Foreign Exchange Interventions, Information, and Intraday Market Dynamics:
Evidence from Japan

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Abstract

This study examines how foreign exchange interventions are transmitted to the market through intraday trading behavior, rather than whether such interventions are effective in achieving exchange rate policy objectives. Focusing on Bank of Japan interventions in the Yen–US dollar market between 2008 and 2024, we analyze high-frequency one-minute data to investigate the microstructural mechanisms through which intervention-related information is incorporated into prices. A key contribution of the paper is the recovery of the precise intraday timing of Japanese foreign exchange interventions, which is not publicly disclosed. Using a Bayesian Markov Chain Monte Carlo methodology, we infer intervention timing from market signals, capturing realized trades as well as intervention-related expectations and unrequited actions.

The results reveal a consistent intraday sequence. Exchange rate volatility rises in the minutes preceding intervention, reflecting anticipation and information asymmetry among market participants, and stabilizes immediately following intervention execution. Exchange rate levels adjust in the intended direction of policy and often remain displaced for a substantial portion of the trading day. Regime-switching and structural break analyses indicate that intervention episodes are associated with changes in the return-generating process, consistent with information-based transmission through order flow rather than purely mechanical inventory rebalancing.

These findings suggest that foreign exchange interventions operate primarily by redistributing and resolving information within the trading process, with volatility acting as a temporary byproduct of price discovery rather than an indicator of policy failure. By highlighting the role of intraday anticipation, execution timing, and expectation aggregation, this study helps reconcile mixed evidence in the intervention literature and underscores the importance of market microstructure for understanding how official actions influence exchange rates.

Keywords: Foreign Exchange Intervention,Market Microstructure, Level, Information Transmission
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