How Has the Uyghur Forced Labor Prevention Act (UFLPA) Affected U.S. Apparel Import?

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Background

Implemented in June 2022, the Uyghur Forced Labor Prevention Act (UFLPA) prohibits U.S. companies from importing apparel wholly or in part produced in China's Xinjiang region (CBP, 2024). UFLPA could significantly alter U.S. apparel import patterns as fashion companies have begun or anticipate adjusting their sourcing base to comply with the law and mitigate the forced labor risks in the supply chain (Li et al., 2023; Lu, 2023).

This study quantitatively evaluated the impacts of the UFLPA on U.S. apparel imports nearly two years after the law's implementation. Unlike existing studies primarily focusing on UFLPA's political or legal aspects, this study's findings would enhance our understanding of the economic and trade implications of the new law (Trebilcock & Poliwoda, 2023; Zenz, 2023). The results would also provide valuable input, helping fashion companies develop appropriate strategies in response to UFLPA's implementation and the shifting sourcing environment.

Literature review

In theory, UFLPA could impact U.S. apparel imports in various ways. **First,** UFLPA theoretically would reduce U.S. cotton apparel imports from China as Xinjiang accounted for nearly 90% of China's cotton production, implying significant forced labor risks associated with such products (Carlson & Weaver, 2022). **Second**, UFLPA could also reduce U.S. cotton apparel imports from Asian countries other than China, such as Vietnam and Bangladesh, due to concerns about their heavy use of cotton yarns and fabrics from China through a highly integrated regional supply chain (Lu, 2023). **Third**, U.S. cotton apparel imports from Asia, including China, Vietnam, and Bangladesh, often contained U.S. cotton, which filled the domestic cotton supply gap in these countries (Ridley & Devadoss, 2023). Consequently, as UFLPA leads to reduced U.S. cotton apparel imports from Asian countries, the demand for U.S. cotton in these markets could also decrease. **Fourth**, UFLPA could expand near-shoring of U.S. cotton apparel imports, as such products primarily use cotton and other raw textile materials from the Western Hemisphere rather than China (Lu, 2024). **Additionally**, given that UFLPA heavily targeted cotton apparel, U.S. fashion companies may switch to importing more man-made fiber (MMF) apparel to mitigate the non-compliance risks (CBP, 2024).

Methods and Data

The following empirical model was used to evaluate UFLPA's impacts on U.S. apparel import:

$$Cottonapparel_{it} = \beta_{1i}Totalimport_{it} + \beta_{2i}UFLPA_t + \beta_{3i}MMFapparel_{it} + \beta_{4i}UFLPA_t \cdot MMFapparel_{it} + \beta_{5i}UScotton_{it} + \beta_{6i}UFLPA_t \cdot UScotton_{it} + \beta_{7i}Covid_t + c_i + \varepsilon_{it} \quad (1)$$

Where: $Cottonapparel_{it}$ refers to the quantity[1] of U.S. cotton apparel[2] imports from country i in year t. $Totalimport_{it}$ denotes the quantity of total U.S. apparel imports from country i in year t. $UFLPA_t$ was a dummy variable (1=UFLPA implemented since year 2022; 0=otherwise). $MMFapparel_{it}$ denote the quantity of U.S. MMF apparel imports from country i in year t. $UScotton_{it}$ refers to the quanity of U.S. cotton exports to country i in year t. Further, $COVID_t$ was a dummy variable (1=during COVID-19 from year 2020 to 2022; 0=otherwise) included in the model to differentiate the impact of COVID-19 and UFLPA on trade flows. c_i is the constant and ε_{it} is the error term.

For the study, U.S. apparel import data were collected from OTEXA (2024), and U.S. cotton export data came from USITC (2024), the most authentic government data source. Aligned with the theoretical analysis, four countries in three categories were included in the study: 1) China; 2) Vietnam and Bangladesh representing top Asian apparel exporting countries other than China; 3) member countries of the Central America Free Trade Agreement (CAFTA-DR) representing near-shoring sourcing destinations (OTEXA, 2024). The annual trade activities of these four countries from 2010 to 2023 (the latest available) were used for the analysis. Because the dataset includes time series and cross-sectional data, we used panel data modeling techniques and the generalized least square method to address potential serial correlation and cross-sectional heteroscedasticity issues (Wooldridge, 2010, p.173-176).

Results and discussions

The fixed effects (FE) model was selected to estimate Equation 1 based on the likelihood ratio test results ($p<.01$) (Wooldridge, 2010, p.285-287). The result of the F-test suggests the FE model is statistically significant at the 99% confidence level ($p<.01$). The value of R^2 exceeds 0.90, indicating an overall high goodness-of-fit of the panel regression. Specifically: **First,** the results showed that holding other factors constant, U.S. cotton apparel imports from China decreased significantly by approximately 350 million SME annually following UFLPA's implementation ($p < .01$). **Second,** holding other factors constant, U.S. cotton apparel imports from Vietnam, Bangladesh and CAFTA-DR also respectively decreased by approximately 81 million SME, 51 million SME, and 20 million SME annually after UFLPA's implementation ($p <.01$). **Third,** the results revealed a more significant positive relationship between U.S. cotton exports to China, Vietnam, Bangladesh and CAFTA-DR countries and U.S. cotton apparel imports from these countries after UFLPA's implementation ($p < .01$). It could be the case that these countries increasingly used U.S. cotton after UFLPA to mitigate the forced labor risks. **Fourth**, there was a negative relationship between U.S. cotton apparel imports from China, Vietnam, Bangladesh, and CAFTA-DR members and U.S. MMF apparel imports from these countries ($p < .01$). However, UFLPA's implementation did not impact the relationship.

Implications and future research agenda

The study's findings revealed a broad trade impact of UFLPA's implementation that goes far beyond China. Notably, cotton apparel exporters from other Asian countries and those in the

[1] Quantity was measured in square meters equivalent (SME) calculated by OTEXA (2024).

[2] "Cotton apparel" in this study refers to OTEXA code 31; "All apparel" refers to OTEXA code 1; "man-made fiber apparel" refers to OTEXA code 61 (OTEXA, 2024). "Cotton" refers to SITC code 263 (USITC, 2024).

Western Hemisphere were also negatively affected by the new law. Meanwhile, the results call for further investigation of the net impact of UFLPA on U.S. cotton exports. While UFLPA may help U.S. cotton gain more shares in the global marketplace, the reduced U.S. import demand for cotton apparel due to forced labor risk concerns may also unexpectedly "shrink the pie size."

Future studies can use surveys or in-depth interviews to collect more direct and detailed data from fashion companies and further investigate the impacts of UFLPA on companies' sourcing strategies. With more data available, future studies can also evaluate the medium to long-term impacts of UFLPA, particularly on the potential product structure change of U.S. apparel imports.

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