All Change at the Exchange:
The European Exchange Landscape Post ICE/NYSE Euronext

TABB GROUP

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Introduction

Activity in the European exchange space is heating up in the final quarter of 2013. IntercontinentalExchange (ICE) completed its acquisition of NYSE, signalling the floatation of Euronext; a new exchange, Aquis, has launched its challenge to the status quo data pricing model; Deutsche Börse has bought a stake in Hirander Misra's Global Markets Exchange Group; TA Associates has acquired the Lehman stake of BATS Chi-X Europe; and Robert Barnes' first year at Turquoise is transforming the minnow exchange into one of the fastest growing venues in Europe.

As the cash equity model appears in its death throes, incumbent exchanges are in flux, struggling under the weight of the current economic climate, a decline in revenues and concerns over impending regulation. European dark volumes are on the rise as institutional investors are frustrated at their inability to find liquidity, companies are frozen out of the debt markets, and sovereign issuers are turning to alternative venues for listing opportunities. The subsequent impact on trading volumes and behaviour has been particularly negative for European exchanges but some are winning the battle. But who, why and how?

The sale of Euronext is destined to further alter the landscape. Although Euronext has maintained market share, the underlying trend remains one of decline as all venues fight over a diminishing share of the revenue pie. European cash equity trading volumes ushered in an upturn in 2013, yet the political and regulatory intent within Europe will constrain any significant growth in turnover.

Exchanges that have recognised this are diversifying across products and asset classes and are emerging as winners. With higher profit margins (in terms of EBITDA) and revenue growth, future sustainability is more assured. But diversification alone is not enough. It is premature to herald the end of cash equity trading but a new approach is required.

The current cash equity model is suboptimal and change is inevitable. Widespread customer dissatisfaction of the status quo leaves market participants clamouring for change, as differential treatment of stakeholders, complex and ever-increasing fee structures and order types, technology glitches, as well as the increasing demands for greater transparency from regulators and fairness of participant business practices, leave participants looking for alternatives.

The previous business model was based on bundled services focused on cash equity execution fees. With execution and clearing fees in remission, the exchanges, just like the brokers, are being forced to re-examine the services they provide to their customers and to better understand what their value add is. The fundamental premise has not changed: exchanges still exist to enable issuers to raise capital and investors to trade in the secondary market. What is being debated now is the mix of products, services and technology to deliver this.

Evolving European regulation in a challenging economic climate may just be the catalyst required to overcome existing inertia and drive through necessary innovation in products and pricing. There is the potential to map out a profitable future, but it will require radical change within European exchanges to achieve this and to truly leverage the vision of a single European market.

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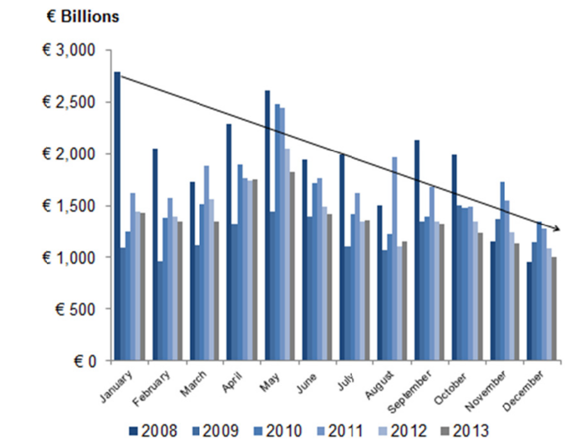
Europe 2013

The current combination of macro issues, regulation and austerity is fuelling a dramatic change in liquidity formation, which is destabilising market participant equilibrium and redefining the structure of traditional exchanges. To date, the most dramatic change has occurred within the cash equity markets. As MiFID turns its attentions to all other asset classes, this is set to spread across the product spectrum.

Exhibit 1
European Cash Equity Volumes (2008 – 2013, including estimates for full year)



Source: Thomson Reuters Equity Market Share Reporter

Despite the positive start to 2013 for cash equity volumes, we remain far from the high volumes of 2007/2008, with full-year estimates for 2013 showing a continued decline (see exhibit 1). Squeezed volumes will continue to put pressure on a sell side seeking to operate a sustainable business model with sub-15 basis point secondary-market commissions and a diminished primary business. Further consolidation among the European brokerages and exchanges will be inevitable if their focus is to remain on cash equity trading in the current format.

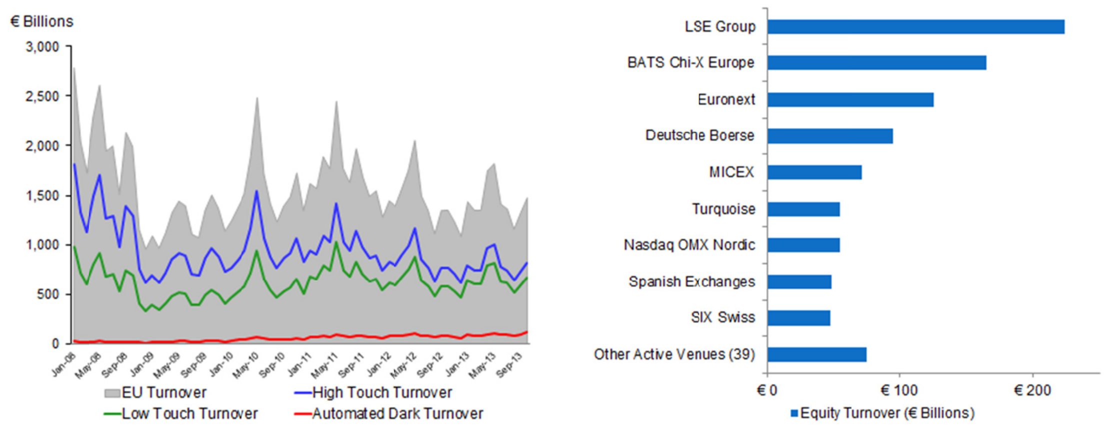
Lower turnover, combined with a reduction in the overall cost of trading since MiFID I, creates challenges for the traditional method of order execution. Austerity and increased regulation restrict use of broker capital, putting the existing market-making model under stress by increasing the cost of capital. When market makers are forced to increase their costs, restrict their client base or pull away from the market entirely in an attempt to avoid risk, this creates a negative impact on trading activity and overall market liquidity.

As execution risk shifts from market makers to investors, banks are forced to behave as order takers rather than risk absorbers. This agency model will concentrate trading in liquid instruments only, where an active buyer or seller can be easily found. These factors will be detrimental to exchange activity and potential revenues. European cash equity execution has already been and will continue to be fundamentally redefined due to depleted margins, bank deleveraging, and increased regulation, reducing the ability of market participants to interact and consequently commission revenues to be earned.

With implicit market costs becoming more important than explicit costs, institutional traders are subsequently forced to follow the lead of model-driven order flow by also automating in order to limit signalling risk. Risk-adverse portfolio managers, nervous of showing their full hand, are choosing to split orders up in the hope they average out, rather than risk buying or selling at the wrong level. Nuances are now regularly made to portfolios to tweak percentages, notional values or sector weightings.

This increase in index benchmark trading and market-on-close activity can make the market more volatile in certain periods of trading. In turn, this plays into greater risk-adverse strategies, creating a requirement for further automation and increased use of alternative liquidity pools in order to limit information leakage ahead of trade execution. The level to which automation is now ingrained in every aspect of fund management is illustrated in the proportion of automated trading undertaken by European buy-side participants almost reaching parity with traditional high-touch activity and the increased use of dark automation venues (see exhibit 2). As such, model-driven funds will maintain their dominance in Europe, lowering the revenue opportunity for European brokerages and ultimately European exchanges, challenging the current status quo (see exhibit 3).

Exhibits 2 and 3
Decline of High-Touch (Voice) Trading versus Increase in Automation (Lit and Dark)/Current Market Share among European Exchanges (September 2013)



Source: Thomson Reuters EMSR/TABB Group

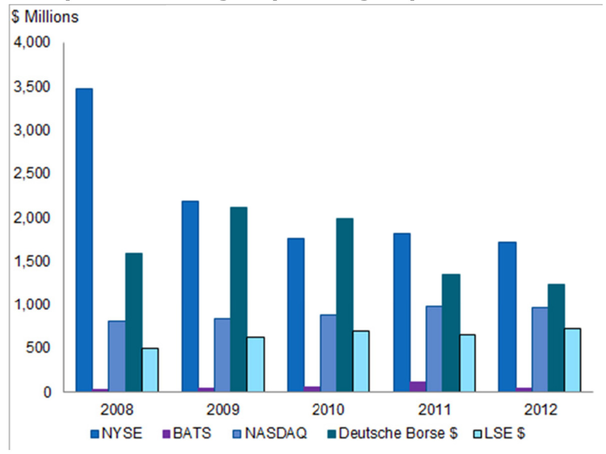
Profitability for brokers and subsequently exchanges has also declined from the lower proportion of independent proprietary trading firms operating high-frequency trading strategies due to the drop in volatility and increased correlation. However, when European regulation eventually pans out, lean commissions will continue to reduce revenue streams. The cost base for market participants will continue to rise, while income and the ability to generate it declines. In these austere times, exchanges will need to weigh the costs and benefits of various business lines and establish which will be a better fit for success in the future.

Current Winners and Losers

Despite the potential opportunities, most European exchanges have failed to capitalise, thereby becoming struggling behemoths with limited ability to respond with sufficient agility. While some have diversified away from trading, revenues for many are still predominantly derived from cash equity transactions and services, which look set to continue their downward trend. Available options for revenue growth are restricted to cost reduction or increasing market share by acquisition. The ability to expand to clearing or technology services is dependent on large sales of software or services to smaller exchanges, which will slow as new business dries up once the smaller exchanges have implemented technology and clearing services.

Profit margin also hides a story. While many exchanges remain profitable, in order to maintain profitability some groups are focusing on reducing operating expenses through efficiency programmes. NYSE Euronext had the highest operating expense of the group (see exhibit 4). This is particularly important when considering that BATS/Chi-X Europe has the lowest and is a major competitor in Europe. Operating expenses for both Euronext and Deutsche Börse were falling as they focused on cost-saving initiatives to maintain or increase profitability. However, Deutsche Börse's operating costs for H1 2013 in fact rose 13%, to €539.1 million. For the six months to June 30, Deutsche Börse reported that net revenue fell 3%, to €981.4 million year on year, while earnings before tax fell from €538.8 million to €448.3 million. Full-year earnings guidance was dampened due to continued uncertainty in the Eurozone and the subsequent impact on trading volumes, estimating a fall of as much as 7%, to €1.8 billion.

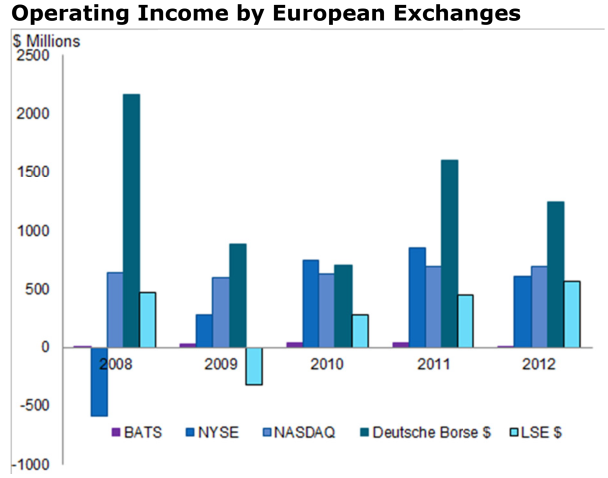
Exhibit 4
European Exchange Operating Expenses



Source: Company Reports/TABB Group

Operating income is decreasing for Euronext and Deutsche Börse (see exhibit 5). This threatens their ability to increase or possibly maintain their profit margins. What is most striking is that Euronext's operating expenses are the highest of the group but its operating income is also one of the lowest. This, combined with having one of the lowest profit margins, indicates that Euronext is currently in a poor position compared to its peers with net income declining for three of the major exchanges (see exhibit 6).

Exhibit 5
Operating Income by European Exchanges

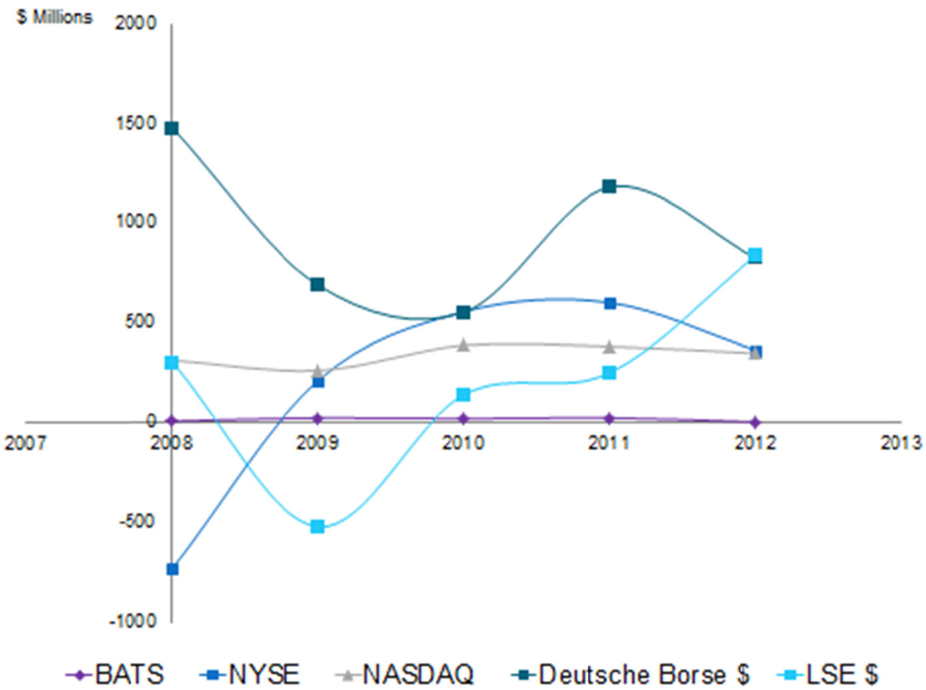


Source: Company reports/TABB Group

The Opportunities

The push to greater transparency across all asset classes will provide significant opportunities for trading activity on exchange. Increased regulation will suit exchanges; the requirement to monitor trading volumes will lead to greater data requirements, and therefore data sales.

Exhibit 6
Net Income by Exchanges



Source: Company reports/TABB Group

As MiFIR covers all instruments, it is clear that European politicians intend the equity model to be used as the base model for <u>all</u> instrument types. This will inevitably lead to an increase in automated trading across all asset classes. The plethora of different products and services that will be required by the buy side across different asset classes will represent a significant business opportunity. The requirement for more consistent data will mean that the price of data will go down, but will be consumed by more firms.

Greater transparency will translate to greater investment in improved connectivity, smart order routers and venue analysis. This is an expensive luxury in today's economic climate and will lead to a two-tier system open to only those who can afford to play, as well as creating yet more fragmentation. Order flow will increasingly be sliced and diced, regardless of asset class. It is likely that brokers will be forced to turn internal crossing systems into multilateral trading facilities (MTFs) or operate as systematic internalisers, both increasing fragmentation and competition for the incumbent exchanges.

As the cost of trading shifts to the cost of investment, clearing will increasingly factor into execution decisions. Greater competition in the clearing space will increase access and opportunity in the vertical silo model. As clearing moves into the world of collateral management, the ability to optimise portfolios across different asset classes and geographies will open up yet further opportunity. There is still everything to play for.

The Future Ahead

In order to look at the future potential of exchanges across Europe, we have selected three different types of exchanges; ICE, a relative newcomer, with high and growing margins; Bolsas y Mercados Españoles (BME) Group, a traditional European exchange focused on its local market (Spain) and only recently exposed to wider competition; and Warsaw Stock Exchange (WSE), which has achieved rapid recent growth by focusing on IPOs and a diverse revenue stream.

Higher-margin exchange groups have diversified away from equity-related transactions, both vertically and horizontally. This has occurred vertically, in the case of BME Group, WSE and ICE, by offering clearing and technology (including analytics and risk management), and horizontally, in the case of ICE and the WSE, via commodity and fixed interest rate derivatives.

Access to Clearing

BME Group, ICE and the WSE all have clearing revenues. Other exchange groups and marketplaces also provide clearing or have part ownership of clearing houses. The London Stock Exchange (LSE) now controls LCH.Clearnet; the Central and Eastern European Stock Exchange Group (CEESEG) owns the clearing houses behind its regional exchanges in Budapest, Ljubljana, Prague and Vienna; and now BATS Chi-X Europe has bought 25% of EuroCPP. Revenues from cash equity clearing are imperative, but more importantly, they allow an exchange to capture a greater share of revenue from other asset classes it may offer.

Making More of Data

ICE sees risk management services as a growth area. Clients are asking for more than just data and terminals. Risk analytics based on the data provided are being asked for, according to ICE. CEESEG is putting itself forward as an aggregator or gateway for market data from the central European exchanges and markets further east. The proposition is that customers only need to connect to one gateway or hub to access all relevant data for their investment and trading needs.

On top of exchange groups seeking to diversify their revenue sources, we are also seeing other trends among investors. The buy side has traditionally been multi-asset, although split between equities and fixed income. Some larger managers have also invested across regions and currencies. Conversely, the sell side has always been siloed by asset class – often according to instrument, currency and region. As trading practices evolve to become increasingly global and multi-asset on the buy side, the banks and brokers are following suit. Both Barclays and Nomura have recently announced that their fixed-income and equities trading and sales teams are to merge. The cash equities businesses on both sides are highly automated, whereas the fixed-income, derivatives, FX and other over-the-counter (OTC) markets are not.

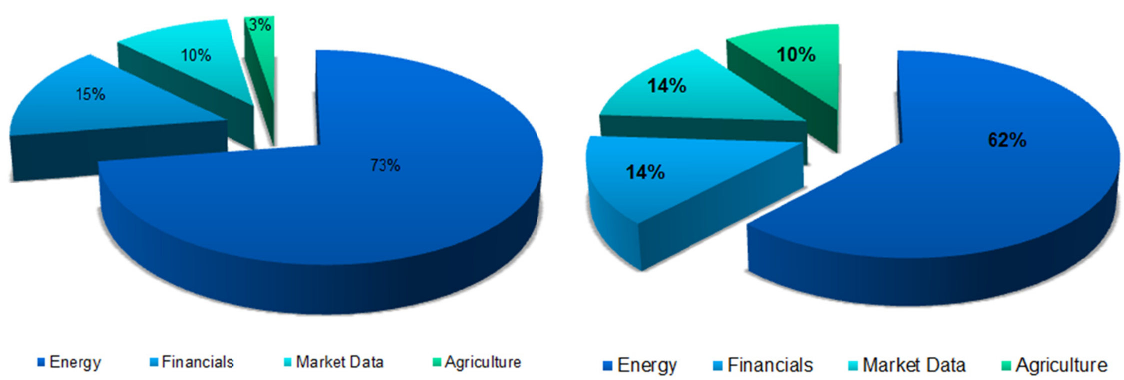
These changes will affect exchange groups in two ways: first, they will be expected to offer more multi-asset, multi-region and multi-currency services; and second, they will be expected to provide the same level of automation and service in all markets they offer. This will require a significant increase in technology.

Recent TABB research found that 65% of market respondents saw their business as more multi-asset than last year, forcing sell-side counterparts and exchanges to become more multi-asset in their approach. Of particular focus was on bonds and the need to bring liquidity to that market. However, a number of respondents noted that for exchanges – not noted for their speed of change – this would be a slow process and that other venues would be likely to go multi-asset first.

Why it's nice at ICE

As new regulations around derivatives take shape and with volatility expected to return when interest rates rise, market share is now all up for grabs. The CME Group which operates the world's largest futures exchange, overwhelmingly dominates the US market in interest rate derivatives. Taking control of Liffe provides ICE a footing in Europe, whereas CME Europe's plans to enter have stalled somewhat, but ICE still has the opportunity to compete against Deutsche Börse.

Exhibits 7 and 8
ICE Revenue Sources 2007 versus 2012



Source: Company reports/TABB Group

In both its market data and trade technology services, ICE offers risk management functionality rather than the traditional market data and 'terminal' sales. It is here ICE sees increasing customer demand. ICE holds one of the most widely traded oil contracts, Brent, along with power and emissions contracts, which have grown in volume by 6%, 107% and 34% respectively, offsetting volume drops in equity index futures (down 33%). As such, the majority of ICE's revenue is still derived from energy trading. Revenue contribution in 2007 is broadly similar to 2012, with revenue from energy dominating the other sources. This shrunk slightly during 2012 but currently continues to be the largest source (see exhibits 7 and 8).

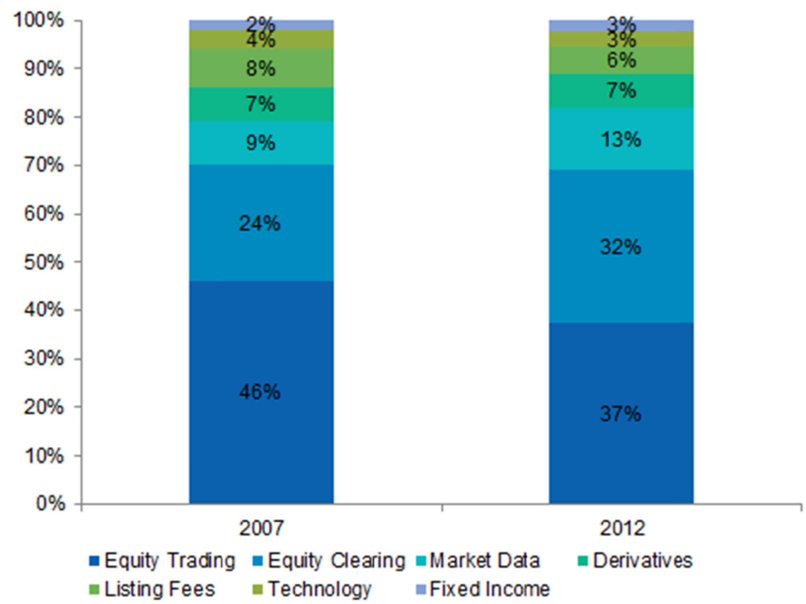
The Traditional Exchanges

BME Group is a regional exchange with very 'traditional' business lines. However, it has a high EBITDA margin when compared to its larger peers in Europe. BME has operated in a relatively protected market, which only opened its doors to a fully competitive market earlier this year.

BME includes the Iberclear, Valencia, Barcelona, Madrid and Bilbao stock exchanges. In addition to the trading of shares and bonds, BME offers access to a number of other products (such as derivatives, warrants and trackers) and clearing and settlement for the local market. BME also has a technological consultancy that providing trading systems advice and implementation to other exchanges.

BME has been developing alternative revenue sources since before 2010 when non-trading volume-related revenue covered 103% of its cost base. By the end of 2012, this had grown to 118%. In 2007, revenues from equity trading dominated other sources. The order of revenue contribution is the same in 2012, but of note is the decrease from 46% to 37% for equity trading, reflecting the general decline in fees from equity trading experienced across all exchange groups (see exhibit 9).

Exhibit 9
BME Group Revenue Sources: 2007 versus 2012

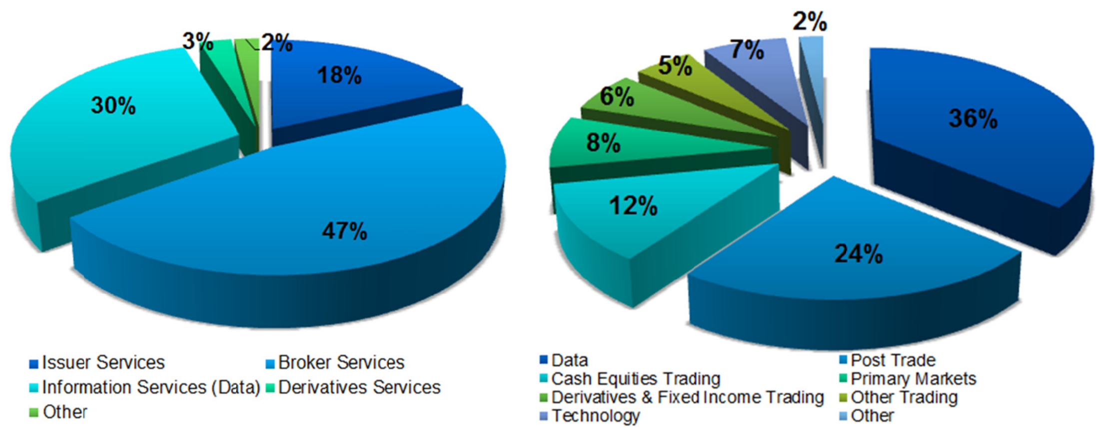


Source: Company reports/TABB Group

Revenue from trading accounted for 49% of total group revenues in 2012, of which equity trading alone accounted for 37%. This equates to a contribution to profit of 47%, which is less than previous years. Adding in clearing and settlement, the contribution to revenue from trading is 76% and to profit is 78.5%. However, equity trading profits fell by 24% in 2012, in line with declining equity volumes. In addition to continued diversification away from trading-related revenue – like other European exchanges – BME is focusing on cost reduction. BME's costs have remained steady since 2004, only increasing by 7%, whereas revenue has jumped 47% and net profit increased by 87%.

London Stock Exchange Group (LSEG) revenue sources for 2007 also look very different to 2012 (see exhibits 10 and 11) highlighting the level at which traditional exchanges are reinventing service offerings. The group recently reported first half numbers for 2013 which illustrated the group's continuing success in diversification.

Exhibits 10 and 11
LSEG Revenue Sources 2007 versus 2012



Source: Company Reports/TABB Group

As reported in October 2013, cash equity secondary market trading revenues rose 8% to £46.4 million, derivatives markets recorded 34% and 24% falls in volume traded due to weak conditions. Adjusted operating profit rose 6% to £229.9 million, with revenues rising 44% to £504.2 million, which includes a five-month contribution from LCH.Clearnet. LSEG have also benefited from a resurgence of initial public offerings (IPOs) as strong equity markets have encouraged companies to list in London. The amount of capital raised increased by 114% to £16.3 billion with high profile market debuts including the Royal Mail and IPO fever looks set to continue in 2013.

The completion of the acquisition of LCH.Clearnet will enable further diversification. LSEG expect its share of SwapClear's profits to be around 34% in 2013. Information and post trade services, including LCH, accounted for around 65% of total revenue, which increased by 8%.

Growth from Data and Technology services will be reinforced by the recent announcement that MillenniumIT has been selected by Singapore Exchange Ltd as the technology offering to clear cash equities; highlighting LSEG's intention to increase revenue from technology and clearing to offset declining volumes. MillenniumIT already provides clearing technology for the Argentina Central Securities Depositary and trading systems for Norway's Oslo Bors.

In addition to the technology expansion, the group launched the FTSE UK Large Cap Super Liquid index future which consists of 35 of the most liquid FTSE All Share index stocks. The new product is designed to give similar investment performance to the FTSE All Share index, but make it far more liquid. As part of the acquisition of Turquoise Derivatives, the venue has been renamed the London Stock Exchange Derivatives Market and become a regulated market of a recognised investment exchange (REI), which will enable members to benefit from more efficient margining arrangements. With competition from CME Europe and now GMEX Group, the traditional hold held by NYSE Euronext, LSEG and Deutsche Börse will be challenged, and the exchange traded derivatives business strategy is likely to become more innovative. LSEG has the opportunity to leverage its clearing house business LCH.Clearnet in order to achieve this.

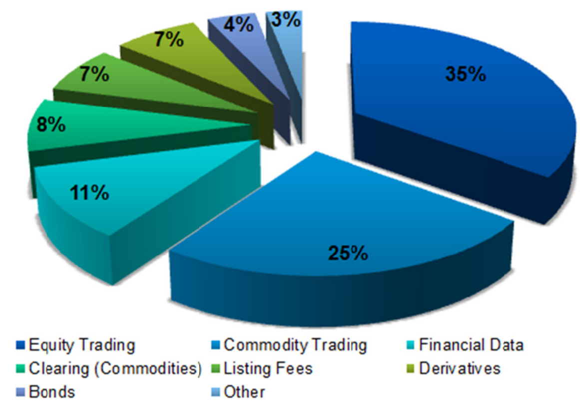
Looking East

Serving its local market, the WSE, is by far the smallest exchange in our sample, with a market capitalisation of only $523 million, compared to the others, which are more than 10 times as large. Despite this, it has a higher EBITDA margin than most at 65%, and is significantly more profitable than the major European exchanges of Deutsche Börse, Euronext and LSEG.

It is important to note that the WSE is 35% state owned and that the state has the voting majority. Consequently, one would expect the WSE to be a very traditional exchange – that is, focused on primary and secondary cash equity markets. But it is not.

Like most other exchanges, it has a main market, with 438 companies, a smaller market (NewConnect) comprised of 430 smaller companies and a bond market (Catalyst) made up by 157 entities. It also has an energy subsidiary, the Polish Power Exchange.

Exhibit 12
Warsaw Stock Exchange Revenue Mix 2012



Source: Company Reports /TABB Group

WSE's revenues are extremely diverse (see exhibit 12). While the largest revenue source is still equity trading, at 35%, commodity trading (25%) is second and a significantly large component of total revenue. Data was not available for a comparison with 2007. As most other exchange groups have seen, the WSE's revenues from equity trading decreased during this period – in this case by 7.8% in Q1 2013 compared with Q1 2012.

The WSE's results are dominated by those of its Polish Power Exchange subsidiary, where volumes increased by over 150% year on year in Q1 2013. If commodity trading and clearing are added together, this represents 33% of revenue, almost as much as equity trading. Results from equity trading do not include clearing. Equity clearing is carried out by Krajowy Depozyt Papierów Wartościowych (KDPW) in Poland, in which the WSE is a shareholder along with other Polish institutions.

According to PwC's *IPO Watch* quarterly report for Q1 2013, the WSE was second highest for new listings in Q1 2013 in Europe. LSEG (including London and Borsa Italiana markets) held 30% of the quarter's transactions, with an average offering value of €144 million. The WSE also held 30% of the quarter's transactions. However, its average transaction value was only €6 million.

Even as a small local exchange focusing on primary markets, the WSE has managed to diversify its revenue stream to become less dependent on equity transaction revenue and compete on profitability. The WSE's strategy is to continue the development of the Polish capital market and to strengthen the Polish economy in order to ensure that the WSE remains a supportive mechanism for the raising of capital for companies as much as possible.

In addition to this diversification, the WSE is also aggressively looking to attract new participants via a new high-volume provider scheme, part of a slew of incentives launched to boost high-frequency trading and other types of electronic order flow. As well as offering co-location, a new price scheme will let members that trade a minimum of PLN 5 million ($1.63 million) worth of stocks per day qualify for a fixed fee of PLN 0.05 per order. In derivatives, members must trade a minimum of 150 futures contracts per day to qualify for the fixed charges, which range depending on the type of instrument.

Industry Lines are Blurring

Non-exchange firms are also diversifying away from transaction-based revenues. In the search for new revenue sources, these businesses are venturing into each other's territories. Banks now create and issue listed funds in the form of exchange-traded funds, exchange-traded notes and exchange-traded commodities. Some of these are actively managed and compete directly with their client base – fund management firms. Exchanges are creating listed OTC contracts, an area previously dominated by the larger broker dealers, the clients of exchanges. And interdealer brokers (IDBs) are creating swap execution facilities (SEFs), the new cleared OTC marketplaces created under the Dodd-Frank Act in the US. These will compete with their traditional client base, the broker dealers, and also exchanges.

Competition for new revenue is also heating up in post-trade services. The IDBs, and data and software vendors are acquiring existing small service providers. For example, ICAP, an IDB, bought Triana and TriOptima, providers of post-trade OTC matching and compression services. ION Trading, a bank fixed-income platform provider, has bought Patsystems, a front-office system, Rolfe & Nolan, a middle-office service provider, and FFastFill, a messaging and automation platform. Also, Markit has bought Cadis, a back-office data system; Data Explorers, a stock lending data service; DTCC Deriv/SERV and SwapsWire, both OTC processing systems.

It is not just exchanges that need to find alternative sources of revenue; known opportunities are becoming limited since there are now so many other companies 'fishing in the same pool'.

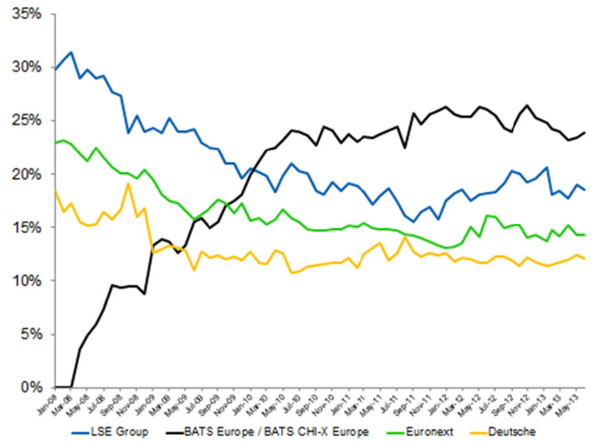
The New Challengers

Despite incumbent exchanges addressing declining market share, the rise of BATS Chi-X in Europe is undisputed (see exhibit 13). The ability to trade pan-European securities via a single connection is an attractive incentive, but the reality is that this option remains elusive for many given the significantly higher data fees European participants have to pay.

As exchanges seek to reap more revenue from information services, market participants are incensed at what many perceive as an abuse of power by the incumbents. Euronext recently announced new fees for index composition files, while LSEG is raising fees for real-time data from the start of 2014 by an average of 2.5%, which is on top of an increase of 5% made in July 2013. The exchanges' response is that in the current environment, the growing complexity in the use of data requires significant technological investment, and they cannot deliver the enhancements required without an increase in fees.

Yet as the bourses account for a diminishing portion of market share due to competition from rivals such as BATS Chi-X Europe, they are disseminating a smaller proportion of the overall data in secondary trading. BATS Chi-X began charging for its market data back in October 2012, at significantly lower prices – a move designed to pressurise the incumbent exchanges into offering more competitive fees. Now the pressure is ramping up, with Aquis the latest exchange to challenge the status quo.

Exhibit 13
The Rise of BATS Chi-X



Source: Thomson Reuters EMSR/ Turquoise / TABB Group

The Cost of Data

Similar to the model employed in the telecoms industry, Aquis plans to revolutionise the European trading landscape by introducing a pricing model designed to encourage participation from all categories of market participants via menu pricing for data.

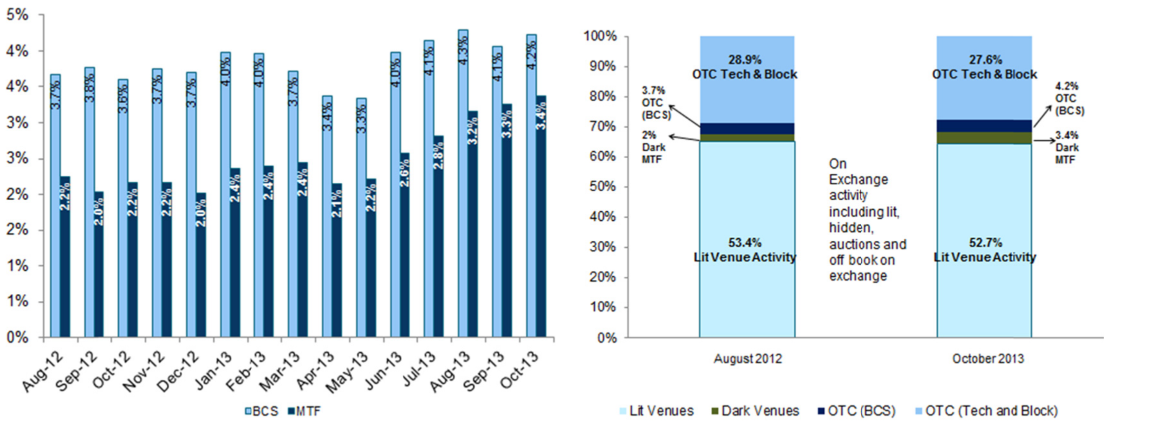
Historically, data costs have been prohibitive for smaller firms looking to trade across Europe, resulting in participants choosing to trade just within their local market and then the US, rather than become saddled with multiple data charges across Europe. Aquis users will be charged according to the message traffic they generate, rather than a percentage of the value of each stock that they trade, bolstering competition in Europe by cutting trading costs.

Aquis are also strong advocates of the horizontal open-access model and will offer interoperability with the European Multilateral Clearing Facility (EMCF), LCH.Clearnet and SIX x-clear, offering the ability to benefit from centralised risk management, consolidated clearing, netting of settlement fees, as well as post-trade anonymity.

Out of the Dark

Another area of content is the supposed significant increase in dark trading. Dark activity on MTFs has increased sharply in the last year rising from 2.2% of overall European turnover to 3.4% (see exhibit 14). When stripping out the OTC activity and focusing on automated trading alone, this figure is more prominent with dark MTF activity reaching almost parity with Broker Crossing Systems (BCS).

Exhibits 14 and 15
Rise of Dark MTF Activity vs BCS /Breakdown of European Activity OTC vs Lit



Source: Thomson Reuters EMSR/TABB Group

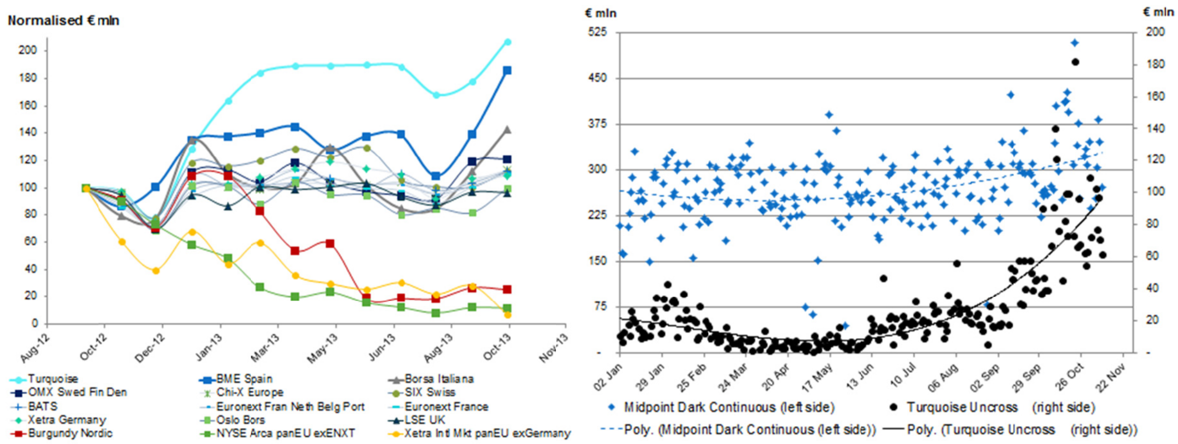
However when viewing overall market activity, lit volumes remain fairly static year on year (see exhibit 15). What is more interesting is the make-up of lit activity with European trading activity switching from continuous lit order flow to alternative trading activity such as the closing auctions and this is where new challengers to the incumbents are winning market share.

Benefits of Turquoise Uncross™

New initiatives have already delivered results for Turquoise, the pan-European MTF majority owned by London Stock Exchange Group. Monthly lit turnover has increased from €27 billion in August 2012 to just shy of €64bn in October 2013, with market share jumping from 4.8% to 8.25%. For the six months prior to 30 September 2013, Turquoise traded a total of €339.8 billion, up 69%, from €200.8 billion in the same period in 2012 (see exhibit 16), at a time when most other exchange volumes are flat or increasing at a slower rate.

As a clear example of how innovative trading models can capture the attention of market participants, values in the periodic auction functionality within Turquoise Uncross™ have increased more than threefold since September 2013 (see exhibit 17). With no pre-trade display, both buyers and sellers rest passive orders that may match at a random uncrossing period, with no participant initiating the match. The results have been impressive, with more than a quarter of the monthly value matched in Turquoise Uncross™ in September and October 2013 having a trade size of €100,000 or more, according to analysis by Intelligent Financial Systems (IFS) LiquidMetrix. The number of times a trade on Turquoise Uncross™ occurred at a price outside a European best bid and offer (EBBO) bid/offer price was lower than all other MTF venues offering continuous, instantaneous matching.[1]

Exhibits 16 and 17
Total Value Traded Across Europe / Growth of Turquoise Uncross™



Source: Thomson Reuters EMSR/Turquoise /TABB Group

With the current contention around dark pool trading, innovative trading solutions such as Turquoise Uncross™ may offer an effective solution to the dilemma. A key function of a midpoint matching dark pool is to ensure that both sides of the trade receive a fair reference price for all matched trades. In a continuous, instant matching model, the aggressor can choose the exact millisecond of execution and can therefore take advantage of this by timing orders to happen at a reference price favourable to them.

The key benefit is the ability for participants to rest orders without having to worry about adverse selection. Via a series of random auctions, trades will occur at a price that fairly divides the EBBO market spread between the aggressor and those resting passive orders. Currently, most dark algorithm strategies have to move liquidity around different pools or set large minimum acceptable quantity (MAQ) sizes to prevent adverse selection.

Turquoise has now widened its stock universe by more than 800 names; there are now 2,848 stocks and depository receipts available for trading across 18 European countries. Similar to Aquis Exchange and BATS Chi-X Europe, Turquoise offers the ability to trade pan-European securities via a single connection which will continue to provide significant challenges for the national incumbents. True pan-European trading is just getting started.

[1] *Intelligent Financial Systems (IFS) LiquidMetrix.*

What next for Euronext

At first glance, the proposed Euronext IPO looks attractive. It has good cash flows from equity trading, has a derivatives franchise, and has junior markets, allowing it to grow listings. Growth is coming from the non-cash equity business, derivatives, and in particular, interest rate contracts trading. However, the Euronext IPO does not include the fixed-income derivatives business of Liffe and will be mainly cash derivatives focused. One possible exception is the Paris-based wheat futures market Matif, which is the world's third largest wheat futures market by volume and is the pricing benchmark for European grain producers.

With revenues from cash equity trading in progressive decline plus increasing competition from operators such as BATS Chi-X Europe, Aquis and Turquoise, existing revenue streams will also decline unless operating models are restructured. Any business depending on the traditional cash equity transaction-based revenue model will not be viable going forward. What is also notable for its absence from the business model is clearing. The previous profile of BME Group and LSEG shows how clearing adds to revenue and profitability, even if based on equity transactions. NYSE Euronext is one of the only main regulated exchanges not to have integrated clearing, even though BATS Chi-X Europe has bought 25% of EuroCCP.

Diversifying to Derivatives

The analysis of three exchange groups with high EBITDA margins and growth suggests that derivatives are a boom area. Indeed, other exchange groups are now focusing on this – for example, LSEG in its Borsa Italiana and London markets.

Borsa Italiana launched AGREX, a new European market for durum wheat. IDEM, its equity derivatives market, has launched new futures on the dividends of single European blue-chip stocks. The London market has also recently transferred Turquoise Derivatives, its derivatives subsidiary, to London Stock Exchange plc, enlarging LSEG Derivatives Market with order book trading and the ability to trade report FTSE 100 index options and futures, 19 UK single-stock options plus derivatives on all international order book deposit receipts, offering liquidity in key emerging market names. LSEG Derivatives Market surpassed its first billion pounds sterling notional in November 2013, during its first month of trading the new FTSE Super Liquid Index.

Euronext also has a derivatives market, but it currently only offers equity derivatives on Dutch companies listed on the Amsterdam Stock Exchange.

TABB Group's previous studies on the European options market have found that the majority of European equity derivatives flows by contract volume (55% in 2012 and 52% in 2011) are executed off exchange by dealers, and cleared at Eurex and NYSE Liffe's off-exchange trade entry facilities, Eurex Flex Options and Bclear respectively. So while Euronext has the Dutch options market, most of the trades are done off exchange. And since it does not undertake clearing, it cannot benefit from this activity. There is also competition in this market. The Order Machine (TOM), an MTF offering Dutch options and equities, reports that they have 22% market share in equity options and 32% in index options.

Derivatives are an opportunity, but it appears that opportunities in equity derivatives for Euronext are under threat for the same reasons that cash equities are under threat: declining volumes, competition and lack of clearing.

However, there are opportunities for diversification into the derivatives of other asset classes, as LSE and Borsa Italiana have shown. Euronext will have a commodity business in Matif, and could look to build upon that, although clearing in any new market will be a prerequisite.

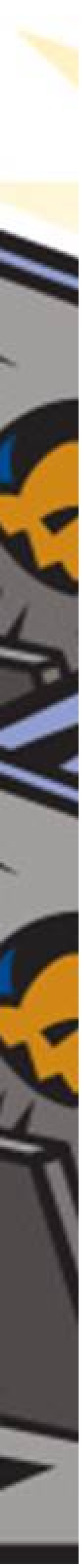
Pan-Euro Exchange

Euronext's other opportunity is to become a keystone in a regional market group. Euronext is the largest continental European regional exchange. To provide it access to clearing, new markets and diversification opportunities, it could tie up with other exchanges within the European Union (such as the WSE, CEESEG and BME) to leverage their clearing and share services to reduce their cost base.

An undiversified, regional 'developed' European exchange that is without clearing revenues cannot compete with the likes of BATS Chi-X Europe. In order to survive, it will need to offer something BATS Chi-X does not: non-cash equity-related revenues or new products – which are both relevant to its local market but also to institutional investors – in order to attract liquidity. It will also need to co-operate or join with other similar exchange groups to benefit from shared costs for administration and central services, to reduce costs, and to attract revenues from technology and clearing.

There is still a role for regional exchanges to provide access to local markets. However, there is no role for anything in between. There is much industry support for a pan-European market that is wider than Euronext is now. A pan-European exchange would be an easier route into the markets for investors and could offer margin benefits to users. Regional markets offer diversification benefits for investors, enabling the potential to be long one European index, such as the DAX, and short another, such as CAC 40, for example.

Horizontal expansion would ensure the ability to reduce costs by sharing central services, achieve discounts in buying in services, and gain access to clearing, assuming the selected partner(s) have clearing. Depending on the partners chosen, institutional investors may also be attracted, and therefore bring liquidity to an exchange group with a broader economic exposure to the region. This is as opposed to BATS Chi-X Europe, which operates a low-cost exchange where large cap stocks – sometimes of global companies – are traded. A pan-European regionally focused exchange group would be attractive to institutional investors seeking exposure to the region without the need to seek out companies and liquidity on smaller local exchanges.



Clearing Ahead

Clearing and listed/centrally cleared OTCs is the second biggest opportunity for Euronext after expansion to other asset classes. However, finding an independent clearing house interested in Euronext will be difficult for a number of reasons, as outlined below.

LCH.Clearnet

LSEG now controls LCH.Clearnet. It has multi-asset capability and a large, solid balance sheet. However, any arrangement with LCH.Clearnet would involve LSEG, which presents another consideration. Borsa Italiana, as part of LSEG, has many synergies with Euronext and it also undertakes clearing (via Cassa di Compensazione e Garanzia, a fully owned subsidiary of LSEG).

Holland Clearing House (HCH)

HCH currently provides clearing for TOM. It only clears for the Dutch option and cash equity markets and is therefore not very diversified. It is also part of ABN AMRO, which would therefore mean any tie-up or similar would involve only one bank. This may cause a political issue with other Euronext domestic markets and also other banks that are customers of Euronext. If, however, the Amsterdam Stock Exchange were to link up with HCH, this may be less of an issue and would only leave a more local challenge to domestic banks over ownership and control of the national exchange.

Bolsas y Mercados Españoles (BME) Group

BME Group aims to trade, clear, settle and provide data on as many products as it can in its local market, using internally developed technology. Opportunities also lie in non-trading-related services, such as collateral management. BME Group's Iberclear unit is planning to launch a service to assist fund managers with meeting future margin requirements. However, BME Group is more likely to seek partnerships with other exchange groups outside Europe. BME Group already has tie-ups with Latin American exchanges via the Ibero-American Federation of Exchanges (FIAB).

EuroCPP

In March of this year, EMCF (owned by Dutch bank ABN AMRO Clearing Bank and Nasdaq OMX) and EuroCCP (wholly owned by The Depository Trust & Clearing Corporation) combined. The owners will be BATS Chi-X Europe, Nasdaq OMX, DTCC and ABN Amro NV, with each holding equal shares in the venture. It is difficult to imagine how Euronext could get involved in EuroCCP now – it may simply be too late.

Big Brother

Another challenge for Euronext could be that ICE may not choose to fully divest its ownership or control. This may be because it is not able to due to market conditions, or because it changes its strategy. For example, if the IPO realises a high value and the shares then subsequently slump, further sales of shares to any partners at a discount to the IPO will be politically hard to do. If ICE retains control, there is no real change to Euronext's ability to go independent and make its own decisions. Importantly, ICE may be able to control which entities Euronext partners with.

An acquisition by one party is also a possibility but with ICE the seller, it is a risk that ICE dictates who Euronext is sold to. This might not be in the best interests of Euronext or the underlying countries it supports. Any exchange group with an existing technology platform and clearing house would seek to reduce costs by moving Euronext's business onto its own platforms. This may cause disruption to operations as technology and clearing is moved across to the new platforms. A new parent to replace NYSE may not offer any further benefits to Euronext than they already have.

As a condition of the purchase of NYSE, ICE was required to put in place a core group of shareholders with at least a 25% shareholding and representative of the interests of France, Belgium, the Netherlands and Portugal, to ensure Euronext's stability. The Euronext marketplaces of Amsterdam, Brussels, Paris and Lisbon now have the opportunity to develop services as well as maintain a strong local bourse to serve individual home nations.

But will an incumbent exchange choose to step in? The usual suspects of course are Nasdaq OMX, LSE Group and Deutsche Börse. Of these exchange groups, LSEG is heard most, mainly because of the link with LCH.Clearnet, which is still the preferred supplier of CCP clearing services for continental Euronext (cash and derivatives). However, history is littered with failed exchange mergers and politics is likely to get in the way of any deal.

Politicians and regulators will want to keep their local marketplaces close to their chests. France in particular seems very anxious to avoid any Paris bourse falling into foreign hands. Regulators and politicians will aim to bring back the original public function of capital markets, which they perceive as an important service that should be safeguarded to facilitate economic growth.

It is also difficult to envisage who would be interested – neither Deutsche Börse nor London Stock Exchange Group appear to have much interest in expanding equity divisions. Nasdaq was viewed as having overextended itself with OMX and therefore also unlikely to be interested. Would the CME or Chicago Board Options Exchange (CBOE) be interested in a low-margin, high-cost equity exchange? The purchase of Euronext would offer sufficient diversity and growth opportunities and neither have a European equity business. However, neither have a history of acquisitions. But both are focusing on expanding into Europe, with CME launching a new exchange and CBOE bringing the VIX contract to Europe.

Conclusion

The full outcome of the growing plethora of European regulation still has to play out. Yet a chain of events is already in motion, which will radically transform the entire European capital markets landscape for all participants. Two facts remain inescapable for exchanges; first, there is a political mandate to reduce cash equity trading turnover; second, sources of revenue growth for exchanges – where they do exist – are currently not equity transaction related, but rather from data, technology and non-equity transaction services.

The major European exchanges, in particular Euronext, are very 'traditional', and their fortunes are still linked to cash equity transaction volumes. The return of the institutional investor will not herald an automatic transfer of block order flow to lit exchanges. Wholesale order flow has always been executed in the dark and a proportion will have to remain opaque due to its constituents. In addition, the regulatory focus on curtailing high-frequency activity will also impact future exchange revenue streams. Therefore, with declining equity turnover set to continue, unless radical changes are made to the business model, growth remains straddled to increasing market share or diversification out of equities.

Diversification is the key to survival. The optimal solution for the incumbent exchanges is to diversify both horizontally and vertically. However, in the current environment and with the lack of suitable clearing partner, horizontal expansion appears more achievable for Euronext, with the aim of working to a longer-term objective of vertical expansion.

A pan-European multi-asset exchange would be an easier route into the markets for many investors and could offer margin benefits to users, as well as flexibility over the products selected, offering the potential to be long DAX and short NL, for example. A pan-European regionally focused exchange group specialising in small to mid-cap names could be attractive to institutional investors seeking exposure to the region without the need to seek out liquidity on smaller local exchanges, or even at the individual company level. But if Euronext is not careful they will have missed the boat on this opportunity given recent endeavours by BATS Chi-X and now Turquoise entering the fray.

The second most immediate opportunity for exchanges is that fixed-income, derivatives, FX and other OTC markets are not yet automated. As MiFID II rolls out across the asset classes, exchanges will not only be expected to offer more multi-asset, multi-region and multi-currency services, but also to the same level of automation and service they currently offer for cash equities. This will require a significant increase in technology but deliver new and more profitable revenue streams.

Winners are already emerging. Higher-margin exchange groups have chosen to diversify away from cash equity-related transactions, both vertically and horizontally. Vertically, in the case of BME Group, Warsaw Stock Exchange (WSE) and ICE by offering clearing and technology, including analytics and risk management – both key growth areas; and horizontally in the case of ICE and the WSE with commodity and fixed interest rate derivatives.

As more OTC products go on exchange with requirements for access to clearing and collateral management, further revenue growth opportunities away from trading volumes will emerge. Successful exchanges such as BME Group, ICE and WSE all have clearing revenues. Other exchange groups and marketplaces also have clearing or have part ownership of clearing houses. As industry lines continue to blur, success will be found by those who are still able to deliver during lacklustre European capital markets, whatever the economic environment that lies ahead.

From investment to execution to settlement, the rule book has been ripped up and thrown away. Who stood for what and why has fundamentally changed. Shifting fund flows, reduced commissions and a persistent move away from vanilla equity products will require exchanges to continue to redefine their roles in order to survive. Those ready to rise to the challenge are already emerging out of the shadows, limbering up for the next stage of innovation.

About

TABB Group

TABB Group is a financial markets research and strategic advisory firm focused exclusively on capital markets. Founded in 2003 and based on the methodology of *first-person knowledge*, TABB Group analyses and quantifies the investing value chain from the fiduciary, investment manager, broker, exchange and custodian. Our goal is to help senior business leaders gain a truer understanding of financial markets issues and trends so they can grow their business. TABB Group members are regularly cited in the press and speak at industry conferences. For more information about TABB Group, visit www.tabbgroup.com.

The Author

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Rebecca joined TABB Group in March 2011, bringing more than 15 years' experience in e-trading and financial services. Rebecca has held various sales and trading positions with Bankers Trust, Goldman Sachs, and most recently Credit Suisse, where as Vice President she was instrumental in launching the successful AES (Advanced Execution Services) product to hedge funds from its inception in 2002 until 2008. Prior to this, she was the first electronic trader at Credit Suisse to be registered for all electronic European cash equity markets and covered sales trading into Asia and then Europe between 1997 and 2000. More recently, Rebecca was based in the Middle East from 2008 to 2010. There she was employed by the British Embassy in Bahrain, where she successfully launched the UK Government's financial services strategy and set up the Bahrain Financial Services Roundtable, which remains a key source of information for the UK Government today, especially in relation to Islamic finance. Rebecca holds a Bachelor of Arts degree in Spanish & Latin American History & Politics from the University of London. At TABB Group, Rebecca has authored *European Dark Trading: A Question of Clarity; Dark Matters; European Equity Trends: 2013 Mid-Year Review; One Touch, One World: The Future of Investment Banking; OTC Equity Derivatives: Harnessing the Liquidity; European Equity Trends 2012/13; European Equity Trading 2012/13: Changing the Rules of Engagement; FX in Transition: Taking The Quantum Leap; MiFID II and Fixed-Income Price Transparency: Panacea or Problem?; Market Surveillance in Europe: Under Starter's Orders; European Equity Trading 2011/12: Looking for Allies in the Face of Adversity; European Algorithms: The Evolution; and Trading in the Middle East: the Road to Mecca.*

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