

Characterization of the container flow evolution in a multi-gateway port system using compositional data

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Abstract

Containerization plays an important role in the maritime transport and in the global economy growth. Since the first wave of the containerization (1970s), the global container traffic characteristics has been reformulated looking for economy of scales and more efficient distribution systems (e.g. hub-and-spoke model). In this sense, the container throughput share of ports has evolved at the same time that the industrial regions and global trade have shifted. In this contribution we select a multi-port gateway system (Notteboom, 2010) formed by Barcelona, Tarragona and Valencia (BTV). The aim is to characterize the traffic flow at BTV using Compositional Data (CoDa) analysis. The economical crisis which started to have its full effect in 2008 and the traffic throughput variability induced by the market decisions are identified using CoDa techniques. The results show the suitability of CoDa to examine the maritime traffic flow.

References

Notteboom, T.E. (2010). Concentration and the formation of multi-port gateway regions in the European container port system: an update *Journal of Transport Geography* 18(3), pp. 567–583.