

ABSTRACT BOOK



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Edited By

DR. GÜLTEKİN GÜRÇAY
KHORRAM MANAFİDİZAJİ

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Oral presentation

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ANALYSIS OF THE RELATIONSHIP BETWEEN AIRCRAFT FLEET AGE AND FUEL EXPENSES

Eyup ATIOĞLU

Kapadokya Üniversitesi

0000-0001-9460-4822

ABSTRACT

When the operating expenses of airline companies are analyzed proportionally, it is seen that fuel expense is among the most important cost items. As the fuel expenses of airlines increase, their financial performance may be adversely affected and their competitive advantage may be lost. For this reason, it has become essential for airline companies to use all methods that will reduce fuel expenses in increasingly competitive conditions. On the other hand, airline companies with fleets with a lower average age generally operate more efficiently in terms of fuel consumption. In this context, airline operators should carry out planning in an appropriate balance by controlling the effect of fleet age on fuel expenses.

In this study, the relationship between aircraft fleet age and fuel expenses was investigated with Johansen cointegration analysis and Vector Error Correction Model for Turkish Airlines. The data set of the study includes 40 observations on a quarterly basis between 2010 and 2019. In the study, a cointegration relationship, which expresses a long-term balance between fuel expenses, which is one of the most important operating expenses of airline companies, and aircraft fleet age, has been determined. The degree of the long-term relationship between the variables was determined by the normalized cointegration equation, and the existence of a long-term positive relationship between the variables was determined. Accordingly, it has been determined that a 1% increase in the average fleet age of Turkish Airlines causes a 6.93% increase in fuel expenses. After the Johansen cointegration analysis, the error correction coefficient was determined as -0.15 according to the error correction model established to determine the deviation in the long-term relationship between the variables. The fact that the mentioned coefficient is between 0 and -1 indicates that short-term fluctuations will converge to the long-term equilibrium.

Keywords: Aircraft fleet age, fuel expenses, cointegration analysis