Table S1. Barley harvested area and price elasticity of yield per unit area.

	Barley	Rice	Wheat	Corn	Potato	Soybean	Rapeseed
Elasticity of barley harvested area	0.1500	0.0000	0.0000	0.0000	0.0000	-0.0100	-0.0200
Elasticity of barley yield price	0.2000	-	-	-	-	-	-

Continued Table 1

	Peanut	Cotton	Sugarcane	Beet	Apple	Other fruits	Vegetables
Elasticity of barley harvested area	-0.0200	-0.0200	0.0000	-0.0100	-0.0100	-0.0100	-0.0500
Elasticity of barley yield price	-	-	-	-	-	-	-

Table S2. Parameter estimation results of barley inverse demand function equation.

	α^{DBP}	β_{PGDP}^{DBP}	β_{DDCN}^{DBP}	R^2
Parameter	1.2340 （1.2041）	0.3486*** （0.0588）	-0.3896* （0.1965）	0.63

Table S3. Estimation results of parameters of China's barley import equation.

Import equation between China and Australia						
	α^{IM_a}	Q_{at}	DBP_t	IBP_{at}	DZ_{at}	DJ_{at}	R^2
Parameter	4.7064 (3.5696)	0.7175** (0.3000)	0.8840** (0.3943)	-0.9313* (0.4793)	0.5327* (0.2795)	0.1058 (0.3050)	0.54

Import equation between China and Canada						
	α^{IM_c}	Q_{ct}	DBP_t	IBP_{ct}	DZ_{ct}	DJ_{ct}	R^2
Parameter	12.7936*** (3.8871)	0.4826 (0.4826)	1.8508*** (0.4453)	-1.9765*** (0.5078)	0.5456** (0.2479)	-0.6728** (0.2561)	0.59

Import equation between China and France						
	α^{IM_f}	Q_{ft}	DBP_t	IBP_{ft}	DZ_{ft}	DJ_{ft}	R^2
Parameter	-3.5901 (10.2402)	2.5412* (1.2983)	1.4127* (0.6959)	-2.0637*** (0.6391)	0.5703 (0.4903)	-1.0182*** (0.3477)	0.70

Import equation between China and other countries						
	α^{IM_o}	Q_{ot}	DBP_t	IBP_{ot}	DZ_{ot}	DJ_{ot}	R^2
Parameter	7.6144 (23.3393)	0.6025 (2.3407)	1.7555* (0.9030)	-1.9835* (1.0091)	0.6858 (0.5929)	-0.1346 (0.5929)	0.32

Transfer equation of import price between China and Australia				
	α^{IBP_a}	DBP_t	EX_{at}	DCP_t	R^2
Parameter	4.0080*** (0.5081)	0.6229*** (0.1977)	0.6927** (0.3037)	-0.0511 (0.2048)	0.81

Transfer equation of import price between China and Canada				

	α^{IBP_c}	DBP_t	EX_{ct}	DCP_t	R^2
Parameter	3.1915***	0.3320*	1.1233	0.4610**	0.81
	(0.5264)	(0.1727)	(0.2932)	(0.1882)	

Transfer equation of import price between China and France

	α^{IBP_f}	DBP_t	EX_{ft}	DCP_t	R^2
Parameter	2.2037*	0.4021	1.3421***	0.3458	0.67
	(1.0018)	(0.2815)	(0.4592)	(0.3084)	

Transfer equation of import price between China and other countries

	α^{IBP_o}	DBP_t	EX_{ot}	DCP_t	R^2
Parameter	6.7757***	0.5327**	-0.7649	-0.044	0.69
	(1.7543)	(0.2043)	(0.8246)	(0.3066)	

Note: Numbers in parentheses are t-statistics values.***-1% significance level;**-5%significance

level;*-10% significance   level