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Intra-national trade network in Colombia: Gravity approach and network analysis

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This document studies intra and inter-departmental trade flows in Colombia for the period 2015-2018. Network analysis is carried out to build, visualize and study the structure of the system. Finding to explain the determinants of the structure presented by the Departamental Trade Network (DTN), the hypothesis of the gravity model is contrasted. In general, the results show that the DTN is dense, and on average the departments are well integrated in the extensive margin of trade. However, when observing the intensive margin, the level of integration is low and trade is concentrated in few departments. The DTN presents a center-periphery structure, where the hierarchy is led by 6 nodes. Buenaventura stands out as a maritime port with a trade deficit in quantities, related to the absence of strengthened export baskets in the departments. Bogotá also stands out as the main transport node receiving merchandise. The gravity model suggest that the trade flows depends positively on the Gross Domestic Product of origin and destination, the departments that border each other, the maritime ports, the free zones, and also negatively on the distance.

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