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Forecasting stock return volatility: A comparison between the roles of short-term and long-term leverage effects[☆]

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Abstract

In this paper, we extend the GARCH-MIDAS model proposed by [1] to account for the leverage effect in short-term and long-term volatility components. Our in-sample evidence suggests that both short-term and long-term negative returns can cause higher future volatility than positive returns. Out-of-sample results show that the predictive ability of GARCH-MIDAS is significantly improved after taking the leverage effect into account. The leverage effect for short-term volatility component plays more important role than the leverage effect for long-term volatility component in affecting out-of-sample forecasting performance.

Keywords: Volatility, GARCH-MIDAS, Leverage effect, Forecasting

JEL Classification: C58, C22, C53

1. Introduction

Modeling and forecasting financial market volatility is an important issue in the area of both financial economics and econophysics [2, 3, 4, 5, 6]. In particular, the relationship between return and volatility is greatly interested by academics [7, 8, 9]. In particular, the

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