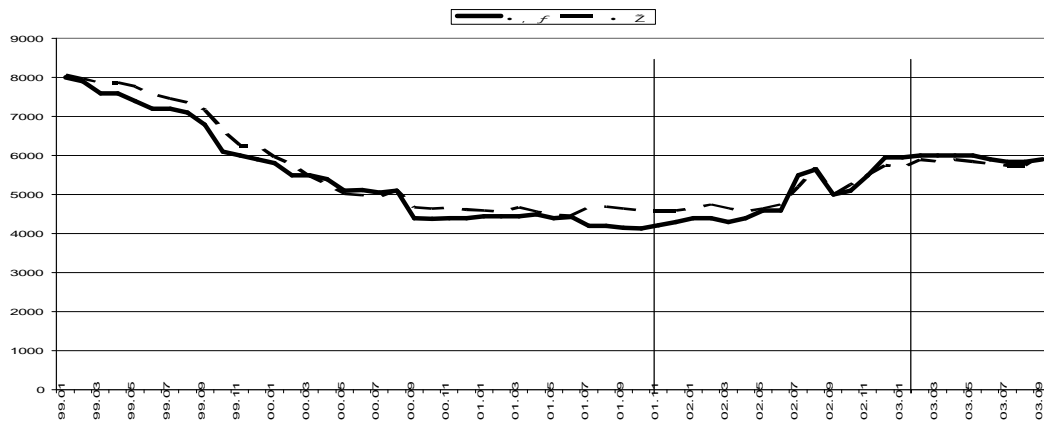
Panel A. Heilongjiang and Jilin



Panel B. Heilongjiang and Hebei



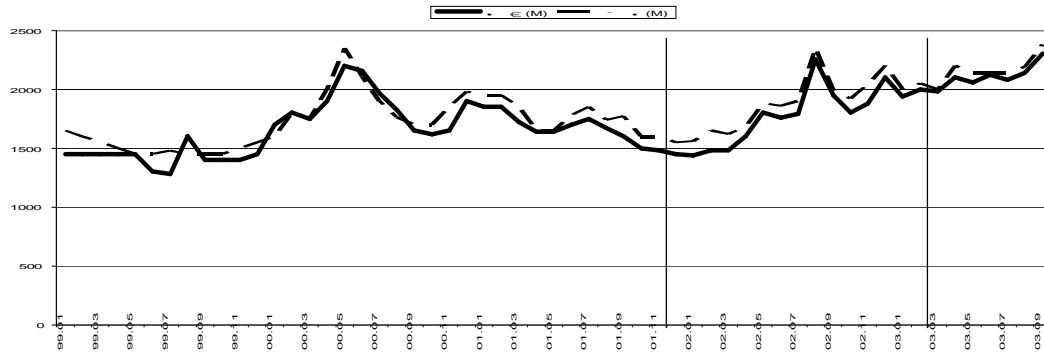
Panel C. Heilongjiang and Shanghai



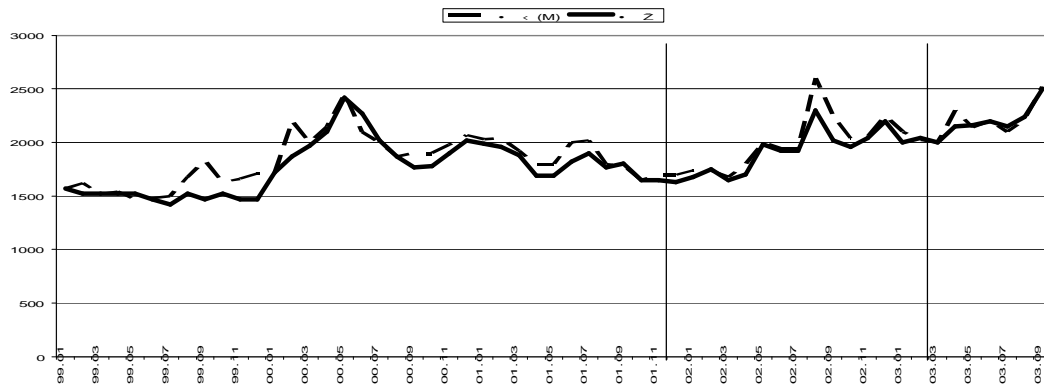
Data Source: Dataset 1

Figure 5. Price Trends for Soybean Oil (RMB/Metric Ton) between Major Production/Consumption Regions, 1999 to 2003.

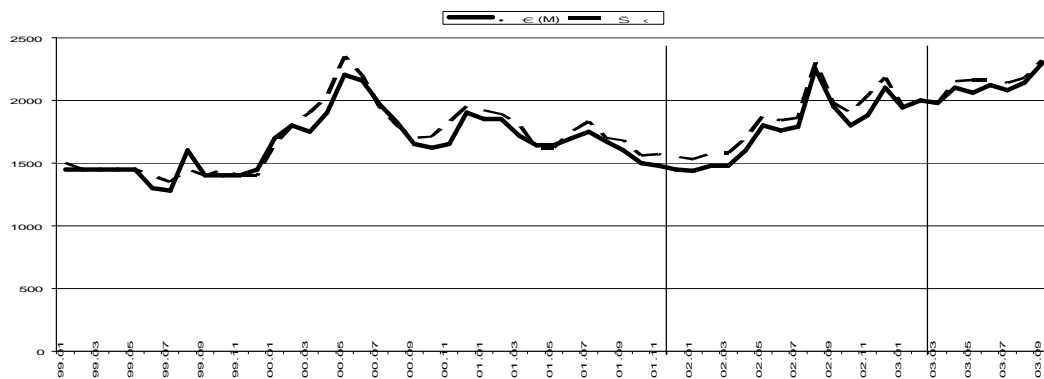
Panel A. Jilin and Beijing



Panel B. Shanghai and Guangdong



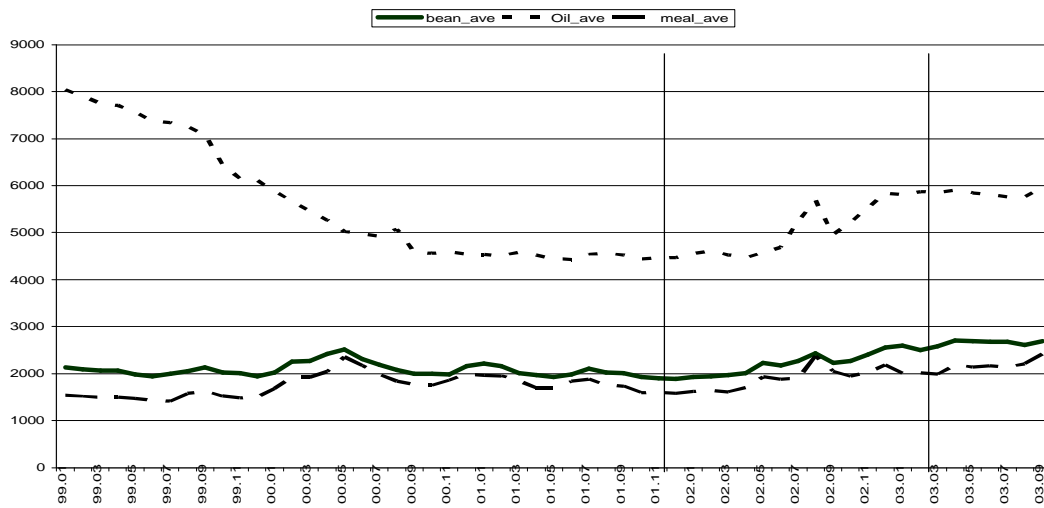
Panel C. Jilin and Shandong



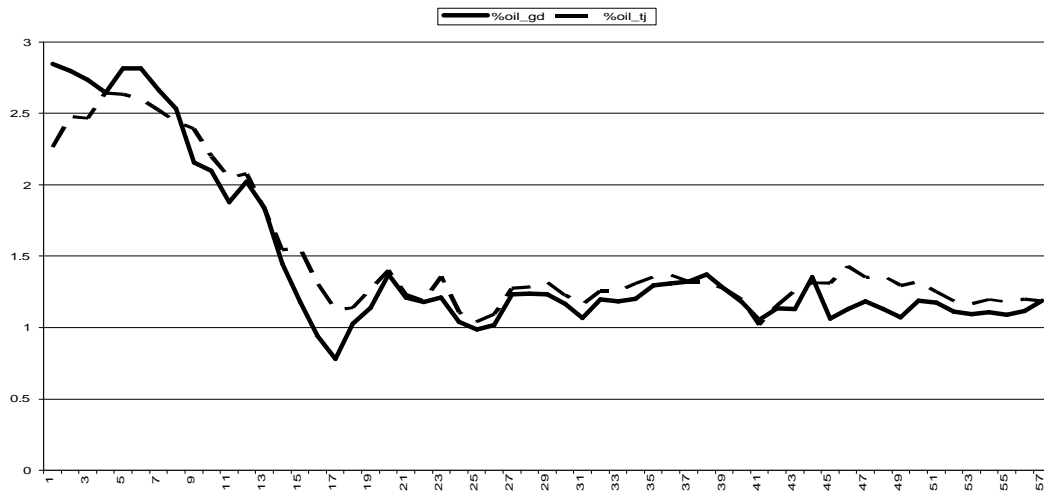
Data Source: Dataset 1

Figure 6. Price Trends for Soybean Meal (RMB/Metric Ton) between Major Production/Consumption Regions, 1999 to 2003.

Panel A. Guangdong and Tianjin Price Levels

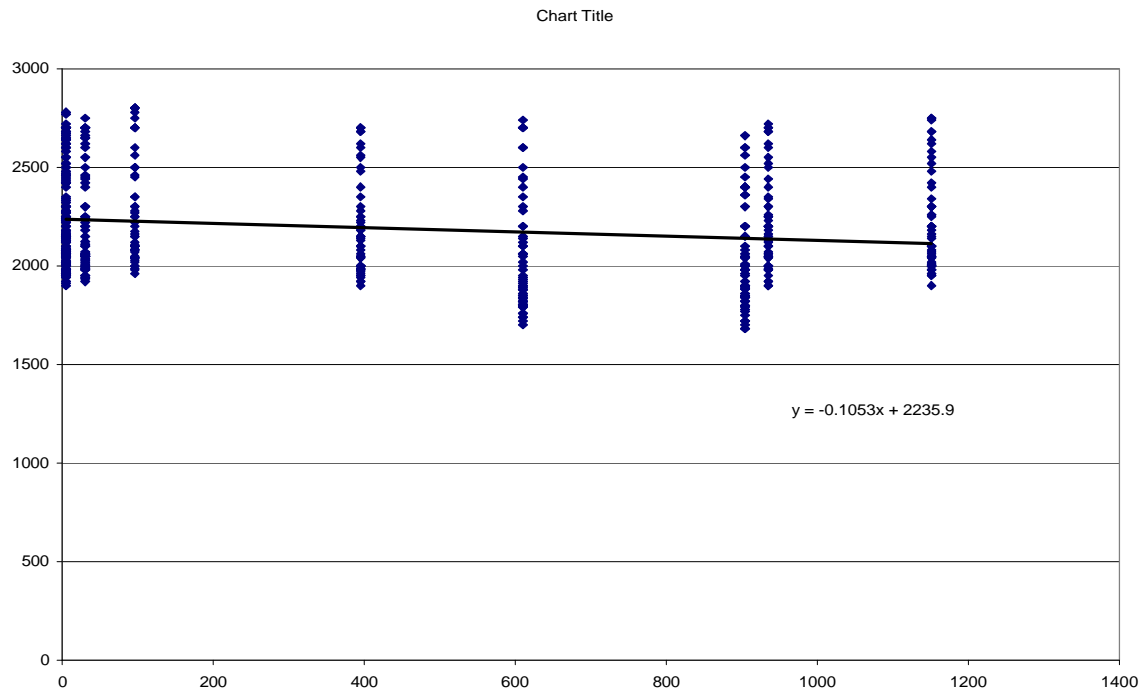


Panel B. Ratio Oil Price to Soybean Price, Guangdong and Tianjin



Data Source: Dataset 1

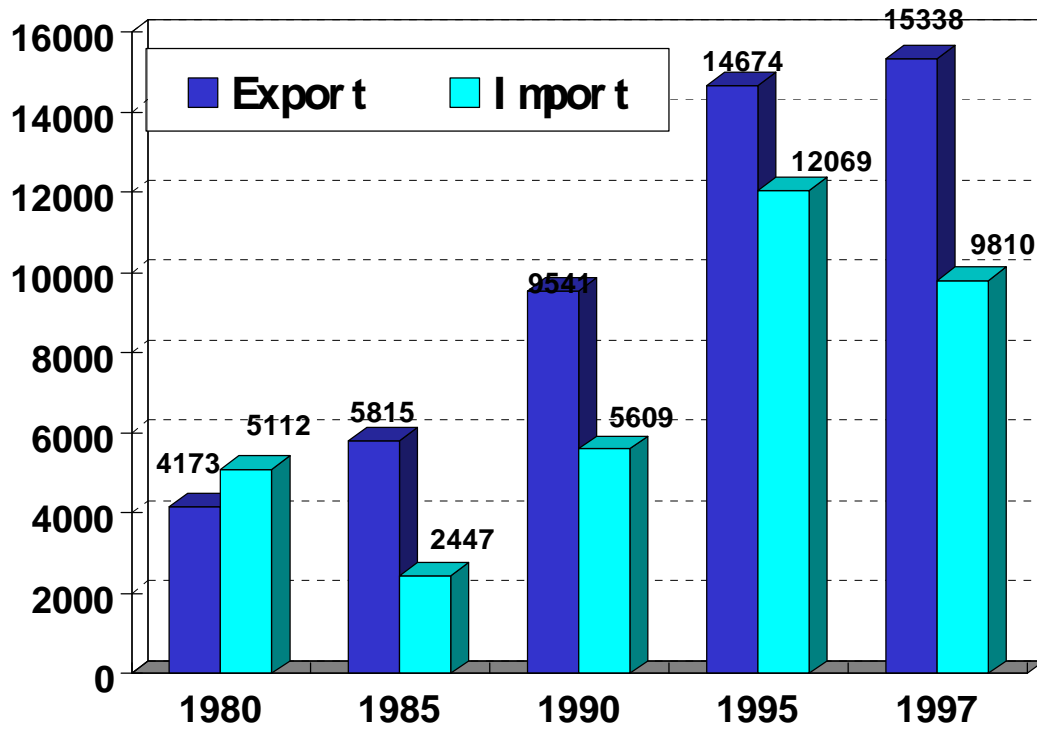
Figure 7. Price Trends (RMB/ Metric Ton) of Soybeans, Oil and Meal and Ratios of Oil to Soybean Prices in China, 1999 to 2003.



Data Source: Dataset 1.

Figure 8. Price of Soybeans (RMB/Metric Ton) and the Distance from the Ports of Tianjin, Shanghai and Guangdong (Kilometers) in China, 1999 to 2003.

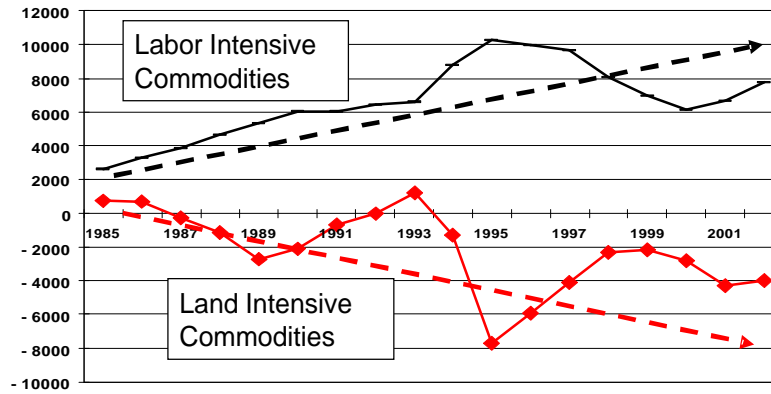




Data Source: China National Statistical Bureau; Huang and Chen, 1999.

Figure 9. Agricultural Imports and Exports in China, 1980 to 1997.

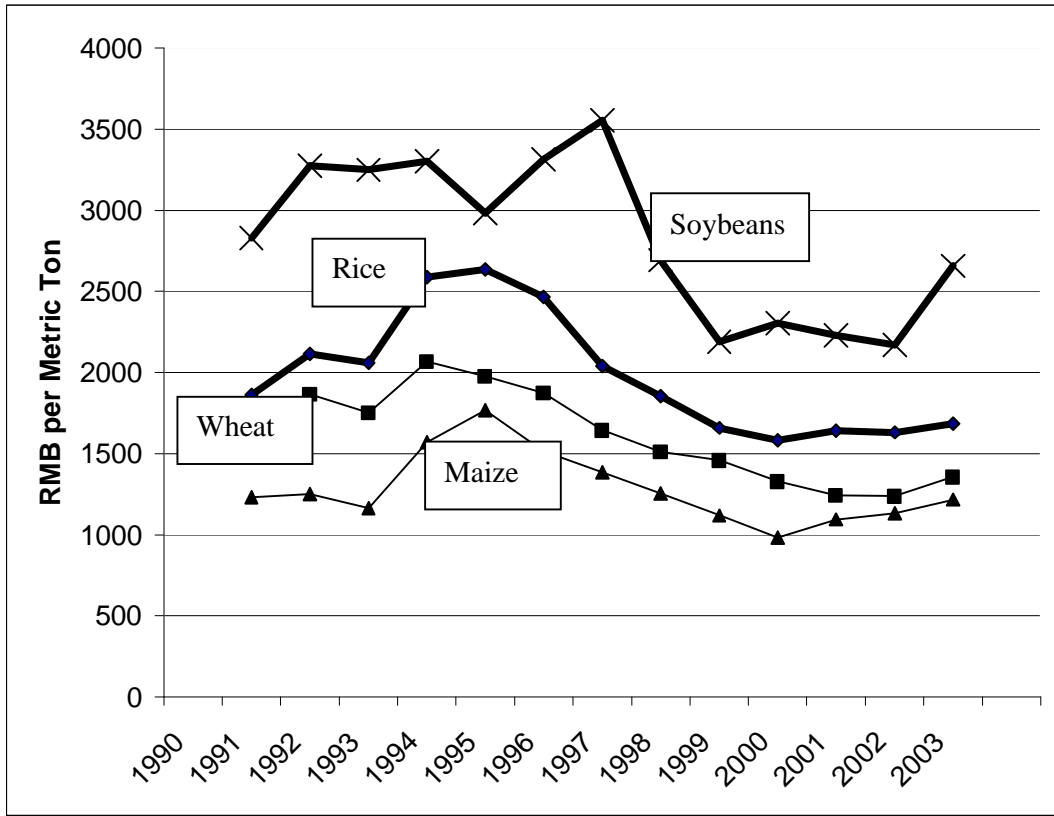
Net exports



Data source: Rosen et al., Forthcoming.

Notes: Labor intensive commodities include fruits, vegetables, meat products and aquaculture products; land intensive commodities include food and feed grains, soybeans, edible oils and cotton.

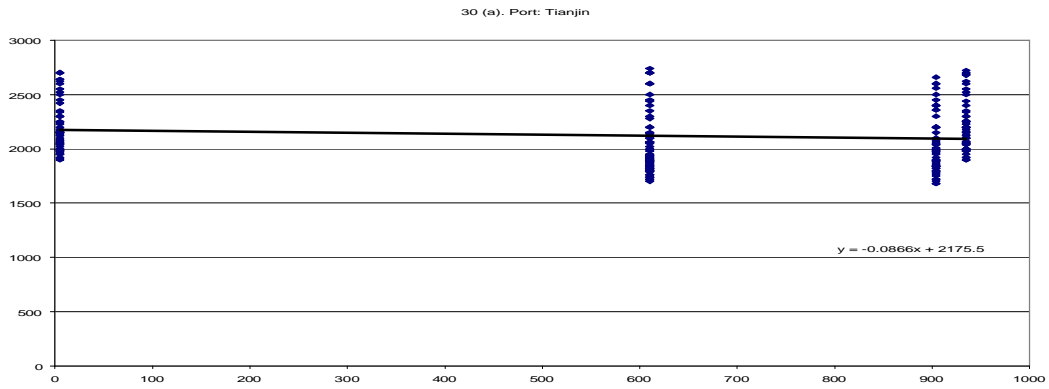
**Figure 10. Agricultural Trade Balance by Factor Intensity, 1984 to 2002 (mil US\$)**



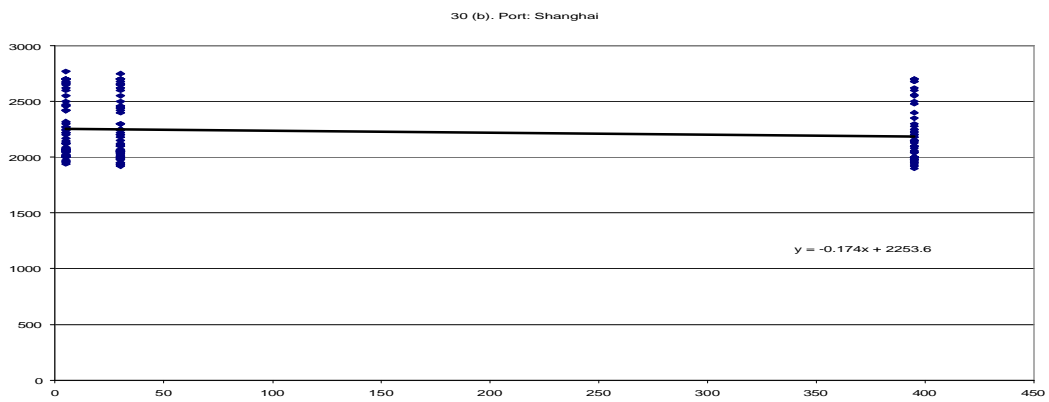
Data Source: China National Statistical Yearbook.

Figure 11. Trends of Wholesale Market Prices for Major Grains and Soybeans in China, 1990 to 2003.

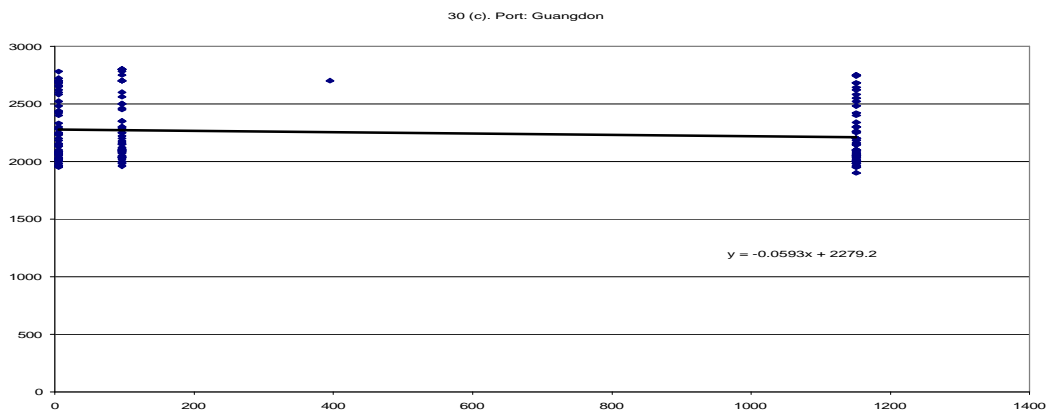
Panel A. Distance from the Port of Tianjin



Panel B. Distance from the Port of Shanghai



Panel C. Distance from the Port of Guangdong



Data Source: Dataset 1.

Appendix Figure 1. Price of Soybeans and the Distance from the Port in Three Regions (Tianjin/Shanghai/Guangdong), 1999 to 2003.