Data overload

Celia Hampton wonders how regulators will cope with the flood of information coming their way

Transparency is the Holy Grail of financial reform. Full, prompt and accurate disclosure of trading information means tracking billions of individual contracts among thousands of counterparties every working day. Markets create this profusion and complexity but they have the resources to process it. Regulators, on the other hand, if they do not have highly sophisticated tools for expert analysis, may find the information more overwhelming than useful.

In October, the European Commission published its latest proposals for the revision of the Markets in Financial Instruments Directive (MiFID). A separate draft regulation (MiFIR) calls for comprehensive reporting of transactions.

Price transparency will be the easy bit. It got lost under the first version of MiFID, which encouraged the proliferation of trading facilities. Under MiFIR, all bids, quotes and trades for shares, bonds, structured products, emission certificates and those derivatives that have to be centrally cleared will be collected up electronically on a “consolidated tape” and made available in as near to real time as possible. High-frequency traders, who parcel up millions of shares in bundles of 100-200, so that the size does not act as a market signal, with bids and quotes that last a few milliseconds, will present the biggest challenge.

Disclosure will be by the trading venue. This concept will be expanded to any “organised” facility on which multiple third party trades can be transacted. Provision is also made for “systematic internalisers” and others who regularly trade over the counter. Those who handle large blocks of securities for clients will benefit from waiver of disclosure pre-trade and delay post-trade so that a big sale or purchase can be made without itself moving the price.

Investment firms will have to send this information and a lot more besides to the regulator. This poses different problems, one of which is serious for the trade side. In addition to the firm’s identifier, the name, number and quantity of the instrument traded, the date and time of execution, the price, the client’s name and the identity of those responsible for the investment decision and its execution, the firm will have to supply the computer algorithms used in the trades.

An algorithm is a fiercely guarded trade secret and a source of innovation that gives its creator a competitive edge.

The firm will have to supply the fiercely guarded algorithms

Total dedication to confidentiality and watertight security on the circuitry used to send it will be demanded of the regulator. Whether these can be guaranteed when it has to be sent on to a “home regulator” elsewhere in the EU is sure to raise doubts.

This approach to transparency aims to help regulators pursue malpractices such as market manipulation. It will also open up the possibility of mapping the financial system so that system-wide risks are apparent before they become critical. The IT tools to do this have already been developed and are now being rolled out by the Reserve Bank of India.

They are part of a new approach to economic analysis specifically designed for finance by Professor Sheri Markose of Essex University - ACE, or agent-based computational economics. She considers that economists need to combine with information technologists and complexity specialists to enable a holistic and forward-looking view to be taken of the world’s financial system.

It was not until the 2007 credit crunch that the fallacy of risk-spreading was recognised. The interconnectedness of institutions and markets was not fully appreciated until Lehman Brothers went bankrupt a year later. By then it was too late. The innovations of the 1990s and early 2000s were tested for the first time in the real world where real debts are incurred.

A financial system consists of vast numbers of individual obligations exchanged by agents in a network. Markose’s IT would provide on-screen visualisation of outstanding obligations between counterparties. Institutions that were most active and exposed would form identifiable nodes and clusters. Amalgamation or linkages among maps depicting particular markets would reveal the development of system-wide effects, such as the over-exposure of a big bank, excessive leverage or asset bubbles.

If risk on a particular market looked abnormally concentrated, or if several market participants were all doing the same thing while unaware of each other’s moves, it would be easily recognisable to the human eye. A warning from the regulator would be to everyone’s benefit, or financial firms might be given access to a version stripped of algorithms and client information to stress-test their new ideas themselves. At the macroprudential level, it would also provide a tool for the “what if?” type of experiment, with potentially profound policy implications.

MiFIR omits to mention the maturity or exercise date of a financial instrument among the abundance of detail to be reported. Some derivatives and options last for months or years. For an ACE visualisation to reveal a firm’s total liabilities, exposure to these would have to stay in place throughout their lifetime. Possibly a case of failing to see the forest for the trees.

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