



Cyprus  
University of  
Technology

Faculty of Management and Economics

**Master's Thesis**

# **OIL PRICES AND SHIPPING FREIGHT RATES**

**Kyriaki Kakoulli**

**Limassol, May 2017**



CYPRUS UNIVERSITY OF TECHNOLOGY  
FACULTY OF MANAGEMENT AND ECONOMICS  
DEPARTMENT OF COMMERCE, FINANCE AND SHIPPING

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# Approval Form

Master's Thesis

## OIL PRICES AND SHIPPING FREIGHT RATES

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The approval of the thesis by the Department of Commerce, Finance and Shipping does not imply necessarily the approval by the Department of the views of the writer.

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## **ABSTRACT**

With over 80 per cent of the volume of global merchandise trade being carried by sea, the question of how changes in oil prices affect ocean shipping rates is considerable relevance. Today oil prices, like the prices of virtually all other bulk commodities, are determined by the marketplace. The demand for crude oil transport services is a derived demand, which is dependent on international trade from producer to consumer regions, but for improving operational management and budget planning decisions it is essential to include the relationship between freight rates and crude oil prices.

However, a broader question includes how freight rates are affected by fluctuations in oil prices firstly as commodity transferred via tanker vessels and secondly as fuels (bunkers) used in both tanker and dry bulk vessels.

The statistical and econometric analysis of the data produced relationships between a variety of variables using two models. The data examined for Granger causality showed that the crude oil prices can influence both Baltic Dry Index (BDI) and Baltic Dirty Tanker Index (BDTI). In addition, the relationship existed between the crude oil prices and the BDI with the bunker prices indicate the close relationship of the crude oil as bunker that influences the BDI but not the BDTI.

The Impulse Response Analysis (IRA) of the data showed that the impact of the variables of both models to a shock given to the crude oil prices follows almost the same pattern. The main difference noticed was the positive impact of the BDTI while the BDI has a negative impact.

The variance decomposition showed in both models that the bunker prices are those that can influence more the crude oil prices.

**Keywords:** Crude Oil as Commodity, Crude Oil as Bunkers, Shipping Freight Rates, Crude Oil Prices