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Relative performance of trading halts and price limits: Evidence from the Spanish Stock Exchange

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## **Abstract**

We study the relative performance of trading halts and price limits using data from the Spanish Stock Exchange where both mechanisms have coexisted. According to our evidence, trading activity increases after either mechanism is triggered. Volatility stays the same after trading halts but increases after price limit hits. Our evidence also shows that the bid—ask spread is narrower after trading halts but wider after price limit hits. Information is efficiently reflected in stock prices once trading resumes after trading halts, but there is evidence of market overreaction for upper price limits. Our overall result may have important policy implications for financial markets in the world.

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## 1. Introduction

In semi-strong efficient markets, asset prices reflect all publicly available information, and prices change only in response to relevant new information (Fama, 1970). Therefore, any artificial interruption imposed on the market should have little impact on price movements. However, organized exchanges generally have special rules or procedures that come into play in connection with events that result in, or are likely to result in, large changes in asset prices. Following the 1987 market crash, the level of interest in procedures to limit large or sudden changes in prices has increased. The Brady Report (1988) suggests that circuit breaker mechanisms, such as trading halts and price limits, should be

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imposed to protect the market system. It appears that stock exchanges in the United States prefer trading halts to price limits.<sup>1</sup>

The NYSE has imposed both market-wide trading halts and individual news or order-imbalance trading halts. News-related trading halts also exist at the NASDAQ. Unlike those stock exchanges, the U.S. futures markets seem to favor price limits. Many countries in Europe and Asia also impose price limits on their stock markets.<sup>2</sup>

Although trading halts and price limits are both circuit breakers, they differ in several ways.<sup>3</sup> First, by definition, trading halts represent a temporary interruption in the trading of an individual asset on an exchange to disseminate information, whereas price limits are boundaries set by market regulators to confine the daily movements of security prices within a predetermined range to mitigate excessive price volatility. Therefore, trading halts indicate a complete cessation of trading activity, whereas in the case of price limits, trading is still permissible as long as it remains within the preset trading range. Second, trading halts do not include limitations on price movements. Once trading resumes after a trading halt, the price is determined solely by the market. Third, trading halts are not mechanically or predictably imposed but rather are subjectively imposed in certain circumstances by exchange officials or supervising authorities. That is, trading halts are called at the discretion of officials. In contrast, the activation of price limits depends solely on the price movements. Price limits are therefore easier for investors to observe and predict than are trading halts.

Despite the differences between trading halts and price limits, we believe that they could be viewed as trying to achieve either directly or indirectly the same objective, which is to reduce information asymmetry. Problems associated with asymmetric information include excessive price volatility (Spiegel & Subrahmanyam, 2000), unwarranted trading uncertainty (Greenwald & Stein, 1991), and transactional risk (Kodres & O'Brien, 1994). The activation of circuit breakers attempts to provide investors with more time to evaluate new information and make rational decisions. In the case of trading halts, trading is suspended so investors are forced to cool off and obtain and digest new information. Although price limits allow investors to continue trading at the limit price, they also give investors the option of choosing not to trade. In the latter case, the effect is similar to trading halts because during the cooling-off period, investors can reevaluate the market information. On the basis of this cooling-off argument, regulators expect that trading halts and price limits cause stock prices to become more informative, reduce uncertainty, and protect uninformed investors from excessive price movements.

In previous literature, trading halts and price limits have been either treated equally (e.g., Kyle, 1988) or studied separately (e.g., see Christie, Corwin, & Harris, 2002; Corwin & Lipson, 2000; Edelen & Gervais, 2003; Lee, Ready, & Seguin, 1994; Schwartz, 1982 for trading halts and Bildik & Gülay, 2006; Brennan, 1986; Kim & Rhee, 1997; Kodres & O'Brien, 1994 for price limits). Although Telser (1981) informally argues that rule-based price limits are superior to discretionary trading halts because they are more predictable, no theoretical model has been developed, nor any empirical test performed, to support that argument. To the best of our knowledge, only two studies formally compare trading halts with price limits. Subrahmanyam (1995) theoretically analyzes the relative desirability of discretionary and rule-based procedures and argues that discretionary closures enable exchange regulators to consider more information (e.g., market liquidity, volatility) in the closure decision than just the size of the price movement, which makes them more effective than price-triggered closures. Therefore, according to Subrahmanyam (1995), discretionary trading halts should be more effective than rule-based price limits. Coursey and Dyl (1990) conduct an experimental study to compare the market's adjustment to significant new information in the presence of price limits or trading halts. Their findings seem to indicate that the adjustment of asset prices to new information is more effective in markets with price limits than in those with trading halts, in contrast with Subrahmanyam's (1995) argument. We attempt, for the first time to our knowledge, to provide empirical evidence for the relative performance of trading halts and price limits.

The Continuous Spanish Stock Market, or SIBE, <sup>5</sup> provides a natural setting to study the performance of trading halts and price limits because both mechanisms had been used in this market prior to May 2001. The supervisory committee of the SIBE has the authority to halt trading on any individual stock, similar to NASDAQ trading halts, in that they are mainly imposed to force information disclosure to eliminate asymmetric information or await a pending

<sup>&</sup>lt;sup>1</sup> Besides the U.S., stock exchanges in Australia, Canada, Germany, Hong Kong, Israel, the United Kingdom, etc. also choose trading halts rather than price limits.

<sup>&</sup>lt;sup>2</sup> Examples of countries with price limits include Austria, Belgium, France, Greece, Italy, Netherlands, Spain, Switzerland, and Turkey in Europe and China, Japan, Korea, Malaysia, Taiwan, and Thailand in Asia.

<sup>&</sup>lt;sup>3</sup> We focus on individual trading halts. For details on market-wide circuit breakers imposed on the NYSE, see Goldstein and Kavajecz (2004).

<sup>&</sup>lt;sup>4</sup> For a comprehensive review of trading halt and price limit studies, see Kim and Yang (2004).

<sup>&</sup>lt;sup>5</sup> In Spanish, SIBE stands for Sistema de Interconexión Bursátil Español, or the Spanish Stock Exchange Interconnection System.

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