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Further Evidence on Mean Reversion in Index Basis Changes

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Abstract

We provide further evidence on the stochastic behavior of the futures minus cash index basis. In addition to infrequent trading, we identify index aggregation as an additional source of mean reversion in basis changes. An aggregation of individual stocks in the index portfolio produces a moving average component that induces a negative autocorrelation in basis changes. Our empirical results show that index price and basis changes often contain a moving average component. After the effects of infrequent trading and index aggregation are purged, we find that the autocorrelation of the adjusted index basis changes is significantly reduced.

Keywords: mean reversion, index aggregation, infrequent trading, autocorrelation

JEL Classification: G13

1. Introduction

The purpose of this paper is to provide an alternative explanation for mean reversion in the changes of futures minus cash index basis. We demonstrate that the aggregation process involved in the construction of an index portfolio generates a moving average component that causes mean reversion in index basis changes. Ignoring the moving average component results in a misspecification of the stochastic

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