

Since the 1990s, European Stock Exchanges have experienced major transformation due to three main drivers: technology, merger & acquisitions and regulation. Bangor Business School's PROFESSOR PHILIP MOLYNEUX analyses the implications for the trading environment.

n recent years, trading floors have witnessed dramatic change because of technological advances – with the shift from open outcry floor-based to electronic trading and, more recently, the emergence of algorithmic and high-frequency trading (HFT). Algorithmic trading, particularly for large stocks, improves liquidity and enhances the information embedded in quotes, although there is also evidence that it can boost volatility. One of the simplest algorithms is a computer-based arbitrage strategy which continuously tracks price differences of the same stock in different venues. It is this approach, some suggest, that underpins the role of HFT in fostering multiple market connections.

New European Alternative Trading Venues (ATVs) use technology to gain a competitive advantage, as transactions can be routed quickly and at lower cost off-exchange. The evolution of ATVs gave rise to a series of counter-reactions from European Stock Exchanges, which started to enrich their technological tools by offering co-location services. This relates to the hosting of traders' computers so they interface directly and rapidly with the European Stock Exchange trading platform.

THE BENEFITS OF JOINING FORCES

The second major development seen by European Stock Exchanges (SE) is industry consolidation. In 2007, the NYSE Euronext Group was created – an agreement between the US NYSE and Euronext. In the same year, the OMX Group, consisting of SEs from the Nordic and Baltic regions, signed a merger agreement with the US NASDAQ, creating NASDAQ OMX. Then, in 2008, the London Stock Exchange (LSE) Group was created, joining the LSE with Borsa Italiana (Bit), with the latter's cash market migrated onto the LSE's electronic trading system. Also in 2008, the Vienna SE acquired the Prague SE, creating the Central and Eastern Europe Stock Exchange Group (CEESEG).

The main commercial rationale for these mergers is based on gaining economies of scale from greater centralisation of trading and adoption of new technology. There is also evidence that such mergers help improve the liquidity of large firm stock and the market share of merged exchanges.

LAYING DOWN THE LAW

In 2007, the Markets in Financial Instruments Directive (MiFID) came into force in all EU member states. The original goals of MiFID were to foster a more competitive, transparent, efficient and integrated European financial market by setting up a regulatory environment offering high-quality investor protection and establishing new markets and services. The main regulatory change was abolition of the concentration rule which established that

"RECENT WORK HAS

SOUGHT TO MAP OUT EQUITY MARKETS AS WHAT THEY REALLY ARE – DYNAMIC NETWORKS DRIVEN BY AN UNDERLYING PROCESS FORMED BY THE TRADING BEHAVIOUR OF INDIVIDUAL AGENTS."

"THE SECOND MAJOR **DEVELOPMENT SEEN** BY EUROPEAN STOCK **EXCHANGES IS INDUSTRY** CONSOLIDATION."

stocks could only be traded on Regulated Markets. MiFID provided opportunities for new suppliers and demanders of liquidity to establish ATVs based on innovative trading platforms, which saw European ATVs - Chi-X Europe, Markit, Turquoise, BATS – emerging to compete with traditional SEs.

Recent work has sought to map out equity markets as what they really are dynamic networks driven by an underlying process formed by the trading behaviour of individual agents. Connections among equity markets/venues are determined by the choices of investors to exploit the various venues in which the same stock may be traded, while the intensity of the connections between pairs of markets is gauged via simultaneous trading activity of the same stock in several venues.

Negotiation of the same stock in different trading venues at the same time is allowed under two conditions: if the issuing company multi- or cross-lists its shares in several SEs; or if multi-trading is endorsed because the stock may be negotiated in venues other than traditional SEs (such as ATVs).

Unlike equity cross-listings, which have long existed among European SEs, multitrading on ATVs was not allowed until the MiFID was passed. After this, new ATVs could compete head-on with traditional SEs. In contrast, the ability of investors to choose from a variety of trading venues has been common in the US, given widespread use of Electronic Communication Networks (ECNs). The operating environment for stock trading in Europe post-MiFID changed dramatically, as investors could now choose where to trade, either on regulated SEs or on new ATVs.

"THE ENVIRONMENT **FOR** FUROPEAN SES HAS BEEN DRAMATICALLY TRANSFORMED.'



INCREASING THE SCOPE

The environment for European SEs has been dramatically transformed by MiFID and the emergence of ATVs. Recent research has found that the secondary market for cross-listings seems to resist the competitive entrance of multi-trading because concentration is counterbalanced by the fragmentary effects resulting from the spread of co-location services. This form of technological trading also seems to allow less liquid secondarymarket cross-listings to survive.

Professor Philip Molyneux is Dean of the College of Business, Law, Education and Social Sciences and Professor of Banking and Finance at Bangor Business School.

CHARTERED BANKER MBA

Study the only qualification in the world combining an MBA and Chartered Banker status from the No.1 UK Business School*



Accelerated Routes are available

For qualified Chartered Bankers, ACIBs, General MBAs and Holders of Other Relevant Qualifications



LIMITED PLACES REMAIN FOR APRIL '14

Early bird savings available for October '14



www.charteredbankermba.co.uk

T: + 44(0) 1248 365966 E: charteredbankermba@bangor.ac.uk