



The Split of the S&P 500 Futures Contract: Effects on Liquidity and Market Dynamics

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Abstract. The Chicago Mercantile Exchange reduced the size of its S&P 500 futures contract when it reduced the multiplier from 500 to 250 and increased the minimum tick from 0.05 to 0.10 on November 3, 1997. This is a rare major change in a very successful contract's specifications. We analyze effects of this change on liquidity and market dynamics in both a univariate and a multivariate context. The main contribution of this study is the use of multiple intervention analysis with various dynamic response functions to examine the effects of the split while taking into account several other major market events surrounding it. A multivariate analysis is also used to test the impact of the split using a structural model of liquidity and market dynamics. Empirical findings offer limited support for the hypotheses that smaller contract size resulted in smoother trading, and that more public customers trade the S&P 500 futures contract following its split. We observe a reduction in the average transaction size as well as a temporary narrowing of the bid-ask spreads, but no significant change in volatility that can be attributed to the split. We do not find any significant and lasting impact on other liquidity and market variables.

Key words: S&P 500 index, futures contract, contract size, tick size, bid-ask spreads, liquidity

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1. Introduction

U.S. futures exchanges have many times altered the specification of a failing contract in an attempt to revitalize it. The split of the S&P 500 futures contract at the Chicago Mercantile Exchange is a rare change of a very successful contract's specifications.

The change provides an excellent opportunity to analyze effects on liquidity and market dynamics, major concerns of the exchange and market participants prior to the split. This study builds on research by Karagozoglu and Martell (1999), and complements work by Huang and Stoll (1998) who examined the need to split the S&P 500 futures contract.

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