Construction of An Enterprise-Level Global Supply Chain Database

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Global supply chain data captured in input-output models represents a foundational resource in economic, regulatory, investment, defense, and environmental applications. Work based on input-output tables has yielded valuable insights on interdependency and supported new types of policy based on â€œScope 3â€• supply chain exposure. However current models suffer from coarse sector resolution which hampers their real-world utility beyond scholarship. To address this we elaborate the construction of an enterprise-level multi-regional input-output (EMRIO) table. We expand conventional MRIO frameworks by merging macro-level national accounts with highly detailed corporate dataâ€”collected from consolidated and unconsolidated financial statements, segment disclosures, and trade records (including bills of lading) â€”and systematically disaggregate sector-based IO data into enterprise-level subsegments. This balanced global input-output table, built by combining official national input-output tables with publicly available firm-level production and transaction data, details flows among the business units at 9,466 companies operating across 86,305 subsegments in 121 countries. By capturing the hidden complexity within conglomerates, EMRIO not only facilitates more refined calculations of Scope 3 greenhouse gas emissions but also provides a robust basis for assessing policy measures on forced labor, deforestation, and other sustainability issues requiring firm-level specificity. The dramatically higher resolution of this resource can improve the accuracy and tractability of all analyses reliant on supply chain information.