

Impact of the Trans-Pacific Partnership on Textile and Apparel Trade in the Pacific Rim:  
A Computable General Equilibrium Approach

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**Background:** Textile and apparel (T&A) sector is a major issue in the ongoing Trans-Pacific Partnership (TPP) negotiation which involves the United States and 8 other Pacific Rim countries by the end of 2011 (Platzer, 2012). Although the significant implication of TPP on its member countries' macroeconomic welfare has been evaluated in numerous studies (Capling & Ravenhill, 2011; Schott, Kotschwar, & Muir 2013), how TPP might potentially affect the T&A sector has seldom been discussed. To fulfill the research gap, this study intends to quantify the effect of the implementation of TPP on T&A trade flows within the Pacific Rim, which includes all 9 TPP members (by 2010) plus China, another key T&A player in the region. Findings of the study will make important contributions to the understanding of the T&A-specific sectoral impact of TPP and provide valuable inputs for TPP negotiation and related trade policy making.

**Theoretical framework:** Because TPP requires its members to eliminate tariffs on T&A imports from other TPP members (Platzer, 2012), implementation of the agreement is expected to affect the price competitiveness, followed by trade volume, of T&A imports from a specific country to a specific import market within the Pacific Rim. Specifically, based on the regional

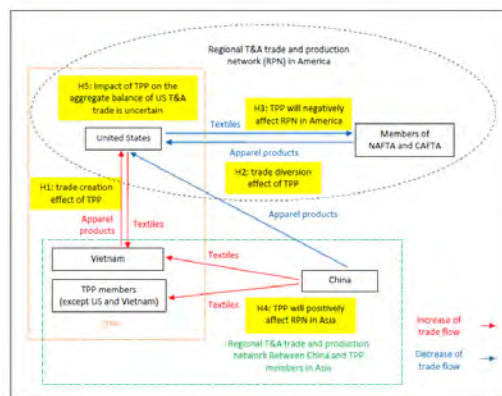


Figure 1. Impact of TPP on T&A Trade Flows in the Pacific Rim - A Conceptual Model

trade and production network (RPN) within the Pacific Rim (Dickerson, 1999; Bair, 2006), this study proposes that (Figure 1): *Hypothesis 1:* TPP will increase both the U.S. apparel imports from other TPP members and the U.S. textile exports to other TPP members due to the trade creation effect. *Hypothesis 2:* TPP will decrease the U.S. apparel imports from China and members of NAFTA and CAFTA due to the trade diversion effect. *Hypothesis 3:* Because of the T&A RPN in America, a decrease of the U.S. apparel imports from members of NAFTA and CAFTA will result in a decrease of the U.S. textile exports to members of NAFTA and CAFTA. *Hypothesis 4:* Because of the T&A RPN in Asia, an increase of apparel exports of TPP members (other than the United States) will result in an increase of China's textile exports to these TPP members. *Hypothesis 5:* Because T&A trade between the United States and other countries in the Pacific Rim may either increase or decrease depending on specific trading partners, the impact of TPP on the aggregate U.S. trade balance in the T&A sector is uncertain.

**Method and data:** This study employed a computable general equilibrium (CGE) model developed by Hertel & Hertel (1999) and used the Global Trade Analysis Project (GTAP) Database 8 to quantify the impact of TPP on T&A trade flows in the Pacific Rim. CGE model has the advantage of capturing the economic-wide intersectoral and interregional change as result

of a trade policy shock, which is the exactly case in this study. Specifically, 57 industry sectors in the GTAP database<sup>8</sup> were aggregated into *Textile* (ISIC17 and ISIC243), *Apparel* (ISIC18) and *Others* (which includes all other 55 sectors); 129 countries/regions were aggregated into: the United States, Vietnam, TPP1 (except the U.S., Vietnam and Brunei whose data is not available), NAFTA (except the U.S.), CAFTA (except the U.S.), Japan, East Asia (Hong Kong, South Korea and Taiwan), South Asia (members of ASEAN), EU and ROW (rest of the world) (Narayanan, Aguiar & McDougall, 2012). Because this study focuses on the T&A sectoral impact of TPP, policy shock in the CGE simulation assumed that tariffs on *Textile* and *Apparel* imports between TPP1, the United States and Vietnam were reduced to zero.

**Results and discussions:** Compared with 2007, the base year in GTAP database<sup>8</sup>: First, the results suggest implementation of TPP will expand the U.S. apparel imports from TPP1 and Vietnam by \$1,381.44 million (or +135.99%) and \$4,257.4 million (or +123.8%) respectively and increase the U.S. textile exports to TPP1 and Vietnam by \$186.41 million (or +60.59%) and \$178.31 million (or +492.55%) respectively due to the trade creation effect. Second, the results suggest implementation of TPP will reduce the U.S. apparel imports from China, NAFTA and CAFTA by \$680.02 million (or -6.98%), \$312.31 million (or -6.90%) and \$216.94 million (or -6.75%) respectively due to the trade diversion effect. Third, the results suggest TPP will slightly reduce the U.S. textile exports to NAFTA and CAFTA by \$32.47 million (or -0.91%) and \$31.41 (or -1.44%) respectively. Fourth, the results suggest China's textile exports to TPP1 and Vietnam will increase \$35.65 million (or +1.11%) and \$535.59 million (or +36.78%) respectively after the implementation of TPP. Moreover, the results suggest the U.S. trade deficit will increase \$270.4 million for textiles and \$2493.46 million for apparel after the implementation of TPP.

**Implication and future research:** First, the results call our attention to TPP as a “game changer” whose implementation will trigger a significant shift of T&A trade patterns in the Pacific Rim. Second, the results suggest TPP will create both “winners” and “losers”. Specifically, it seems that Vietnam will benefit most from TPP in terms of expanding its apparel exports to the United States but at the cost of other apparel exporters such as China and some NAFTA and CAFTA members. Third the results imply the U.S. domestic T&A manufacturing may further decline as a result of expanded trade deficit in the T&A sector because of TPP. Despite the interesting findings, it should be noted that CGE modeling is based on strict economic assumptions such as perfect market competition and constant elasticity of substitution which might not completely comply with the reality. Future studies can further explore the potential impact of TPP on the output and employment of the T&A sectors in the Pacific Rim. Because the United States just announced to negotiate a new free trade agreement with the European Union, it might also be interesting to incorporate that new factor in future studies.

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Table 1 CGE Simulation Results. Value Change of T&A trade from Region r to region s after TPP

									Unit
									Million
<i>Textile</i>	TPP1	US	China	Vietnam	NAFTA	CAFTA	Others	Total	
TPP1	45.74	532.22	-0.75	124.11	-1.03	-0.36	-8.76	692.56	
US	186.41	0	1.92	178.31	-32.47	31.41	-52.11	314.53	
China	35.65	-288.15	0	535.59	-19.13	-10.76	-59.87	223.22	
Vietnam	16.54	1164.23	-2.02	0	-2.17	-0.54	-43.7	1135.05	
NAFTA	0.77	-146.77	-0.02	1.42	-1.15	-7.38	62.84	-90.29	
CAFTA	0.19	-82.79	0.01	0.5	-1.41	-2.38	-15.16	-101.04	
Others	5.21	-111.18	-0.81	21.82	-28.47	-13.28	-30.18	-115.14	
<b>Total</b>	<b>321.98</b>	<b>584.93</b>	<b>-34.79</b>	<b>2080.21</b>	<b>-85.83</b>	<b>-66.11</b>	<b>-333.83</b>		
<i>Apparel</i>	TPP1	US	China	Vietnam	NAFTA	CAFTA	Others	Total	
TPP1	22.82	1381.44	0.05	35.31	0	-0.04	0.31	1440.36	
US	82.55	0	0.39	44.92	4.69	1.28	2.62	142.91	
China	-39.2	-680.02	0	18.18	-2.17	-1.17	1.88	-692.61	
Vietnam	36.91	4257.4	-0.23	0	-2.12	-0.4	-2.84	4267.39	
NAFTA	-0.32	-312.31	0.01	0.1	0	-0.13	0.23	-312.42	
CAFTA	-0.14	-216.94	0.03	0.08	0.17	-0.24	0.65	-216.39	
Others	-16.12	-1793.2	-3.44	32.2	-1.79	-1.43	-4.93	-340.55	
<b>Total</b>	<b>86.5</b>	<b>2636.37</b>	<b>-3.19</b>	<b>130.79</b>	<b>-1.22</b>	<b>-2.13</b>	<b>-2.08</b>		

Note Column: region r; Row: region s