What Affects the Patterns of Used Clothing Exports?

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Background

This study intends to explore the key factors that affect the volume of a country's used clothing exports. The findings of the study will fulfill a critical research gap and significantly enhance our understanding of the patterns of used clothing trade from exporters' perspectives. The results will also provide valuable inputs regarding how to address the problem of used clothing wastes and make the apparel life cycle more sustainable, which has raised heated public debate among academia, industry, and policymakers (Wolff, 2020; Brady & Lu, 2020).

Literature review

Reviewing the existing literature and related economic development and trade theories suggests that four factors may affect a country's used clothing exports. **First,** as used clothing originated from consumers' new clothing purchase (Bye and McKinney, 2007), theoretically, a country's new clothing retail sales and its used clothing exports should be positively correlated (H1). **Second**, numerous studies found that consumers' disposal rates for used clothing would increase as the new clothing becomes cheaper (Morgan and Birtwistle, 2009; Bianchi and Birtwistle, 2010). Thus, a country may export more used clothing as its market price for new clothing drops (H2). **Third**, because of lower-income levels and various other social-economic factors (such as the awareness of sustainability and used clothing collection mechanism), theoretically, developing countries may be less likely to export used clothing than developed economies (Norris, 2012) (H3). **Additionally**, studies suggest that a country with a larger population could have more demand for apparel, making it less likely to export used clothing (H4).

Methods and data

We used the following empirical model to test the proposed hypotheses:

$$Log(Export_i) = \beta_0 + \beta_1 Log(Newclothing_i) + \beta_2 Log(Price_i) + \beta_3 Population_i + \beta_4 Category_i + \varepsilon_i$$

Where: $Export_i$ refers to the value of country i's used clothing exports in 2019 (the latest data available). $Newclothing_i$ denotes the total value of country i's retail sales for new clothing from 2018 to 2019, i.e., the primary bases for country i's used clothing exports in 2019. $Price_i$ refers to country i's average retail price for new clothing from 2018 to 2019. $Population_i$ refers to country i's total population in the year 2019. $Category_i$ is a dummy variable, where developed country=1 and developing country =0. ε_i is the error term.

Data for the analysis came from UNComtrade (2021) (variable $Export_i$ $Newclothing_i$ and $Price_i$ $Population_i$ and

$Category_i$), the most authentic data sources for respective variables. Based on the data availability, our analysis included 37 countries, which altogether accounted for over 90% of the value of the world's used clothing exports in 2019 (UNComtrade, 2021). Further, we used the ordinary least squares (OLS) method to estimate the empirical model. Variables $Export_i$, $Newclothing_i$ and $Price_i$ were in the logarithmic form to improve the numerical stability and robustness of the estimation (Wooldridge, 2016, p.186-188).

Results and discussions

The result of the F-test suggests the regression model is statistically significant at the 99% confidence level ($p=0.00<0.01$). The value of R^2 exceeds 0.61, indicating an overall goodness-of-fit of the regression (Wooldridge, 2016, p.35-37). Further, the result of the White test suggests no heteroscedasticity issue in the estimation ($p=0.79>0.05$). Specifically: **First**, supporting H1, the results indicate a statistically significant positive relationship between a country's new clothing sales (i.e., $Newclothing_i$) and its used clothing exports during the examined period ($\beta_1 = 0.85, p = 0.00 < 0.01$). **Second**, supporting H2, the results show that when holding other factors constant, as new clothing gets cheaper in the retail market, a country would export more used clothing and vice versa ($\beta_2 = -1.20, p = 0.00 < 0.01$). **Third,** the result suggests that when holding other factors constant, used clothing exports from developed countries were 56% higher than developing economies ($\beta_3 = 0.56, p = 0.01 < 0.05$)(Support H3). However, not supporting H4, no evidence suggests that the size of the population (i.e., $Population_i$) has a statistically significant impact on a country's used clothing exports at the 95% confidence level ($p = 0.58 > 0.05$). This explains why a developed economy with a relatively small population (such as the Netherlands and Canada) exported far more used clothing than a populous developing one (such as India and Indonesia) in 2019 (Uncomtrade, 2021).

Implications and future research agenda

The study's findings create new knowledge about the primary factors affecting the patterns of used clothing exports and have several important implications. **First**, the results suggest that we can do more on the supply side to curb the surge of used clothing exports, given the rising concerns about its controversial impacts on the developing world and the environment (Kuwonu, 2018; Brady & Lu, 2020). Particularly, encouraging consumers to purchase fewer new clothing and shop more "slowly" can be among the most effective ways to reduce the supply of used clothing. **Second,** echoing the finding of existing studies, the results confirm the significant price impact on the generation of used clothing exports (Aydin, 2017; Paras, Pal, & Ekwall, 2018). Notably, the result reminds us about the enormous social-economic and environmental "cost" of selling new clothing too cheaply. **Additionally,** the findings suggest that developed countries have a crucial role in addressing the used clothing export problem, even those with a relatively small population.

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