EXPIRING TEMPORARY SAFEGUARDS ON APPAREL TRADE: IMPLICATIONS FOR U.S. COTTON

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Abstract

The 1995 Agreement on Textiles and Clothing (ATC) provided for the calculated liberalization of the textiles and apparel sectors over a 10-year period except for some safeguard measures ending on December 31, 2008. These safeguard measures allowed for import restrictions by the U.S. on certain categories of cotton apparel from China. Using a price equilibrium simulation model of the U.S. cotton and cotton apparel markets, results point to lower cotton apparel prices in the U.S. by as much as $0.11/lb while U.S. cotton prices decline by less than $0.01/lb once these safeguards expire.

Introduction

Trade in textiles and clothing has a long history of quantitative restrictions through the Multi-Fiber Arrangement (MFA). Under the MFA, developed textile importing countries negotiated bilateral agreements with developing exporting countries to set quotas on a country-specific basis. This contradicted the principles of nondiscrimination where all countries are treated equally with respect to trade measures and of reducing or avoiding absolute quantitative limits. The Uruguay Round of GATT negotiations resulted in the elimination of the MFA with the establishment of the WTO beginning in 1995. The Agreement on Textiles and Clothing (ATC), which replaced the MFA, provided for the phased elimination of quotas within a transitional period of ten years, bringing the textiles and clothing sector into the structure of the multilateral trading system.

Under the ATC, a minimum percentage of an importing country's 1990 volume of textile and apparel imports was specified to eliminate quotas in four phases: 16% on January 1, 1995, an additional 17% on January 1, 1998, another 18% on January 1, 2002, and the remaining 49% on January 1, 2005. Products not yet liberalized but subject to quotas or restrained in some manner had their quotas relaxed by 16%, 25% and 27% in each phase, respectively. Although the ATC required importing countries to integrate articles from each of 4 categories: tops/yarns, fabrics, made-ups, and clothing, they were given the flexibility to select which articles to integrate at each phase as no allocation percentages were specified. Also, the universal set of product lines included not just items that were previously subject to the MFA but also articles that had never been restricted for some importing countries.

This allowed for developed importing countries to defer integration until January 1, 2005; 89% of apparel imports (most of which are high-value-added clothing items) and 47% of textile imports were left to be integrated in 2005 (USITC, 2004b) while those integrated in the first three stages were either not subject to MFA quotas or were subject to non-binding quotas or quotas not fully utilized by exporting countries.

To dampen a surge in imports and avoid a "hard landing" for domestic producers as a result of this "backloading", the U.S. formed preferential and regional trading arrangements (PTAs/RTAs) concurrent and in response to the ATC. U.S. producers used the ATC's 10-year transition period to transfer production offshore by means of PTAs that accorded duty- and quota-free imports from partner nations willing to abide by certain rules of origin (ROOs) while non-members remained constrained by MFA quotas and tariffs. ROOs ensured that U.S. imports incorporated as much U.S. content as possible by allowing firms to process goods offshore and avoid paying duty on U.S. components incorporated in the finished, re-imported items. As a result, there was a shift from domestic (U.S.) to offshore regional production (Ahmad, 2004; Nordas, 2004).

These PTAs accorded some advantage to member countries and diverted trade away from lower cost non-member countries, particularly in Asia and China. This advantage would have been fully eroded on January 1, 2005 with the expiration of all quotas under the ATC. However, the ATC included a mechanism of transitional safeguards available to importing countries; in particular it allowed importing countries to impose transitional China-specific safeguards, textiles and clothing specific safeguards, and countervailing duties. As a transitional safeguard mechanism, the U.S. and China initially negotiated a Memorandum of Understanding (MOU) that re-imposed limits on Chinese exports of "core" apparel products (mainly of cotton) to the U.S. from January 1, 2006 until December 31, 2008. But following a surge in Chinese exports of apparel into the U.S. when the ATC concluded in 2004, the U.S. re-imposed quotas earlier in the second half of 2005. These transitional quotas limited China's access to the U.S. apparel import market. In turn, it enabled PTA members to retain some of its advantage against China; at the same time previously constrained countries remained competitive in the U.S. import market.

Once the safeguards expire, U.S. producers will shift some of their assembly operations away from PTA countries or altogether source cheaper garments from Asia, including China, where there is little use of U.S. fabrics in apparel production. With this shift from protected, more developed countries to China and even to other previously constrained Asian countries with policies that favor domestic fiber producers and with significant cotton production, the net effect on the demand for U.S. cotton becomes an empirical question.

While models that link the whole textiles and apparel sector to the cotton fiber sector exist (Mohanty and Pan, 2004; Diao and Somwaru, 2001; MacDonald et al, 2001; Elbehri, Thomas and Martin, 2003; Elbehri, 2004; MacDonald, Pan et al., 2004) in either a partial or general equilibrium setting, there is no extensive model of the *cotton* apparel sector that links to the cotton fiber sector for the U.S.

Methods and Procedures

This study used an econometric model that links these sectors to empirically estimate the amount of trade created or diverted across the U.S.' trading partners in the cotton apparel sector and how these affect U.S. cotton production, consumption, trade, and prices when the remaining safeguard measures against China expire by the end of 2008.

A structural econometric model was estimated to measure the effects of the safeguards in both the cotton apparel and cotton fiber markets. A schematic representation of the model, which depicts the interrelationships between regions and markets, is shown in Figure 1. It contains 4 regions - (1) China, (2) other quota-constrained exporters, (3) preferred exporters, and (4) the United States - each region with two markets, cotton apparel, and cotton fiber. In the cotton apparel market, total demand is composed of domestic and export demands while total supply is made up of domestic production and imports. Imports are sourced from different exporter regions - China, other quota-constrained, preferred exporters, and rest-of-the-world. Total supply and total demand in equilibrium yields the domestic price for cotton apparel which feeds into the determination of the different production, consumption, and trade components.

In the cotton fiber market, acreage and yield levels determine cotton production; together with beginning stocks and imports they make up total supply. Imports come from two sources – the U.S. and the rest-of-the-world. The demand side is composed of cotton mill use, exports and cotton ending stocks. Exports of cotton, as in the U.S. case, are differentiated according to their destination, i.e., China, other quota-constrained exporters, preferred exporters and the rest-of-the-world. Equating total supply and total demand for cotton provides the equilibrium price for cotton which feeds into the determination of the different production, consumption, and trade quantities.

In Figure 1, markets are linked within a region through cross-market effects and across regions through bilateral trade flows. A closer look at a representative region, the U.S., for instance, shows that apparel production on the

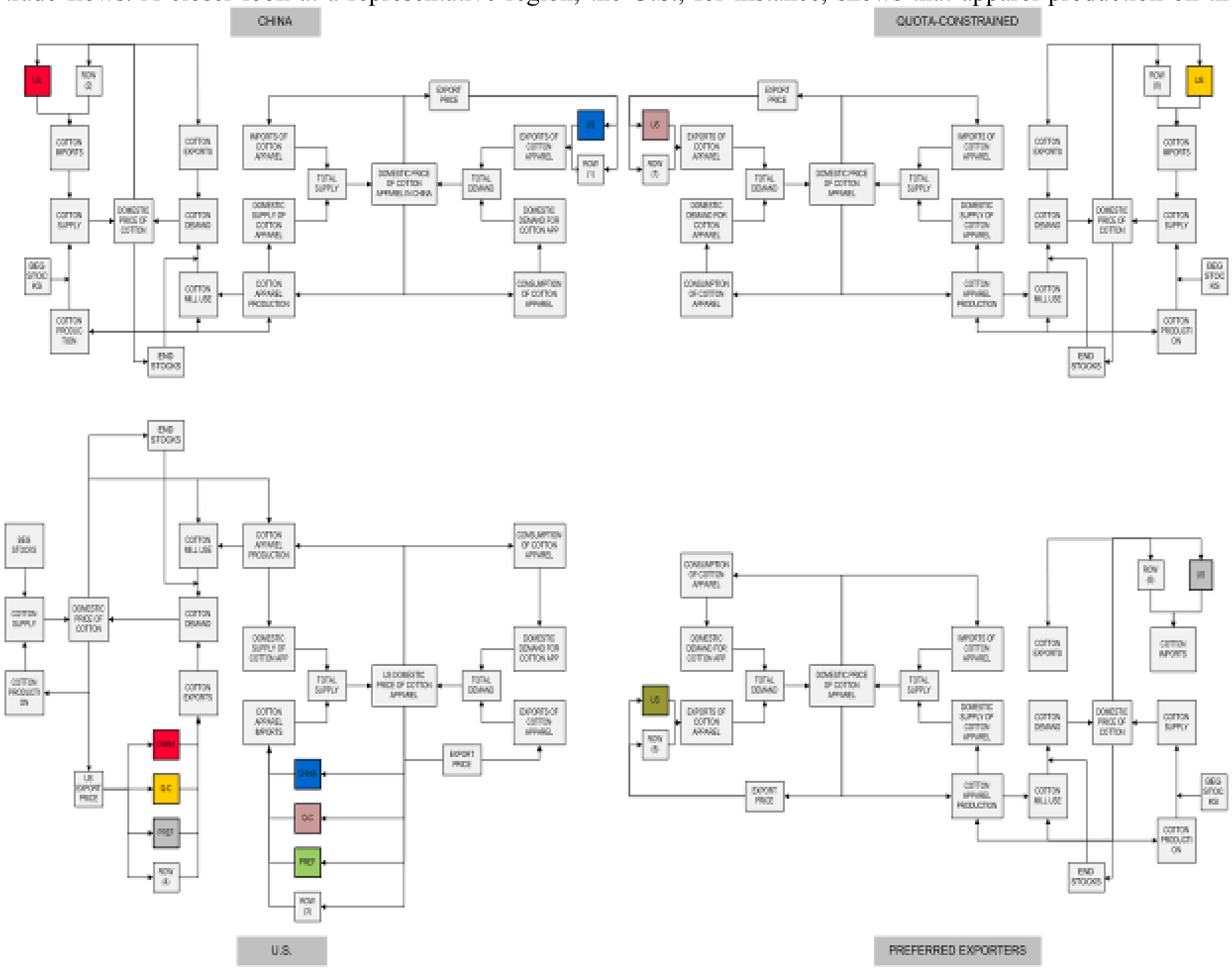

Figure 1. Schematic representation of trade linkages in the cotton and cotton apparel sectors.

supply side of the cotton apparel market determines mill use on the demand side of the cotton market. Also, the domestic price of cotton affects apparel production as an input cost. Horizontally, similar markets are linked across regions through bilateral trade flows. For example, export demand by the U.S. for Chinese cotton apparel is equivalent to U.S. import supply from China. Similar horizontal linkages exist between the U.S. and the other regions in both the cotton apparel and cotton fiber markets; only, in the cotton fiber market, the U.S. is a net exporter and the other regions are net importers. These simultaneous cross-market and cross-region relationships ensure that all markets in all regions are linked. Changes due to the safeguards expiration are quantified through projected effects on these trade flows.

Empirical Specification

The analysis used a 57-equation, annual econometric-based, price equilibrium simulation model of the cotton fiber and cotton apparel markets in the U.S. as well as its trading partners. Behavioral equations were specified in double log form so that elasticities are constant over the time period; also the log-log transformation is variance stabilizing and potentially corrects for heteroscedasticity and thus makes more efficient use of the data (Spanos, 1998). Deviations for exclusion of statistically not significant variables in some countries and insertion of dummy and/or shift variables for specific years when spikes in the data were observed due to some policy announcement or exogenous events. Also, tests were conducted for non-normality, statistical non-linearity, heteroscedasticity, and autocorrelation; adjustments to correct for problems were made when necessary. The interested reader is referred to Mutuc (2008) for a more detailed discussion of the equations and corresponding parameter estimates.

Baseline Assumptions & Policy Simulations

The estimated model was used to develop baseline projections of prices, production, consumption, and trade for cotton fiber and cotton apparel in the U.S., China, other quota-constrained, and preferred countries under a set of assumptions for exogenous variables for the projection period 2009-2015. Projections for macroeconomic variables such as GDP, GDP deflator, CPI, exchange rates, and population growth were obtained from the IMF's World Economic Outlook (WEO, October 2007), and Food and Agricultural Policy Research Institute (FAPRI, 2007). Projections for crude oil prices were sourced from the Energy Information Agency (EIA, 2007); projections for competing crops were sourced from the Food and Agriculture Organization Statistical Database (FAOSTAT, 2007). Safeguard measures on Chinese cotton apparel exports were removed from 2009 onwards.

World GDP is projected to grow at an annual rate of 3.3% between 2006 and 2015 with U.S. growth at 2.8%. Developing countries, however, are anticipated to perform better than developed countries with China and quota-constrained countries (fueled by India's and East Asia's growth of 7% and 4.3%, respectively) projected to correspondingly grow by 7.9% and 5%; Latin America's GDP growth is projected at 3.9% with Mexico at 3.7%. The U.S.' population is projected to grow at 0.9% over 2006-2015, China's at 0.6%, India's at 1.5%, and Pakistan's at 1.9%. Hongkong's and Taiwan's populations are projected to grow by 0.5% while Latin America is projected to mirror world population growth of 1.1% per year. U.S. inflation, measured by the GDP deflator, is projected to rise by an annual rate of 2% while prices in preferred countries are projected to grow by less than 3%; prices in quota-constrained economies rise in the range of 3.5-4.5%, higher than the 3% inflation projected for the world over 2005-2015. Hourly wages in the manufacturing sector for different regions are projected to move parallel with the growth in their CPI. Crude oil prices are projected to be on the uptrend and to rise by 4% from 2012 onwards - higher than world inflation due to the rapid expansion in the manufacturing sector in China, India, and Brazil. U.S. shipments of certain categories of cotton apparel from China remain under quota of 404.8 million pounds from 2005 through 2015 under the baseline.

Results and Discussion

Cotton Apparel Sector

With the removal of the safeguard quotas, *safeguard category items* shipped to the U.S. is estimated to be 41.7% higher or 168.7 million pounds more on average over 2009-2015. This brings China's *total* exports of cotton apparel to the U.S. to surge by an annual average of 16%. This translates to an additional 165.1 million pounds, on average, of cotton apparel shipments from China over the same period. A more complete categorical breakdown of Chinese exports to the U.S. is given in Table 1.

Table 1 suggests an apparent shift of exports from non-quota to safeguard items. Exports of non-quota items which consist of dressing gowns, gloves, and babies' garments are projected to decline by about 1% on average, or 3.7 million pounds. This shift hints at further specialization of Chinese apparel production on items where they have the greatest comparative advantage to begin with, such as cotton trousers, knit shirts, underwear, woven shirts, and sweaters – all of which belong to the safeguard categories. The rise in Chinese shipments to the U.S. are likely to displace Chinese shipments to ROW which are projected to decline by an average of 1.5% each year beginning 2009. From an average of 9.5 trillion pounds under the baseline, China's ROW exports drop to 9.4 trillion pounds without the safeguard quotas. This substantially offsets the increase in exports to the U.S. The switch is conceivable in the short-run without drastic shifts in production infrastructure because ROW imports from China also consist of the same items. For instance, 90% of the EU import market is comprised of trousers, shirts, underwear, blouses, jackets, suits, and overcoats – almost parallel to the segments served by China in the U.S. import market.

In step with rising export demand stemming from the U.S., apparel production increases by an average of 0.06% every year, or roughly additional 11 million pounds per year after the safeguards are lifted. On balance, the expansion in production and the offsetting contraction in exports to ROW results in excess demand in the cotton apparel market that induces higher apparel prices relative to the baseline. Cotton apparel is projected to be $0.02/lb, on average, more expensive in China's domestic market.

Table 1. Effects of the safeguards removal on China's cotton apparel market

		2009	2010	2011	2012	2013	2014	2015	Average
				in million lbs					
Production	Baseline	15889.37	16498.81	17135.49	17799.20	18484.14	19174.84	19897.04	17839.84
	Safeguards Removal	15892.28	16506.47	17146.13	17811.73	18497.98	19189.37	19911.72	17850.81
	Net Effect	0.02%	0.05%	0.06%	0.07%	0.07%	0.08%	0.07%	0.06%
Consumption	Baseline	7225.77	7453.43	7683.38	7911.12	8137.97	8373.08	8607.03	7913.11
	Safeguards Removal	7224.21	7449.50	7678.03	7904.68	8130.70	8365.31	8599.09	7907.36
	Net Effect	-0.02%	-0.05%	-0.07%	-0.08%	-0.09%	-0.09%	-0.09%	-0.07%
Exports									
U.S.									
Non-Quota	Baseline	361.55	365.70	367.93	367.46	365.73	363.73	361.29	364.77
	Safeguards Removal	360.92	363.73	364.68	363.24	360.86	358.49	355.91	361.12
	Net Effect	-0.17%	-0.54%	-0.88%	-1.15%	-1.33%	-1.44%	-1.49%	-1.00%
2004 Quota	Baseline	143.19	171.61	205.81	246.84	296.13	355.29	426.33	263.60
Items	Safeguards Removal	143.20	171.64	205.84	246.88	296.16	355.33	426.38	263.63
	Net Effect	0.01%	0.02%	0.02%	0.01%	0.01%	0.01%	0.01%	0.01%
2008	Baseline	404.82	404.82	404.82	404.82	404.82	404.82	404.82	404.82
Safeguards	Safeguards Removal	424.27	466.21	512.50	563.32	619.29	680.84	748.60	573.58
	Net Effect	4.80%	15.16%	26.60%	39.15%	52.98%	68.18%	84.92%	41.69%
ROW	Baseline	8258.92	8644.62	9052.17	9485.10	9933.65	10369.07	10831.85	9510.77
	Safeguards Removal	8244.95	8597.84	8965.30	9351.75	9747.44	10123.02	10518.52	9364.12
	Net Effect	-0.17%	-0.54%	-0.96%	-1.41%	-1.87%	-2.37%	-2.89%	-1.46%
Imports	Baseline	504.87	541.37	578.62	616.14	654.17	691.15	734.28	617.23
	Safeguards Removal	505.26	542.45	580.23	618.14	656.48	693.61	736.77	618.99
	Net Effect	0.08%	0.20%	0.28%	0.32%	0.35%	0.36%	0.34%	0.28%
				in US$/lb					
Domestic Price	Baseline	7.02	7.05	7.10	7.15	7.23	7.29	7.36	7.17
	Safeguards Removal	7.03	7.07	7.12	7.18	7.26	7.32	7.39	7.20
	Net Effect	0.10%	0.24%	0.32%	0.37%	0.41%	0.42%	0.42%	0.32%

On the other hand, preferred exports to the U.S. are projected to contract further by an average of 2.7% each year relative to the baseline level (Table 2). This result is not surprising since there is a considerable overlap or similarity between preferred suppliers' exports of cotton apparel to the U.S. and the safeguard categories for which China faced quotas until the end of 2008. These safeguard items cover 90% of all imports from Mexico, CAFTA and the Andean trade preference countries (NCTO, 2006). In Mexico, exports of apparel to the U.S. consist largely of cotton trousers. Consequently, an average of about 1.8 million pounds of cotton apparel production in preferred countries is likely to be displaced each year.

However, exports to ROW increase by around 4.7 million pounds which may stem from two factors. First, while the U.S. and EU are the largest export markets of preferred countries, they also export to other Latin American countries such as Guatemala, Nicaragua, Costa Rica, Panama, Dominican Republic, among others. Presumably, growth in exports to ROW will be brought about partly by increased intra-regional trade within Latin America. It is anticipated that the value-added of preferred countries which consist of the various steps involved in garment assembly such as cutting, sewing, and trimming (even dyeing and knitting) will be further divided among different preferred countries in Latin America. Second, export markets previously served by China are projected to be taken up by preferred countries. For instance, companies based in Korea, Canada, Taiwan and even China have built textile mills in Honduras as it slowly evolves to becoming a full-package supplier of apparel from knitting and finishing the fabric to cutting, sewing and packing of garments as finished apparel (USITC, 2004). These new manufacturers do not necessarily source their fabrics from the U.S. but rather from Asia. In step with weaker domestic and export demand, prices will be lower by 0.6% on average, or by $0.06/lb.

Table 2. Effects of the safeguards removal on preferred countries' cotton apparel market

		2009	2010	2011	2012	2013	2014	2015	Average
		in million lbs							
Production	Baseline	544.97	523.12	504.16	484.76	465.70	446.57	427.29	485.22
	Safeguards Removal	544.76	522.35	502.64	482.62	463.10	443.76	424.50	483.39
	Net Effect	-0.04%	-0.15%	-0.30%	-0.44%	-0.56%	-0.63%	-0.65%	-0.40%
Consumption	Baseline	724.36	734.27	743.57	754.67	769.61	782.28	797.09	757.98
	Safeguards Removal	725.07	736.77	748.00	760.34	776.26	789.39	804.06	762.84
	Net Effect	0.10%	0.34%	0.59%	0.75%	0.86%	0.91%	0.87%	0.63%
Exports									
U.S.	Baseline	693.42	661.86	625.81	588.37	542.71	494.65	447.84	579.24
	Safeguards Removal	691.02	654.62	614.14	572.83	524.20	473.76	424.77	565.05
	Net Effect	-0.35%	-1.09%	-1.86%	-2.64%	-3.41%	-4.22%	-5.15%	-2.68%
ROW	Baseline	59.97	53.96	56.11	57.50	58.49	67.29	71.20	60.65
	Safeguards Removal	61.20	57.14	60.41	62.98	64.40	73.47	77.73	65.33
	Net Effect	2.05%	5.90%	7.67%	9.52%	10.11%	9.18%	9.17%	7.66%
Imports	Baseline	932.77	926.97	921.33	915.79	905.11	897.66	888.84	912.64
	Safeguards Removal	932.53	926.19	919.90	913.51	901.75	892.85	882.06	909.83
	Net Effect	-0.03%	-0.08%	-0.15%	-0.25%	-0.37%	-0.54%	-0.76%	-0.31%
		in US$/lb							
Domestic Price	Baseline	10.33	10.43	10.58	10.66	10.75	10.83	10.87	10.64
	Safeguards Removal	10.32	10.39	10.52	10.58	10.67	10.74	10.79	10.57
	Net Effect	-0.11%	-0.37%	-0.62%	-0.74%	-0.81%	-0.81%	-0.74%	-0.60%

In contrast to preferred countries, other quota-constrained exports will continue to retain some foothold in the U.S. market after the safeguards are removed. Safeguard categories do not directly compete with quota-constrained country exports and although some product overlaps exist, quota-constrained exports are premised to be of medium-quality compared to China's. India and Pakistan export mostly readymade garments in the form of blouses, dresses, skirts, and shirts. While Bangladesh is considered as the competitive alternative to China, this is only the case for mass-produced, low-end apparel (Rahman and Anwar, 2006). Most of Taiwan's exports to the U.S. are cotton shirts and hosiery while Hongkong exports trousers, shirts, babies' garments, and underwear. On balance, quota-constrained exports to the U.S. (quota and non-quota) will record modest increases throughout 2015 of about 0.94 million pounds each year even after the safeguards are removed (Table 3).

Similar to China, there is an apparent shift in exports to the U.S. from non-quota to previously restrained quota categories (Table 3). This result is consistent with quota-constrained countries' tendency to specialize in middle-quality categories, or categories that require more complicated processes than non-quota apparel exports to the U.S. The slight upturn in total export demand will induce higher production by about 0.28 million pounds. Consequently, prices will remain practically the same, up by less than $0.01/lb on average. Overall, other quota-constrained countries' cotton apparel markets are modestly affected by the expiration of the safeguards.

Table 3. Effects of the safeguards removal on quota-constrained countries' cotton apparel market

		2009	2010	2011	2012	2013	2014	2015	Average
		in million lbs							
Production	Baseline	3685.59	3896.87	4109.32	4321.57	4533.31	4743.99	4978.89	4324.22
	Safeguards Removal	3685.65	3897.01	4109.50	4321.82	4533.63	4744.42	4979.47	4324.50
	Net Effect	0.00%	0.00%	0.00%	0.01%	0.01%	0.01%	0.01%	0.01%
Consumption	Baseline	1605.50	1707.24	1808.87	1914.93	2019.48	2124.44	2242.86	1917.62
	Safeguards Removal	1605.30	1706.85	1808.54	1914.50	2018.95	2123.70	2241.82	1917.10
	Net Effect	-0.01%	-0.02%	-0.02%	-0.02%	-0.03%	-0.03%	-0.05%	-0.03%
Exports									
U.S.									
Non-Quota	Baseline	279.82	293.33	305.22	313.10	320.43	326.49	334.18	310.37
	Safeguards Removal	279.17	291.43	302.34	309.71	316.77	322.79	330.62	307.55
	Net Effect	-0.23%	-0.65%	-0.94%	-1.08%	-1.14%	-1.13%	-1.06%	-0.89%
2004 Quota	Baseline	591.02	594.59	599.82	603.72	608.08	612.29	617.46	603.85
Items	Safeguards Removal	591.99	597.08	603.16	607.77	612.68	617.43	623.19	607.61
	Net Effect	0.17%	0.42%	0.56%	0.67%	0.76%	0.84%	0.93%	0.62%
ROW	Baseline	1940.38	2053.62	2168.84	2286.04	2404.08	2522.75	2648.66	2289.20
	Safeguards Removal	1940.27	2053.36	2168.52	2285.63	2403.57	2522.07	2647.74	2288.74
	Net Effect	-0.01%	-0.01%	-0.01%	-0.02%	-0.02%	-0.03%	-0.03%	-0.02%
Imports	Baseline	731.12	751.89	773.43	796.21	818.78	841.98	864.26	796.81
	Safeguards Removal	731.03	751.67	773.11	795.83	818.35	841.54	863.83	796.48
	Net Effect	-0.01%	-0.03%	-0.04%	-0.05%	-0.05%	-0.05%	-0.05%	-0.04%
		in US$/lb							
Domestic Price	Baseline	8.11	8.14	8.22	8.32	8.46	8.62	8.73	8.37
	Safeguards Removal	8.11	8.15	8.23	8.33	8.46	8.62	8.73	8.37
	Net Effect	0.02%	0.03%	0.02%	0.03%	0.04%	0.05%	0.06%	0.04%

Overall, China is projected to gain an additional 2.1% of the U.S. import market for cotton apparel. Quota-constrained countries' share of the market is projected to decline by 0.1% (though in volume terms they will increase). Figure 2 shows the shift in the shares of cotton apparel exporters to the U.S. following the policy change.

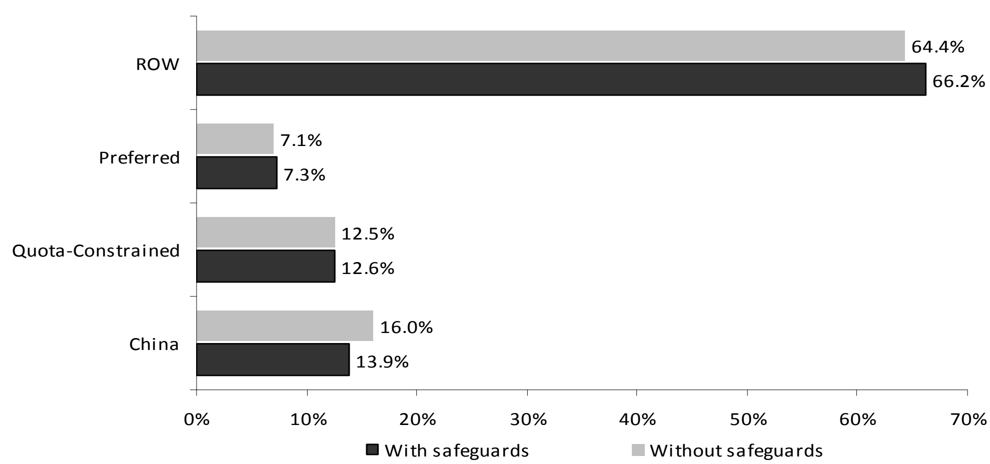

Figure 2. Exporter shares in the U.S. import market for cotton apparel

Domestic production of apparel will decline and be offset by a surge in cheaper imports; domestic production is projected to contract by around 5 million pounds each year from the baseline. Subsequently, apparel prices will be lower by $0.11/lb on average (Table 4).

Table 4. Effects of the safeguards removal on the U.S. cotton apparel market

		2009	2010	2011	2012	2013	2014	2015	Average
in million lbs									
Production	Baseline	830.61	754.32	673.97	591.13	509.51	428.35	347.61	590.79
	Safeguards Removal	829.16	750.54	668.86	585.29	503.28	421.95	341.14	585.74
	Net Effect	-0.18%	-0.50%	-0.76%	-0.99%	-1.22%	-1.49%	-1.86%	-1.00%
Consumption	Baseline	7068.43	7310.92	7575.28	7844.74	8124.41	8419.00	8734.55	7868.19
	Safeguards Removal	7077.20	7334.99	7609.91	7886.89	8172.18	8471.26	8790.80	7906.18
	Net Effect	0.12%	0.33%	0.46%	0.54%	0.59%	0.62%	0.64%	0.47%
Imports									
China	Baseline	909.56	942.13	978.57	1019.12	1066.68	1123.85	1192.45	1033.19
	Safeguards Removal	928.39	1001.58	1083.03	1173.44	1276.31	1394.66	1530.89	1198.33
	Net Effect	2.07%	6.31%	10.67%	15.14%	19.65%	24.10%	28.38%	15.19%
Preferred	Baseline	693.42	661.86	625.81	588.37	542.71	494.65	447.84	579.24
	Safeguards Removal	691.02	654.62	614.14	572.83	524.20	473.76	424.77	565.05
	Net Effect	-0.35%	-1.09%	-1.86%	-2.64%	-3.41%	-4.22%	-5.15%	-2.68%
Quota-Constrained	Baseline	870.84	887.92	905.03	916.81	928.51	938.78	951.64	914.22
	Safeguards Removal	871.17	888.51	905.50	917.48	929.45	940.22	953.82	915.16
	Net Effect	0.04%	0.07%	0.05%	0.07%	0.10%	0.15%	0.23%	0.10%
ROW	Baseline	3962.50	4249.07	4561.65	4883.57	5214.95	5553.87	5897.10	4903.25
	Safeguards Removal	3956.29	4224.57	4508.35	4792.15	5076.87	5361.15	5642.15	4794.51
	Net Effect	-0.16%	-0.58%	-1.17%	-1.87%	-2.65%	-3.47%	-4.32%	-2.03%
Exports	Baseline	198.67	184.73	170.17	154.60	138.10	120.50	102.09	152.69
	Safeguards Removal	198.52	184.37	169.76	154.27	137.95	120.42	101.72	152.43
	Net Effect	-0.08%	-0.20%	-0.24%	-0.21%	-0.11%	-0.07%	-0.36%	-0.18%
in US$/lb									
Domestic Price	Baseline	9.04	8.98	8.83	8.62	8.44	8.25	8.06	8.60
	Safeguards Removal	9.01	8.90	8.72	8.50	8.30	8.11	7.92	8.49
	Net Effect	-0.33%	-0.87%	-1.21%	-1.43%	-1.56%	-1.65%	-1.72%	-1.25%

Cotton Sector

The higher apparel production in China is projected to entail additional 43.8 thousand bales of cotton mill use every year as shown in Table 5. This increase in mill use is augmented by higher cotton imports both from the U.S. and ROW – expanding by an annual average of 0.07% and 0.2%, respectively. Additional 200,000 hectares of land are brought to cotton. Also, in response to mounting demand for cotton, China's already low level of cotton exports are curbed further by 1.6 thousand bales. In addition, ending stocks are projected to be lower by 0.35% on average relative to the baseline. On balance, excess demand is likely to be partially offset in the market and result in higher cotton prices by 0.28% on average relative to the baseline.

Lower apparel production in preferred countries entails lower cotton mill use but because exports of apparel to ROW remains strong in these countries, mill use does not deteriorate drastically. A cutback of about 2.9 thousand bales every year is expected (Table 6). Cotton imports from the U.S. is lower by about 1.4 thousand bales, while cotton imports from ROW is lower by 500,000 bales each year. The downturn in export demand for apparel exports of preferred countries reduces use for cotton as an input that will yield to slightly lower cotton prices by about $0.003/lb on average relative to the baseline.

As quota-constrained countries struggle to preserve its market share in the U.S. import market, the minimal increase in apparel production increases cotton mill use by about 4.97 thousand bales. On the net, the effect on cotton prices is negligible; up by an average of $0.0001/lb (Table 7).

In step with reduced production in the U.S., cotton mill use declines by approximately 17.5 thousand bales. But cotton exports to China are likely to expand by 6.4 thousand bales as well as to quota-constrained economies by 7.9 thousand bales. On the other hand, exports to preferred countries go down by 1.4 thousand bales. With production practically unchanged, the net effect is a slight excess supply that deflates prices by 0.08% in the U.S. (Table 8).

Table 5. Effects of the safeguards removal on China's cotton market

		2009	2010	2011	2012	2013	2014	2015	Average
in thousand bales									
Production	Baseline	29669.77	29404.97	29194.26	29038.17	28937.34	28877.15	29028.83	29164.36
	Safeguards Removal	29672.95	29415.41	29212.18	29061.86	28964.95	28907.00	29059.63	29184.85
	Net Effect	0.01%	0.04%	0.06%	0.08%	0.10%	0.10%	0.11%	0.07%
Consumption	Baseline	41577.12	41946.56	42425.89	43014.05	43687.93	44385.73	45210.19	43178.21
	Safeguards Removal	41588.75	41977.15	42468.34	43064.09	43743.17	44443.73	45268.80	43222.00
	Net Effect	0.03%	0.07%	0.10%	0.12%	0.13%	0.13%	0.13%	0.10%
Exports	Baseline	96.76	112.72	131.46	151.61	173.66	200.84	236.57	157.66
	Safeguards Removal	96.62	112.18	130.38	149.98	171.53	198.25	233.52	156.07
	Net Effect	-0.14%	-0.48%	-0.82%	-1.07%	-1.23%	-1.29%	-1.29%	-0.90%
Imports									
U.S.	Baseline	7077.78	7531.79	8010.22	8497.37	8992.68	9485.84	9971.64	8509.62
	Safeguards Removal	7079.02	7535.61	8016.26	8504.90	9001.15	9494.78	9980.65	8516.05
	Net Effect	0.02%	0.05%	0.08%	0.09%	0.09%	0.09%	0.09%	0.07%
ROW	Baseline	4495.65	4777.46	5078.25	5390.01	5708.33	6036.01	6343.09	5404.11
	Safeguards Removal	4497.75	4783.85	5088.40	5402.82	5722.96	6051.73	6359.12	5415.23
	Net Effect	0.05%	0.13%	0.20%	0.24%	0.26%	0.26%	0.25%	0.20%
in US$/lb									
Domestic Price	Baseline	1.009	1.053	1.095	1.137	1.181	1.225	1.267	1.138
(US$/lb)	Safeguards Removal	1.009	1.054	1.098	1.141	1.186	1.230	1.271	1.141
	Net Effect	0.06%	0.17%	0.26%	0.32%	0.36%	0.38%	0.38%	0.28%

Table 6. Effects of the safeguards removal on preferred countries' cotton market

		2009	2010	2011	2012	2013	2014	2015	Average
in thousand bales									
Production	Baseline	549.59	557.79	564.15	569.23	575.27	581.47	588.77	569.47
	Safeguards Removal	549.51	557.50	563.58	568.42	574.29	580.40	587.70	568.77
	Net Effect	-0.01%	-0.05%	-0.10%	-0.14%	-0.17%	-0.18%	-0.18%	-0.12%
Consumption	Baseline	2231.70	2173.67	2122.89	2073.80	2027.34	1982.63	1939.26	2078.75
	Safeguards Removal	2231.38	2172.46	2120.49	2070.39	2023.19	1978.09	1934.71	2075.82
	Net Effect	-0.01%	-0.06%	-0.11%	-0.16%	-0.20%	-0.23%	-0.23%	-0.14%
Exports	Baseline	156.28	158.28	159.93	161.44	162.92	164.44	165.99	161.32
	Safeguards Removal	156.29	158.30	160.00	161.54	163.05	164.59	166.15	161.42
	Net Effect	0.00%	0.02%	0.04%	0.06%	0.08%	0.09%	0.10%	0.06%
Imports									
U.S.	Baseline	1729.50	1670.32	1617.59	1568.26	1518.75	1468.86	1418.81	1570.30
	Safeguards Removal	1729.42	1669.89	1616.58	1566.68	1516.70	1466.54	1416.43	1568.89
	Net Effect	0.00%	-0.03%	-0.06%	-0.10%	-0.13%	-0.16%	-0.17%	-0.09%
ROW	Baseline	156.19	151.72	149.27	146.40	144.75	144.53	144.65	148.22
	Safeguards Removal	156.13	151.52	148.86	145.80	144.00	143.68	143.76	147.68
	Net Effect	-0.03%	-0.13%	-0.27%	-0.41%	-0.52%	-0.59%	-0.61%	-0.37%
in US$/lb									
Domestic Price	Baseline	0.78	0.81	0.84	0.87	0.90	0.93	0.97	0.87
	Safeguards Removal	0.78	0.81	0.83	0.86	0.89	0.93	0.97	0.87
	Net Effect	-0.04%	-0.15%	-0.28%	-0.39%	-0.47%	-0.51%	-0.50%	-0.33%

Table 7. Effects of the safeguards removal on quota-constrained countries' cotton market

		2009	2010	2011	2012	2013	2014	2015	Average
					in thousand bales				
Production	Baseline	32140.47	32780.78	33629.80	34446.50	35178.36	35818.03	36708.87	34386.12
	Safeguards Removal	32140.75	32782.34	33633.30	34451.45	35183.85	35822.93	36712.08	34389.53
	Net Effect	0.00%	0.00%	0.01%	0.01%	0.02%	0.01%	0.01%	0.01%
Consumption	Baseline	40470.48	41955.87	43467.25	44980.57	46489.53	47984.33	49914.57	45037.51
	Safeguards Removal	40471.45	41958.31	43470.50	44984.96	46495.26	47991.96	49924.94	45042.48
	Net Effect	0.00%	0.01%	0.01%	0.01%	0.01%	0.02%	0.02%	0.01%
Exports	Baseline	1720.19	1738.14	1757.04	1783.16	1813.07	1844.93	1875.72	1790.32
	Safeguards Removal	1720.14	1737.98	1756.74	1782.75	1812.57	1844.40	1875.21	1789.97
	Net Effect	0.00%	-0.01%	-0.02%	-0.02%	-0.03%	-0.03%	-0.03%	-0.02%
Imports									
U.S.	Baseline	3006.36	3571.66	3953.36	4316.83	4715.88	5177.29	5648.82	4341.46
	Safeguards Removal	3007.54	3575.31	3959.53	4325.52	4726.52	5189.35	5662.04	4349.40
	Net Effect	0.04%	0.10%	0.16%	0.20%	0.23%	0.23%	0.23%	0.17%
ROW	Baseline	6311.24	6642.62	7017.65	7395.94	7778.11	8170.05	8603.83	7417.06
	Safeguards Removal	6311.21	6642.43	7017.28	7395.55	7777.84	8170.04	8604.18	7416.93
	Net Effect	0.00%	0.00%	-0.01%	-0.01%	0.00%	0.00%	0.00%	0.00%
					in US$/lb				
Domestic Price	Baseline	0.73	0.82	0.91	0.96	1.02	1.08	1.17	0.95
	Safeguards Removal	0.73	0.82	0.91	0.97	1.02	1.08	1.17	0.95
	Net Effect	0.00%	0.02%	0.02%	0.01%	0.00%	0.02%	0.03%	0.02%

Table 8. Effects of the safeguards removal on the U.S. cotton market

		2009	2010	2011	2012	2013	2014	2015	Average
					in thousand bales				
Production	Baseline	23533.32	23738.28	23928.34	24109.02	24294.36	24505.28	24730.29	24119.84
	Safeguards Removal	23532.76	23736.63	23925.98	24106.48	24291.99	24503.25	24728.68	24117.97
	Net Effect	0.00%	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%
Consumption	Baseline	3970.18	3536.06	3085.44	2623.95	2164.78	1705.63	1246.75	2618.97
	Safeguards Removal	3965.16	3522.98	3067.69	2603.63	2143.12	1683.37	1224.30	2601.46
	Net Effect	-0.13%	-0.37%	-0.58%	-0.77%	-1.00%	-1.30%	-1.80%	-0.85%
Exports									
China	Baseline	7077.78	7531.79	8010.22	8497.37	8992.68	9485.84	9971.64	8509.62
	Safeguards Removal	7079.02	7535.61	8016.26	8504.90	9001.15	9494.78	9980.65	8516.05
	Net Effect	0.02%	0.05%	0.08%	0.09%	0.09%	0.09%	0.09%	0.07%
Preferred	Baseline	1729.50	1670.32	1617.59	1568.26	1518.75	1468.86	1418.81	1570.30
	Safeguards Removal	1729.42	1669.89	1616.58	1566.68	1516.70	1466.54	1416.43	1568.89
	Net Effect	0.00%	-0.03%	-0.06%	-0.10%	-0.13%	-0.16%	-0.17%	-0.09%
Quota-	Baseline	3006.36	3571.66	3953.36	4316.83	4715.88	5177.29	5648.82	4341.46
Constrained	Safeguards Removal	3007.54	3575.31	3959.53	4325.52	4726.52	5189.35	5662.04	4349.40
	Net Effect	0.04%	0.10%	0.16%	0.20%	0.23%	0.23%	0.23%	0.17%
ROW	Baseline	8179.54	7919.47	7669.60	7462.75	7250.18	7029.30	6820.03	7475.84
	Safeguards Removal	8180.27	7921.49	7672.36	7465.58	7252.70	7031.36	6821.58	7477.91
	Net Effect	0.01%	0.03%	0.04%	0.04%	0.03%	0.03%	0.02%	0.03%
Imports	Baseline	37.94	45.10	52.45	60.00	68.11	77.50	88.53	61.37
	Safeguards Removal	37.90	44.98	52.23	59.72	67.78	77.13	88.12	61.12
	Net Effect	-0.10%	-0.28%	-0.40%	-0.47%	-0.49%	-0.48%	-0.46%	-0.38%
					in US$/lb				
Domestic Price	Baseline	0.546	0.607	0.665	0.724	0.787	0.859	0.943	0.733
	Safeguards Removal	0.546	0.606	0.665	0.723	0.786	0.859	0.943	0.732
	Net Effect	-0.02%	-0.07%	-0.10%	-0.10%	-0.09%	-0.08%	-0.06%	-0.08%

Summary

The full removal of cotton apparel trade safeguards at the end of 2008 will accord China full access to the U.S. market. China's share of the U.S. apparel import market is expected to increase by 2.1% or an additional 165.1 thousand pounds of apparel shipments every year from 2009 to 2015. This increase in Chinese shipments is likely to displace preferred countries' exports to the U.S. by as much as 14.2 thousand pounds per year over the same period and lose 0.2% of the U.S. import market. Similarly, other quota-constrained countries also stand to lose 0.1% of the U.S. import market to China. However, although the share of quota-constrained countries in the growing U.S. import market is expected to decline, the volume of their shipments to the U.S. is predicted to increase modestly by 0.28 thousand pounds each year beginning 2009. As the U.S. apparel market becomes more integrated to global apparel trade, domestic apparel production in the U.S. is lower; this is compensated by a surge in imports particularly from China and other cheaper Asian suppliers. Domestic apparel production in the U.S. is projected to decline by roughly 5.0 thousand pounds per year. The influx of cheaper apparel imports in the U.S. market leads to lower apparel prices by an average of $ 0.11/lb.

In step with increased export demand for Chinese apparel (primarily from the U.S.), apparel production in China is projected to expand by about 11 thousand pounds every year. This translates to additional cotton imports from the U.S. – at an annual average of 6.4 thousand bales. Also, quota-constrained countries are likely to import 7.9 thousand bales more cotton from the U.S. as they reduce their reliance on cotton imported from the rest of the world (apart from the U.S.). On the other hand, lower apparel production in preferred countries leads to lower imports of U.S. cotton by approximately 1.4 thousand bales. Although the increase in China's and quota-constrained countries' demand for U.S. cotton considerably offsets the decline in preferred countries' demand, substantial reduction in mill use in the U.S. domestic market leads to lower overall demand for U.S. cotton. This reduction, however, is of small order such that U.S. cotton prices, in the end, decline negligibly by $ 0.001/lb.

The results of the policy simulation underscore the importance of identifying narrow lines of apparel "niches" for cotton apparel producers. This is especially important for quota-constrained suppliers. Furthermore, the results point to the importance of intra-regional trade within the Latin American region where certain apparel assembly processes can be segmented across preferred countries. U.S. cotton producers, on the other hand, are expected to have an overall stable demand for U.S. cotton even after the removal of the safeguards as the decline in domestic demand is offset by increased demand from China and select quota-constrained apparel producers.

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