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Aikulova Mukaddas Shukhrat qizi

Heavy-tail analysis in the non-renewable energy markets

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Research advisor:

DSc Akram Khasanov

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Head of the department:
DSc.prof Khajimuratov N.SH

_____ signature

_____ date

Research advisor:
DSc Khasanov A.

_____ signature

_____ date

Listener: Alikulova M.Sh.

 signature

_____ date

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Abstract

Concurring to existing inquire about, vitality costs, innovation stocks, and arrangement instability are all variables to consider. and total stuns may have an affect on the development of the non-renewable vitality division. These factors can cause serious instability within the non-renewable vitality advertise, expanding the probability of exceptional changes in return. Considering that non-renewable vitality stocks are a generally unused speculation lesson, getting exact gauges of the likelihood related with critical changes in non-renewable vitality stock returns is particularly imperative for chance administration of a non-renewable vitality speculation portfolio.

Key words: Gasoline, heatoil, oil, diesel, Economic Cooperation and Development OECD, Ordinary least squares OLS

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Introduction

1.1. Justification of the topic of the dissertation and its relevance

Energy plays a vital role in every aspect of our civilization. In today's interconnected society, ensuring reliable access to adequate sources of energy is fundamental for sustaining both economic development and our well-being. The present rates at which energy is being consumed and produced cannot be maintained in the long run. Oil accounts for roughly 40% of the world's energy supply, with a significant portion allocated for transportation purposes. The fluctuation of oil prices is impacted by both the emergence of new and anticipated oil reserves, and political circumstances and incidents across the globe. Although the United States accounts for only 4.5% of the global populace, it consumes around 24% of the world's oil output each year, with over 66% of this amount being imported.

1.2. The purpose and objectives of the research

The objective of this study is to address the deficiency in the non-renewable energy industry by performing a thorough examination of the heavy-tailed data through the implementation of reliable tail index estimation techniques, specifically utilizing log-log rank-size regression alongside optimal shifts in ranks. This study aims to accomplish two primary goals. Firstly, it seeks to examine the heavy tail characteristics of the non-renewable energy index. Secondly, it aims to utilize robust statistical techniques to measure the degree of heavy-tailedness under recursive frameworks. The non-renewable energy market, which is highly volatile in nature, provides a suitable context for analyzing the heavy-tailedness of non-renewable energy stock returns, and also for applying robust econometric and statistical methods

1.3. The main problems and questions of the research

- Analysis of risks in the international non-renewable energy market.

1.4. Research object and method

Non-renewable energy indices are the object of research

Non-renewable energy market analysis