Trade in Climate Smart Goods of Ecuador: Quantitative Analysis Using Trade Indices, SMART and Gravity Analysis

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Long abstract

The research study works out different trade indices based on trade data of Ecuador from 2002 through 2010. The study calculates RCA and Export Specialization Index, among others, to identify 20 (at 2 digit level disaggregation) and 238 products (at 6 digit level disaggregation) and their markets of Ecuador in 2010. The paper also used

64 goods list of Climate Smart Goods used in APTIR, UNESCAP (2011,a,b). The Trade in CSG will help Ecuador to promote alternative industries in the face of Global Economic Downturn. Also, it will help countries to look for safe, alternative and reliable energy source rather than believing in trade of crude and Petroleum Oil only or investing a great deal in nuclear energy. Nuclear energy was in the brink of being affected in Japan due to recent Earthquake in Japan. Ecuador can direct its social spending in promoting small industries which can provide CSG goods (low carbon emanating goods) at low cost. Identification of goods for diversifying Ecuadorian economy is also done using different trade indices. The study then uses simulations done through SMART analysis (within WITS) for evaluating the relative benefits of tariff liberalization of CSG and specialized goods (both for 20 and 238 products) with MERCOSUR, China, Japan and the US, and EU27 separately by giving numbers to trade creation, trade diversion, revenue, welfare and consumer surplus effects of liberalizing trade in 2010. One finds that for Ecuador it is beneficial to trade in 20 (2 digit level) and 238 products (at 6 digit level) with the MERCOSUR trading partners while for trade in CSG it is better to liberalize trade with the Japan, the US and the China, the main suppliers (exporters) of CSG products.

The study at the end then uses Baier and Bergstrand (2001) gravity formulation for working out the basis of trade and export potential in CSG and trade in 20 products of Ecuador in 2010. National and International Policies are recommended for promoting CSG goods at country and regional level.

One finds that there is export potential of 34 million US $ in CSG to four Latin American trading partners of Ecuador. The four Latin American Countries are Bolivia, Chile, Columbia and Peru. This is less than the export potential when Ecuador liberalizes its trade of CSG with China, Japan and the US. Theoretical justification of the Gravity formulation used is given along with equations of Trade Creation and Trade Diversion. The latter will depend on the import demand elasticity, substitution elasticity and supply elasticity. Small country assumption is made while pursuing SMART analysis in WITS.