

The Impact of Dynamic Circuit Breakers on Efficient Pricing and Price Discovery in Financial Markets

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Abstract

This paper examines how regulatory interventions in high-frequency financial markets affect price discovery. We focus on *Breaking news* events, where dynamic circuit breakers trigger treading breaks immediately after the release of macroeconomic fundamentals. Within a high-frequency singnal-in-noise model, we show that triggering rules complicate statistical inference for the price impact of news, rendering conventional non-parametric jump estimators inconsistent. To address this, we employ a cumulative sum type detection method to measure the duration of price discovery and use a pre-averaging approach to estimate pre- and post-transition price levels. We further resolve the inconsistency by modeling jump sizes as functions of observable risk factors, allowing conditional expectations to reveal efficient pricing. Decisions about efficient pricing then reduces to a regression-based test for high-leverage points. Our empirical analysis of CME E-mini S&P 500 futures shows that Breaking news not only delay the transition time to a new price level. Breaking news acts as an additional layer of information above and beyond the original news about fundamentals, such that prices settle at levels significantly different from efficient benchmarks, with systematic overshooting. Our findings highlight a regulatory trade-off: the appeal of simple and transparent circuit breaker rules must be weighed against their cost of preventing fundamentals from being priced contemporaneously causing adverse incentives and introducing distortions.
