# Chapter 16
# Testing the Efficient Market Hypothesis in the Insurance Sector:
## Evidence From Fourier-Based Stationarity Tests on OECD Countries

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## ABSTRACT

*Identifying the mechanisms of efficient functioning of financial markets and determining whether the validity of these mechanisms is consistent with real-world experiences is one of the most interesting topics in the economics and finance literature. Due to its dominance in literature, the main objective of this study is to examine the efficiency of the insurance sector, and the sustainability of this situation with the help of Fourier-based stationarity analysis in OECD member countries for the period 2003-2021. FKPSS, FADF and F-Sollis stationarity tests are applied to test whether the smooth transition process of the variable has emerged and the validity of the Efficient Market Hypothesis in the insurance sector. The results of the analysis*

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*point out that insurance intensity is not stationary at the level, structural changes are not manifested by smooth transition processes and structural shocks in the variable do not tend to converge to its long-run average value.*

## 1. INTRODUCTION

Understanding the mechanisms of price formation in financial markets has been a long-standing topic in economics and finance literature from both theoretical and practical perspectives. In this context, the Efficient Market Hypothesis (EMH) provides an important paradigm by arguing that market prices reflect all available information and therefore financial asset prices are unpredictable. The hypothesis is first grounded in the random walk theory of Bachelier (1900) in the early 20th century and systematized by Eugene Fama in the 1960s. According to the hypothesis, financial markets reflect all available information immediately and accurately in prices, eliminating the possibility of systematically excessive profit-taking by investors. The basic theoretical information on whether price movements in financial markets are stable or not and under which conditions efficient markets will be formed can be traced back to work of Fama (1965). According to EMH emphasized by Fama (1965), stock market prices are re-determined because of additional information integrated into the market and thus prices tend to become unpredictable. Undoubtedly, validity of these propositions is based on the prerequisite assumption that investor behavior in financial markets is based on past and current period information and that investment decisions to be made in the future periods are manifested in the light of rational expectations and therefore economic agents will not make mistakes in their investment processes (Akıncı *et al*., 2024: 53).

On the other hand, the hypothesis also provides a comprehensive analytical framework for the functioning of financial markets by suggesting that markets can be considered at three different levels of efficiency: Weak, semi-strong and strong. The weak form argues that past price movements are not useful in predicting future prices. The semi-strong form argues that all information publicly disclosed in the market is quickly reflected in prices, so that information is already integrated into prices. The strong form believes that all information, even private information, is reflected in prices in the market.

In this context, one of the main conclusions suggested by EMH is that active investment strategies will not yield higher returns in the long run compared to passive strategies (Fama, 1970). With the assumption that investment decisions are based on rational information, EMH has been applied not only in financial investment and portfolio management, but also in many other areas such as market regulation, behavioral finance, research and risk management. However, criticisms of the