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Toward a Consumer Economy in China: Implications of Changing Wage Policies for U.S. Cotton Exports

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Abstract

The effect of a Chinese minimum wage increase on China's textile market as well as on the world cotton market is evaluated. Based on a Nonlinear Quadratic Almost Ideal Demand System (NQAIDS) model of China's textile demand, the results suggest that the income elasticity for textiles is around 0.6 in China, and that apparel is less price responsive than home textiles and other textile products. Simulation results suggest that a minimum wage increase would raise Chinese domestic textile consumption and lower Chinese textile exports. Most of the decline in textile exports by China is offset by expansion in other countries' domestic textile production and results in a slight increase in world cotton mill utilization and higher clothing prices.

Key Words: Nonlinear Quadratic Almost Ideal Demand System (NQAIDS), cotton, clothing, China, trade, industrial policy

JEL code: Q17; Q18; R34; R21

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Introduction

This study focuses on potential agricultural trade spill-overs from shifts in China's industrial policy. China's transformation since opening its economy after 1978 and rejoining the World Trade Organization (WTO)[2] in 2001 has significantly raised incomes and reduced poverty in the world's most populous country. These results lend credence to China's policies of encouraging investment-led, export-oriented growth, but other indicators highlight concerns. One is income disparity—including regional disparities, an urban- rural divide, and disparity nationwide—stemming in part from lagging wages relative to economic growth (CCPCC, 2010). Another indicator of potential concern is the accumulation of foreign exchange reserves, and the associated threats of inflation and multilateral trade tensions (Blanchard and Milesi-Ferratti, 2009). In 2011, China's 12th Five Year Plan begins a new approach, progressively raising minimum wages, with important implications for the price of clothing around the world, and fiber sales by the world's largest cotton exporter, the United States.

While China's efforts to boost labor income, raise domestic consumption, and guide investment toward higher wage industries mirror some aspects of earlier successful development efforts in other countries, the economics literature highlights both positive and negative effects of higher minimum wages. On the positive side are increased productivity, increased consumer spending, and lower training costs (Buffa, 2008). On the negative side are unemployment rates in low wage industries, such as textiles. The most direct impact minimum wage implementation has on

[2] China was a founding member of the General Agreements on Tariffs and Trade (GATT), the predecessor to the WTO.

the economy is unemployment among young workers and unskilled workers (Richason and Media, 2010).

The theoretical work on this question is also ambiguous. Standard neoclassical theory predicts it will cut overall employment and will substitute high-skilled labor. At the same time, it unequivocally predicts a negative effect for the lowest-wage workers. According to Kearl (1979), 90 percent of the economists surveyed agreed that the minimum wage increases unemployment among low-skilled workers. However, others, such as Manning (2003), Ahn, Arcidiacono and Wessles (2008), Rebitzer and Taylor (1995), and Drazen (1986), suggest that if the minimum is not set too high, minimum wages may increase the employment of low wage workers.

Consistent with a relatively low income as China began its rise, clothing and textiles have been an important pillar of China's national economic development over the last 3 decades. In 1991, China replaced Italy as the world's largest clothing exporter, and repeated this for textiles in 1999. Since 2000, China's textile fiber processing volume has increased from 14 million tons to 36 million tons, accounting for 40 percent of world total fiber use (Fiber Organon, 2010). China's imports also accounts for one-third of all cotton imports, and its net clothing and textile exports account for one-third of the world's cotton clothing production. With such a prominent role for China, higher minimum wages there would have important implications for both global clothing markets and the $4.3 billion in U.S. annual cotton exports. China's 12th Five-Year Plan endeavors to double wages in China by 2015, a policy with wide ramifications for global textiles and fiber markets (China Daily, 2011). Even before the announcement of these specific goals, wages in China had already been approaching 20 percent annual rates of increase, suggesting that such a long term change is a reasonable prospect.

Therefore, the purpose of this paper is to evaluate the effects of a Chinese minimum wage increase on the Chinese textile market as well as the world cotton market. The effect of the Chinese wage increase on the fiber market includes two sides: on one side, it increases production costs; on the other side, it increases income. To accomplish this analysis, we used both a Chinese consumer survey conducted by the U.S. Cotton Council International (CCI) and the partial equilibrium structural econometric model of the world fiber market developed by the Cotton Economics Research Institute (CERI) at Texas Tech University (Pan et al., 2004). This analysis compares a baseline of textile production estimates to an alternative production scenario. The baseline in this case was that Chinese textile and cotton industries continued to produce under the current minimum wage assumption while the alternative scenario was that China proceeded with a minimum wage increase. We present two scenarios following different wage rate increase mechanisms. Scenario 1 is an immediate wage increase: the Chinese minimum wage increases 100 percent in the first year, and in the next four years is kept at the same level. Scenario 2 is a steady wage increase: China increases its minimum wage rate 20 percent every year in the next five years. The first scenario allows us to observe the dynamics of a simple shock, while the latter is more illustrative of the actual prospective time path of minimum wages in China under current conditions.

Data

A new survey of China's consumers provides the main data source for the Chinese textile domestic consumption demand analysis. In 2009, a Foreign Agricultural Service-funded survey was conducted in China by the U.S. CCI, collecting data nation-wide through a local market research firm. The data was designed to better understand Chinese consumers' awareness, attitudes, and purchase behavior for textiles of cotton and other fibers. A sample of 4,400 respondents representative of China's urban population was surveyed. The sample is based on men and women

ages 15 to 54 that have lived in their city or county of residence for at least one year (CCI, 2010). The survey includes demographic data associated with clothing and home textiles purchases, as well as prices and income information. Table 1 presents basic statistics for the major variables used in the study. Due to the fact that the minimum value of the apparel share, the home textiles share, and the other textiles share are bigger than zero for every respondent, there were no censored issues in the data set.

Other data used in this study are compiled from various sources, which include: the Food and Agricultural Policy Institute (FAPRI) for the historical and projected macro variables (real GDP, exchange rates, population, and GDP deflator); the Production, Supply & Demand (PS&D) database of USDA's Foreign Agricultural Service (FAS) for cotton acreage, yield, production, mill use, ending stocks, and trade; the FAO World Fiber Consumption Survey and Fiber Organon for the fiber mill consumption and man-made fiber data; the National Bureau of Statistics of China (NBS), for the China textile index; USDA's Economic Research Service (ERS), for China's net cotton textile trade; the International Cotton Advisory Committee (ICAC), for the world textile price index; and the International Monetary Fund (IMF), for the price of oil.

Methods

With China's accession to the WTO and the removal of the Multifibre Arrangement, the textile market needs to be modeled as a single, integrated global market, rather than as separate markets. A partial equilibrium model is developed and new parameters are estimated. The model includes two submodels, namely, a) a cotton textile sector model, and b) a cotton sector model.

Cotton Textile Sector Model

The cotton textile sector model includes three components a) domestic textile demand; b) cotton textile trade; and c) cotton mill use, or textile production. These three components are joined by an identity (a + b = c).

Domestic Textile Demand Component

The Chinese textile demand model covers apparel, home textiles, and other textile products. The demand for apparel, home textiles, and other textiles use is specified as a Quadratic Almost Ideal Demand System (QAIDS).

The NQAIDS specification used in this study can be represented as follows:

$$(1) \qquad w_i = \alpha_i + \sum_j \gamma_{ij} \ln P_j + \beta_i (\ln y - \ln P) + \frac{\lambda_i}{\prod_j p_j^{\beta_i}} (\ln y - \ln P)^2 + \sum_{ik} \kappa_{ik} R_k + \varepsilon_i$$

where P is the corresponding price index, y is total textiles expenditure, w_i is the budget share of the i^{th} textile, ε_i is the error term, and the α's, β's, λ's and κ's are parameters to be estimated. R's are dummy variables corresponding to different demographic characteristics. Furthermore, the price index P in equation (1) is defined as:

$$(2) \qquad \ln P = \alpha_0 + \sum_j \alpha_j \ln p_j + \frac{1}{2} \sum_j \sum_i \gamma_{ij} \ln p_i \ln p_j \, .$$

The use of equation (2) in estimating the budget share equation in (1) implies that the model is truly non-linear. We did not replace (2) by any linear approximations because such approximations give rise to additional difficulties (Buse 1994; Green and Alston 1990; Thompson 2004). As usual, adding up, symmetry, and homogeneity are imposed. The expenditure elasticities, uncompensated own-price elasticities, and cross-price elasticities associated with the NQAIDS model in (1) can be

calculated using the approach in Pofahl, Capps, and Clauson (2005). The expenditure elasticity ε_i and price elasticities η_i for the QAIDS model are as follows:

$$(3)\quad \varepsilon_i = 1 + \frac{\beta_i}{w_i} + \frac{2\lambda}{w_i \prod P_j^{-\beta_j}} (\ln(y) - \ln P)$$

$$(4)\quad \eta_{ij} = -\delta_{ij} + \frac{\gamma_{ij}}{w_i} - \frac{\beta_i}{w_i}(\alpha_j + \sum_k \gamma_{jk} \ln(P_k)) - \frac{\lambda_i}{w_i \prod P_j^{-\beta_j}} [2(\alpha_j + \sum_k \gamma_{jk} \ln(P_k)) + \beta_j (\ln(y) - \ln P)][\ln(y) - \ln P]$$

Where $\delta_{ij} = \begin{cases} 1 & if\ i = j \\ 0 & otherwise \end{cases}$

This represents one stage of a two stage maximization decision by Chinese consumers. Combined with the first stage of total expenditure allocation between textiles and other goods, this forms the model of domestic textile demand.

Cotton Textile Trade Component

Chinese cotton textile exports are specified as a function of the Chinese domestic textile price index, a world textile price index, the price of petroleum (as a representative of transportation costs), as well as lagged cotton textile exports.

Domestic Textile Production Component

The Chinese domestic cotton textile production equation (cotton mill use) is specified as a function of the Chinese textile price index, the Chinese average wage rate, and the Chinese domestic cotton price.

Cotton Textile Market Balance

As we discussed earlier, the cotton textile sector model includes four components: cotton textile demand, cotton mill use (for textile production), cotton textile net exports, and the identity balancing these three variables (5).

(5) *Domestic Textile Production = Domestic Textile Consumption + Net Textile Trade.*

The balance equation (5) is used to solve for the cotton textile price index, which is a proxy for retail cotton textile prices. The Chinese domestic cotton price enters the mill use equation, and is one of the variables used to determine the Chinese cotton farm price. In this setup, the effects of Chinese minimum wage on the textile market would be seen in the cotton market.

Cotton Sector Model

The textile model is inserted into the Texas Tech University global cotton model to estimate the effects of a Chinese minimum wage increase on cotton exports. The cotton model is a partial equilibrium model which covers 35 major cotton importers and exporters. All countries are modeled as individual buyers and sellers in a global supply and demand framework. On the supply side, it includes both cotton and man-made fiber production. On the demand side, textile consumption is divided into textile cotton consumption and textile non-cotton consumption. The model specifies the fiber equivalent of textile consumption as a function of a textile fiber price index and income. Total textile production fiber equivalent is calculated as a residual of the total textile fiber consumption and textile net trade. Cotton export and import equations are specified as a function of domestic and international prices of cotton. For the import equations, international prices are calculated by converting world prices in domestic currency equivalents, after incorporating the appropriate tariffs. Similarly, in the export equations international prices

are calculated by converting world representative prices into the domestic currency equivalent. Finally, the ending stock equation is specified as a function of domestic cotton price, cotton production, and beginning stock. A market clearing equilibrium condition is used to solve for the world cotton price, a domestic textile price index, a domestic cotton price, and a polyester price (See Pan et al 2004 for Detail).

Results

Relationship Between Income and Textile Expenditure

Table 2 presents the estimated coefficients and associated asymptotic standard errors for the relationship between textile expenditure and income at the household level. In assessing the parameter estimates, most of them are statistically significant at 1percent. The income elasticity of textile expenditure indicates that total textile consumption would increase 0.59 percent with a 1-percent income increase.

It also indicates that households that bought textiles from supermarkets spent less on textiles than when bought from department stores, chain stores, and other small stores. Households purchasing their textile products from department stores and small stores budget relatively more for textiles than other households.

Table 3 presents the parameter estimation based on the NQAIDS models. It shows that the coefficient for apparel purchases from chain stores is significant and negative; the coefficient for home textiles' purchasing from supermarkets is significant and positive. Those results at least indicate that households purchasing textiles from supermarkets would spend more on home textiles than apparel; households that purchased textiles from small stores would spend more on

apparel than home textiles; those that purchased textiles from chain stores would spend more on other textiles than on apparel.

Table 4 presents the own-price and cross-price elasticities (equation 4) as well as expenditure elasticities (equation 3) implied by the NQAIDS models. This finding indicates that consumers in urban China may spend more on home textiles and other textiles but less on apparel as their income grows. The expenditure elasticities for apparel, home textiles, and other textiles are 0.78, 1.98, and 1.28, respectively, which indicates that home textiles and other textiles are expected to grow significantly as Chinese income grows. Since the income elasticity of textile expenditure is 0.59 (Table 2). This enables us to translate our expenditure elasticities into income elasticities, and. therefore, the estimated income elasticity of apparel, home textiles and other textiles is roughly equal to 0.46, 1.17, and 0.76, respectively.

Parameter Estimation of Cotton Textile Trade and Production Component Models

The equations, parameter estimates (with standard errors in parentheses), and diagnostic statistics of the Chinese textile trade and production models are reported in Table 5. In addition to the Durbin-Watson statistics reported, tests were conducted to detect higher order correlation. No significant effects were found. The estimated coefficients on the Chinese domestic textile price index and world price index are shown to be significant and of the correct sign in influencing the level of Chinese textile exports. As the price index of Chinese domestic textiles increases, Chinese net textile trade is expected to decline. The elasticity of the domestic price index is much higher than the world textile price index. The time trend is included to represent the effects of trade liberalization in the world textile market, and the estimated coefficient is found to be both positive and significant at the 10-percent level. Oil prices are found to decrease Chinese

textile exports. As for the mill use, or textile production, equation, the Chinese textile price index, domestic wage rate, and Chinese cotton price are found to be significant and with the correct signs.

Simulation Results

The simulation results are presented in Tables 6-8. Simulation results are compared with updated versions of FAPRI's 2011 baseline. Table 6 displays the effects of the Chinese minimum wage increase on Chinese textile exports, domestic textile consumption, and Chinese cotton supply, demand, and price. Table 7 summarizes the effects of the Chinese minimum wage increase on world cotton production, mill use, and trade. Table 8 provides the effects of the Chinese minimum wage increase on U.S. cotton production, mill use, and trade. Scenario 1 illustrates an implicit elasticity to wages for these variables, while scenario 2 is in some respects indicative of changes already occurring in China. Implicit in our analysis is that as a relatively low-wage industry, wages in the apparel industry would respond strongly to the increased minimum wage.

For both scenarios, an inflated Chinese minimum wage increases cotton textile domestic consumption around 40 percent and Chinese cotton textile trade is decreased by around 25 percent on average over the five years. The domestic textile price index is expected to increase more than 10 percent following the Chinese minimum wage increase. Chinese cotton production, mill use and imports increase a little more than 1 percent. Chinese domestic cotton price is expected to increase by more than 6 percent. As of 2014—the point at which the gradually increasing wage begins to overtake the rapidly increasing one—the effects of the first scenario (immediate wage increase) are relatively larger than scenario 2 (gradual wage increase), except

with respect to price. Adjustment of production to increased domestic demand lags behind in scenario 2, with prices higher for both cotton and textiles in China as a result.

World cotton production, mill use, and trade increase slightly following the Chinese minimum wage increase. U.S. mill use is expected to increase over 6 percent on average over the five years. Cotton exports decrease around 1 percent. Increased U.S. domestic cotton demand increases the U.S. cotton farm price by around 0.6-3 cents per pound over the five years. The effects on cotton prices gradually die out in scenario 1 while the effects increase in scenario 2. For the United States, the difference between the two scenarios is similar to those seen in the results for China: price is higher in scenario 2 as of 2014, while production changes lag.

If China's wage increases halt at the 2014 level in scenario 2, then in the long run the two scenarios would no longer differ. However, given China's currency peg, continued high levels of investment, and foreign exchange accumulation, it could prove difficult to limit wage gains after 2014. In this study, scenario 2 includes continued wage gains, so that by 2015 wages have increased almost 150 percent since 2010. For the United States, this indicates a 3.2 percent increase in the farm price for cotton, rather than the 1.7 percent increase under scenario 1. For China, domestic consumption of textiles in 2015 is 56 percent higher than the baseline level, compared with only 45 percent under scenario 1.

Summary and Conclusions

This article analyzes the effects of a Chinese minimum wage increase on the world fiber markets using a partial equilibrium model of China's textile market based on recent consumption survey data. A model of the Chinese component of the world fiber market is developed in this study and

is connected to an existing world fiber model to conduct baseline projections and policy scenarios.

The results based on NQAIDS suggested that the income elasticity of Chinese textiles is around 0.6. The price elasticities suggested that apparel is less price responsive than home textiles and other textiles. Simulation results suggest that a minimum wage increase would raise Chinese domestic textile consumption and lower Chinese textile exports. It also increases Chinese cotton imports. At the same time, most of the decline in China's textile exports is offset by expansion in other countries' domestic textile production expansion and results in a slight increase in world cotton mill utilization.

These results may have some policy implications. The findings that under the new Chinese minimum wage increase policy China is likely to import more cotton and export fewer textiles suggest that the effects tend to be stronger for Chinese domestic industries (both agriculture and textile) than for industries in foreign countries. Other countries may benefit from this policy by expanding their domestic textile industries. At the same time, we expect higher global textile prices, as suggested by the Chinese textile price index increase. This could have implications for inflation in lower-income countries where clothing remains a large component of consumer spending. We also demonstrate the potential consequence of a policy institutionalizes steady, annual wage gains. If China overshoots its goal of doubling wage income over the next 5 years, the impact would be larger than anticipated.

Table 1. Basic Statistics for Major Variables

	Unit	Mean	Std Dev	Minimum	Maximum
Total textile expenditure per Capita	Yuan	2365.03	2550.20	60	37000
Apparel share		0.58	0.14	0.05	1.00
Home Textiles Share		0.10	0.11	0.01	0.86
Other Textiles Share		0.32	0.12	0.03	0.93
Apparel Price/Unit Value	Yuan/unit	924.98	932.54	15	13875.56
Home Textile Price/Unit Value	Yuan/unit	215.72	62.44	3.9	1083.69
Other Textile Price/Unit Value	Yuan/unit	593.16	386.40	29.16	5602.48
North (1 if living in North)		0.25	0.43	0	1
East (1 if living in East)		0.25	0.43	0	1
South (1 if living in South)		0.25	0.43	0	1
Resid (Live there more than 2 years)		0.94	0.24	0	1
Female (1 if Household head is female)		0.61	0.49	0	1
Age (age of household head)		40.20	11.31	20	60
Employed (=1 employed household head)		0.72	0.45	0	1
Married (=1 married Household Head)		0.26	0.44	0	1
Hsize (Household size)		3.18	1.13	1	17
kid 0-6 (Number of kids 0 - 6)		0.20	0.45	0	8
kid 7-14 (Number of Kids 7 -14)		0.21	0.44	0	3
adult 15-54 (Number of adults 15-54)		2.53	0.92	0	7
Old 55 (older than 55)		0.24	0.60	0	5
Edu (higher than high school degree)		0.39	0.49	0	1
Wage (=1 if the household head is the main wage earner)		0.41	0.49	0	1
Labor (# of Household Labor)		1.99	0.86	0	21
Wave (=1 if the survey conducted in the first wave)		0.5	0.5	0	1
Income (Monthly Income per capita	(Yuan)	4051.59	2324.46	500	10500

Source: MacDonald et al, 2011.

Table 2. Linkage between Textile Expenditure and monthly Income

(Dependent Variable: log(Textile Expenditure))

Parameters	Coefficient	Standard Error
Intercept	2.67*	0.14
Log (Income)	0.59*	0.02
Married	0.08*	0.03
Kids 0-5	0.05*	0.02
Kids 6-15	0.02	0.03
Adult 15-54	-0.07*	0.01
North	0.04*	0.02
South	-0.20*	0.03
East	-0.04	0.03
Bought from Department Stores	0.12*	0.02
Bought from Chain Stores	0.05*	0.02
Bought from Super Market	-0.03	0.02
Bought from Small Stores	0.17*	0.02
Wave	-0.01	0.02
R^2	0.26	

* significant at 1% level (MacDonald et al, 2011, 2011)..

Table 3. NQAIDS Share Equation for Chinese Textile Consumption

	apparel Share		home textile share	
	parameter	std error	parameter	Std Error
Intercept	0.8560*	0.0150	0.0438*	0.0106
log(apparel price)	-0.0028	0.0040	0.0014	0.0020
log(home textiles price)	0.0014	0.0020	0.0008	0.0017
log(other price)	0.0014	0.0020	-0.0022	0.0020
(log(exp)-LnP)	-0.3237*	0.0075	0.0697*	0.0047
(log(exp)-LnP)2	0.1058*	0.0034	0.0037	0.0025
North	-0.0174*	0.0065	-0.0066	0.0043
south	-0.0056	0.0062	0.0037	0.0043
East	0.0114*	0.0064	-0.0122*	0.0043
Resid	0.0168*	0.0086	-0.0275*	0.0061
Age	-0.0011*	0.0002	0.0008*	0.0002
Employ	-0.0168*	0.0050	-0.0087*	0.0034
Married	-0.0181*	0.0061	-0.0337*	0.0043
Edu	0.0010	0.0073	-0.0067	0.0051
Wave	-0.0218*	0.0045	0.0136*	0.0031
Bought from Department store	0.0066	0.0050	-0.0085*	0.0034
Bought from Chain Store	-0.0192*	0.0046	0.0010	0.0032
Bought from Super-market	-0.0039	0.0045	0.0063	0.0032
Bought from Small Store	0.0134*	0.0046	-0.0177*	0.0032

* Significant at 1% level (MacDonald et al, 2011).

Table 4. Expenditure and Price Elasticities

		Expenditure Elasticity	Apparel	Home Textiles	Others
Product	Apparel	0.78*	-0.56*	-0.77*	-0.91*
		(0.01)	(0.01)	(0.06)	(0.03)
	Home Textiles	1.98*	0.01	-1.02*	0.097
		(0.03)	(0.00)	(0.02)	(0.01)
	Others	1.28*	0.07	-0.24*	-1.002*
		(0.02)	(0.01)	(0.03)	(0.01)

* Significant at 1% level (MacDonald et al, 2011).

Standard errors in parenthesis; approximated via Delta Method.

Table 5. Chinese Cotton Textile Fiber Equation

	Log(Net Export)	Log(Mill Use)
Intercept	-5.05*	2.08*
	(3.52)	(0.55)
Log(Chinese textile price index)	-1.05*	0.07*
	(0.26)	(0.01)
Log(world textile price index)	0.32*	
	(0.18)	
Log(Average Wage Rate)		-0.02*
		(0.003)
Log(oil price)	-0.16*	
	(0.08)	
Log(Chinese Cotton Price)		-0.26*
		(0.08)
Log(Trend)	3.24*	
	(1.04)	
LAG of Independent Variable	0.67*	0.87*
	(0.12)	(0.08)
WTO dummy		0.17*
		(0.05)
Adj R-Sq	0.97	0.99
F-Value	182.32	304.88
D-W Statistics	2.13	2.02

*Significant at 10%. Std error in the parentheses.

Table 6. Effects of Chinese Minimum Wage Increase on Chinese Fiber Market

		2011/12	2012/13	2013/14	2014/15	2015/16	Average
Chinese Textile Price Index							
	Base	613.14	539.42	585.98	554.49	479.78	537.71
	Scenario 1	753.01	606.98	661.83	618.73	537.36	613.47
	Percentage	22.81%	12.52%	12.94%	11.59%	12.00%	13.80%
	Scenario 2	642.32	583.56	665.33	655.12	600.72	623.72
	Percentage	4.76%	8.18%	13.54%	18.15%	25.21%	16.85%
Export				Million Pounds			
	Base	14848.90	14904.12	14461.00	14347.72	14334.32	14563.09
	Scenario 1	11967.07	11394.95	10631.10	10405.60	10261.65	10840.83
	Percentage	-19.41%	-23.54%	-26.48%	-27.48%	-28.41%	-25.60%
	Scenario 2	14141.40	13281.08	11714.99	10458.19	9159.16	11136.14
	Percentage	-4.76%	-10.89%	-18.99%	-27.11%	-36.10%	-23.70%
Domestic Consumption							
	Base	8045.42	8602.19	9553.89	9734.93	10228.39	9398.85
	Scenario 1	11059.00	12418.06	13763.31	14119.37	14804.23	13508.31
	Percentage	37.46%	44.36%	44.06%	45.04%	44.74%	43.53%
	Scenario 2	8784.75	10338.47	12524.52	13987.05	15943.18	13163.07
	Percentage	9.19%	20.18%	31.09%	43.68%	55.87%	38.36%

Table 6. (*Continued*)

		2011/12	2012/13	2013/14	2014/15	2015/16	Average
Chinese Cotton				Yuan/lb			
Price	Base	7.55	8.68	9.26	9.99	10.85	9.65
	Scenario 1	8.21	9.14	9.90	10.64	11.56	10.28
	Percentage	8.65%	5.36%	6.85%	6.46%	6.61%	6.69%
	Scenario 2	7.71	8.98	9.78	10.73	11.90	10.33
	Percentage	2.05%	3.45%	5.57%	7.42%	9.75%	6.65%
				000 Bales			
Production	Base	35394.55	31467.94	31882.37	31193.96	31604.81	32292.30
	Scenario 1	35478.77	32052.77	32483.19	31933.45	32436.06	32924.27
	Percentage	0.24%	1.86%	1.88%	2.37%	2.63%	1.99%
	Scenario 2	35414.47	31629.50	32209.68	31741.67	32422.98	32801.14
	Percentage	0.06%	0.51%	1.03%	1.76%	2.59%	1.60%
Mill Use	Base	47697.28	48972.29	50031.85	50173.02	51173.15	49921.52
	Scenario 1	47971.78	49611.25	50822.53	51094.52	52221.46	50728.21
	Percentage	0.58%	1.30%	1.58%	1.84%	2.05%	1.60%
	Scenario 2	47763.59	49208.21	50499.82	50928.43	52297.41	50624.18
	Percentage	0.14%	0.48%	0.94%	1.51%	2.20%	1.38%
Import	Base	15268.81	17475.92	18334.50	19032.28	19740.05	18339.39
	Scenario 1	15407.16	17607.84	18522.92	19232.73	19967.43	18526.13
	Percentage	0.91%	0.75%	1.03%	1.05%	1.15%	1.01%
	Scenario 2	15302.90	17554.34	18478.85	19250.84	20058.51	18541.06
	Percentage	0.22%	0.45%	0.79%	1.15%	1.61%	1.05%

Table 7. Effects of Chinese Minimum Wage Increase on World Cotton Market

		2011/12	2012/13	2013/14	2014/15	2015/16	Average
				Cents/lb			
A-index	Base	101.98	92.99	91.85	94.23	94.23	95.01
	Scenario 1	104.01	93.51	92.35	94.49	94.38	95.59
	Percentage	1.98%	0.56%	0.55%	0.27%	0.17%	0.59%
	Scenario 2	102.42	93.52	92.53	94.90	95.01	95.64
	Percentage	0.43%	0.57%	0.74%	0.71%	0.83%	0.66%
				000 Bales			
Production	Base	128056.31	124125.57	124835.23	126395.29	129448.40	127575.65
	Scenario 1	128147.57	124961.72	125640.48	127329.24	130455.78	128372.29
	Percentage	0.07%	0.67%	0.65%	0.74%	0.78%	0.62%
	Scenario 2	128077.77	124342.02	125256.36	127093.66	130464.40	128207.88
	Percentage	0.02%	0.17%	0.34%	0.55%	0.78%	0.49%
Mill Use	Base	121919.98	123206.59	124971.33	127283.53	130134.69	126664.53
	Scenario 1	122278.00	123921.57	125777.17	128175.55	131101.05	127463.05
	Percentage	0.29%	0.58%	0.64%	0.70%	0.74%	0.63%
	Scenario 2	121999.72	123455.84	125440.08	128006.69	131162.34	127322.56
	Percentage	0.07%	0.20%	0.38%	0.57%	0.79%	0.51%
Trade	Base	40090.52	41402.65	41397.61	42641.83	43612.95	42233.72
	Scenario 1	40113.24	41422.50	41423.55	42669.61	43673.80	42273.30
	Percentage	0.06%	0.05%	0.06%	0.07%	0.14%	0.09%
	Scenario 2	40098.76	41419.45	41410.15	42657.82	43679.03	42270.58
	Percentage	0.02%	0.04%	0.03%	0.04%	0.15%	0.08%

Table 8. Effects of Chinese Minimum Wage Increase on U.S. Cotton Market

		2011/12	2012/13	2013/14	2014/15	2015/16	Average
				Cents/lb			
Farm Price	Base	90.91	80.25	80.94	83.77	83.39	83.93
	Scenario 1	93.98	82.17	82.85	85.50	84.78	85.77
	Percentage	3.38%	2.40%	2.36%	2.06%	1.67%	2.19%
	Scenario 2	91.55	81.24	82.63	86.07	86.04	85.79
	Percentage	0.70%	1.24%	2.09%	2.75%	3.17%	2.23%
				000 Bales			
Production	Base	20118.95	19122.36	18171.83	18380.35	18598.02	18922.43
	Scenario 1	20118.95	19269.20	18302.44	18497.86	18705.16	19021.50
	Percentage	0.00%	0.77%	0.72%	0.64%	0.58%	0.53%
	Scenario 2	20118.95	19152.98	18226.01	18472.73	18724.96	18998.88
	Percentage	0.00%	0.16%	0.30%	0.50%	0.68%	0.41%
Mill Use	Base	4358.84	3994.71	3656.75	3414.46	3130.92	3566.50
	Scenario 1	4626.27	4252.06	3925.16	3668.68	3343.72	3806.80
	Percentage	6.14%	6.44%	7.34%	7.45%	6.80%	6.76%
	Scenario 2	4413.26	4103.86	3863.55	3712.57	3471.55	3800.37
	Percentage	1.25%	2.73%	5.66%	8.73%	10.88%	7.18%
Export	Base	14558.17	14524.29	14987.30	15383.59	16298.43	15418.40
	Scenario 1	14416.71	14381.64	14842.35	15264.76	16196.59	15293.95
	Percentage	-0.97%	-0.98%	-0.97%	-0.77%	-0.62%	-0.82%
	Scenario 2	14493.76	14395.88	14802.55	15180.93	16065.87	15246.23
	Percentage	-0.44%	-0.88%	-1.23%	-1.32%	-1.43%	-1.10%

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