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## **MARKET INEFFICIENCIES AND FORECASTABILITY OF SPOT RATES IN THE SHIPPING SECTOR**

### **Abstract:**

The market for shipping goods across oceans is particular when it comes to spot shipping rates and its derivatives compared to other asset classes. First, since the underlying of shipping rates is a service, not an asset or commodity, rates cannot be short sold, which leads to an inefficient market. Also, active traders are mainly charterers and ship owners interested in smooth cash flows, rather than speculators, so trading can be thin. Second, cargo shipping rates exhibit a high degree of autocorrelation in its time series. In this paper we empirically take advantage of both characteristics and demonstrate the forecasting ability of Time Charter rates and Futures for future Spot rates in the cargo shipping sector and compare different models. In a sample from 2004 to 2007 with daily data and explicitly the Financial Crisis, we estimate and compare explanatory power and forecast errors of ARIMA processes, Vector Autoregressions and Vector Error Correction Models to simple Random Walks. VAR models outperform all other models in terms of Root Mean Squared Error (RMSE) and can therefore be used to explain and also forecast future Spot rates. Extending an ARIMA model to include Time Charter rates however, does not help to explain future spot rates. Based on these results our models can be used to create trading schemes, which would have outperformed benchmark indices. This result holds, after controlling for transaction costs.

### **Keywords:**

Market Efficiency, Forecasting, Vector Auto Regression, Trading Schemes

**JEL Classification:** C53, G14, G17