

The Spatial Term Structure of Spot Freight Rates

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Abstract

Spot market indices for the freight markets in bulk shipping, such as those produced by the Baltic Exchange, are estimated by brokers based on a fixed lead time (e.g. "Laydays/cancelling 10/20 days from index date"). In reality, ships can be fixed anywhere along a route such that there may also be a spatial component in the spot freight rate for individual fixtures. Consequently, there is not a single spot rate on a given date, but many along the distance (or time-to-loading) dimension. That is, there exists effectively a spatial "term structure of spot freight rates".

Such a spatial component may reflect the degree of risk aversion of shipowners and charterers and is therefore expected to be market dependent. For instance, charterers may worry about transportation shortage in a strong market and be willing to fix ships early at relatively higher rates, while owners may accept a discount for early ships in a poor market just to secure employment. The objective of this paper is to investigate the time-varying properties of spot rates jointly in the time and space dimension.