

ABSTRACT BOOK



# INTERNATIONAL MANAGEMENT PERSPECTIVE CONFERENCE (IMPeC-25)

Digitalization, Entrepreneurship, and Sustainability

Dates: January 30 - February 1, 2025



**Editors**  
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Published by  
*Indian Institute of Management Sambalpur*

# Do Green Indices Show co-integrating Relation with Crude and Broader Market Indices during Shocks: Empirical Evidence from India using Quantile ARDL Approach

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## ABSTRACT

**Purpose:** The study makes an attempt to understand cointegration dynamics between India's green indices, crude and broader stock market index to explore the existence of a long term relation amongst these variables during different market scenarios especially during the extreme market conditions. The indices under consideration are BSE Carbonex, BSE Greenex, NSE 500, BSE Tech and Crude and the study considers ten year daily closing prices; April 1, 2014-March 31, 2024.

**Methodology:** The methodology applied is Quantile ARDL Co-integration Model which is considered ideal for capturing responsiveness of variables at tails. The study considers co-integration impact under nine quantiles:  $Q_{0.10}$ ,  $Q_{0.20}$ ,  $Q_{0.30}$ ,  $Q_{0.40}$ ,  $Q_{0.50}$ ,  $Q_{0.60}$ ,  $Q_{0.70}$ ,  $Q_{0.80}$  and  $Q_{0.90}$ .

**Results and Findings:** The results revealed presence of co-integration mainly at upper quantiles ( $Q_{0.70}$ ,  $Q_{0.80}$  and  $Q_{0.90}$ ) with no evidence of cointegration at middle or lower end quantiles. The speed of correction to long run equilibrium as given by error correction term; ECM(-1) was slow at  $Q_{0.70}$  but became moderate at  $Q_{0.90}$ . For model diagnostics, since quantile methodology works with limited assumptions, only stability and error term stationarity were considered and results of both were found to be satisfactory.

**Conclusion/Implications:** For co-integration being proved only at upper quantiles, the reason could be due to a tendency amongst investors to shift to green indices when crude and stock indices were moving upwards, this strategy shows investors maturity to shift during bullish market conditions to less resilient green indices. Further shift towards green indices would be gradual as revealed by slow adjustment pace towards equilibrium, however this would eventually become a stable long run relation.

