

Editorial

Technology Makes Markets Safer

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In Germany, the act on High Frequency Trading (HFT) came into effect on May 15th, 2013. It introduces, among others, further transparency requirements for HFT firms, algorithmic traders, and operators of trading venues. The act also includes safeguards such as the introduction of volatility interruptions by trading venues that Deutsche Börse Group has already implemented for a long time. It makes Germany a pioneer in terms of HFT regulation as it sets measures in place ahead of Europe that currently plans to introduce safeguards in the context of the review of the Markets in Financial Instruments Directive MiFID (implementation planned for 2017).

The act is a response to the fact that the increase in trading speed associated with HFT is not only seen in a positive light by the general public. On the other hand, there is a strong demand for minimum latency on the part of our customers, which exchanges have an obligation to meet. However, they have at the same time an obligation to organize safe and orderly markets. Designing a trading system includes

finding a balance between these seemingly contrary requirements.

My firm belief is that beyond the robustness of all components and strict quality management of all development and operating processes, it is well-conceived functionality that makes the difference and makes anything resembling the so-called "flash crash" in the US unlikely.

Current discussions on stricter regulation for HFT do not only reflect fears on market "crashes" due to malfunctioning or even collapsing computer systems. What has also been described – though never been proven – is the integrity of markets being corrupted by high-speed traders which misuse their technological advantage for distorting and driving the market in their favored direction. It is clear that the latter cannot be prevented by capacity monitoring and upgrades and other technical means, but requires sophisticated watchdog functionality as well.

The chief mechanism in this regard is the so-called volatility interruption. One common



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approach taken by exchanges and imposed by regulators in order to deal with volatility has been the introduction of so-called circuit breakers. Circuit breakers bring the entire trading system to a halt. Volatility interruptions on Deutsche Börse's electronic trading systems, by contrast, combine price limits not with trading halts, but with a switch from continuous trading into auction mode – and not for the entire system, but for the individual instrument only, which experiences a sudden shift in prices. The auction concentrates existing liquidity, and it attracts further liquidity. This increase in liquidity improves the price discovery process, and thus initiates a return to smooth and orderly trading.

Volatility interruptions allow price discovery to continue and at the same time avoid a vicious circle of self-reinforcing price movements. Because price discovery goes on, investors can continuously get in and out of the market, in other words: the ease to turn an asset, e.g., a stock, into cash and vice versa is not hindered – and this is especially important in crisis situations.

June 10th, 2013, marked the beginning of a new era in electronic trading at Deutsche Börse AG: The entire product suite of Eurex, Deutsche Börse's derivatives subsidiary, has been transferred to a new trading architecture. What does this mean for our users? It means, among others: It is able to process up to four million electronic messages per second at gateway round-trip times of well below 300 μ s on average.

Although it is new in place in Europe, the new trading system can claim an impressive track record – in one of the most demanding business environments worldwide: Last year, we successfully implemented the new trading system at our US options subsidiary ISE. Since then, it has worked impeccably, and it has helped ISE stabilize and even increase its market share in the highly competitive market for US options. The new system is setting new standards in terms of stability and reliability on a global scale – also in comparison to the technologically most advanced exchanges and off-exchange trading platforms in the US and in Asia.