



DEUTSCHE BÖRSE
GROUP

Annual report 2018

Excerpt: report on opportunities

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Outlook

Deutsche Börse Group continually assesses its risk situation. Based on the calculated REC in stress tests and based on the risk management system, Deutsche Börse AG's Executive Board concludes that the available risk cover amount is sufficient. Furthermore, it cannot identify any risk that could endanger the Group's existence as a going concern.

In 2019, the Group intends to further strengthen Group-wide risk management, as well as the control functions within the Group, supported by additional personnel and structural improvements. In addition, a cross-divisional initiative regarding the risk culture within the company will be carried out. Business continuity precautions should also be expanded to ensure that the company can continue in the case of an emergency or crisis and to ensure an orderly process in cases of restructuring and liquidation of regulated institutions.

Report on opportunities

Organisation of opportunities management

Deutsche Börse Group's opportunities management aims to identify, evaluate and assess opportunities as early as possible and to take appropriate measures in order to transform opportunities into business success.

Deutsche Börse Group evaluates organic growth opportunities in the individual business areas both on an ongoing basis throughout the year and systematically at the Group level as part of its annual budget planning process. Suggestions from the Group's business areas for new products, services or technologies serve as the starting point for the evaluation. The process begins with a careful analysis of the market environment that considers both customer wishes as well as market developments, competitors and regulatory changes.

Ideas for growth initiatives are developed further using uniform, Group-wide templates and subjected to a profitability analysis. Qualitative aspects are documented in a business plan, and revenues and expenses are projected in detail for several years in the future.

Once a business plan and profitability analysis have been prepared for a specific growth initiative, the Executive Board of Deutsche Börse AG decides on its implementation. This decision is either taken as part of the annual budget planning process or as part of the regular budget review meetings that happen throughout the year.

Once a growth initiative has been approved and the budget has been made available, the initiative's progress against the presented business plan is tracked as part of the Group's general budget steering mechanisms. Regular reporting on the progress of the initiatives is an important steering tool, which is coordinated by central functions and created in cooperation with the individual projects from the business areas. Through these reports, if required, the financial planning is adjusted, forecasts are updated and changes to the scope of the project are made transparent. These reports also serve as a control mechanism to determine whether milestones have been reached and if project-specific risks have been described and if countermeasures have been implemented.

Organic growth opportunities

Deutsche Börse Group has a very broad portfolio of products and services which covers all areas of a market infrastructure provider's value creation chain:

- Pre-trading: data and index business
- Trading and clearing: financial derivatives, commodities, foreign-exchange trading, cash equities
- Post-trading: settlement and custody, investment fund services, collateral management

Thanks to this portfolio, the Group is one of the most broadly-diversified exchange organisations – it is also one of the leading providers worldwide in terms of trading volumes. In order to maintain and expand this position, the company is pursuing a growth strategy called Roadmap 2020. To this end, Deutsche Börse Group is currently concentrating largely on organic growth opportunities in order to achieve its strategic objectives. The Group makes a basic distinction between structural and cyclical opportunities: structural opportunities arise, for example, as a result of regulatory changes, new client requirements (such as the growing demand for exchange-traded solutions to over-the-counter (OTC) transactions) and the trend where an increasing portion of assets are allocated in passive investment strategies (e.g. index funds). The company can actively exploit these opportunities. Cyclical opportunities, on the other hand, cannot be influenced directly by the company and are driven by macroeconomic changes. In addition, Deutsche Börse Group intends to seize long-term opportunities arising as a result of the technological transformation.

Structural growth opportunities

When taking advantage of structural growth potential, Deutsche Börse Group focuses on product- and service-driven initiatives designed to satisfy new client needs as well as regulatory requirements. In order to ensure the Group is optimally positioned and can explore new opportunities, the Group realigned its structure with its growth strategy in 2018. For instance, the Group implemented clear responsibilities at the management level reporting directly to the Executive Board. These managers are not only responsible for net revenue growth, but also for costs and, therefore, the earnings growth of the individual business areas – which can also be achieved through cost management. This approach allows the Group to manage processes in a disciplined manner and to achieve targets at a business area level, and hence at a Group level overall. This is also reflected by leaner hierarchies, the strengthened consequences management and the remuneration structure. The number of reporting segments was also increased from four to nine, thus creating additional transparency for the Group's growth areas.

Moreover, the Group regularly examines whether it can better achieve growth in high-potential asset classes, products or services organically or through external acquisitions and collaborations. In this connection, the company has defined the following five areas of business that focus beyond the organic options to external growth as well: commodities, foreign exchange trading, investment funds services, data and index business and fixed-income trading.

The Group anticipates the strongest revenue increases in the years ahead in trading and clearing. Among other things, this is due to the clearing of over-the-counter (OTC) derivatives and further growth in the trading of power and gas products. Foreign exchange trading via 360T[®] is also expected to provide a contribution to net revenue growth. In the post-trading area, the focus is on further developing the investment funds business, cross-border securities settlements via TARGET2-Securities (T2S), as well as collateral and liquidity management. The growth focus in pre-trading is on expanding the index and data business. The business potential of the initiatives stated here are described in more detail below.

Clearing of OTC derivatives

The liquidity problems experienced by major market participants during the financial crisis were triggered by the failure to settle bilateral OTC transactions that were mainly entered into on an unsecured basis. In light of this, the leading industrialised nations (G20) agreed to create an effective regulatory environment to make off-exchange derivatives transactions more transparent and more secure. In response, the European Union developed the European Market Infrastructure Regulation (EMIR), which is aimed at regulating OTC trading in derivatives. EMIR covers the following aspects:

- The obligation to clear standardised OTC derivatives transactions using a central counterparty
- Special risk management requirements for transactions in non-standardised derivatives
- The obligation to report the transactions to a trade repository

With the entry into force and gradual implementation of EMIR since June 2016, market participants have been obliged to meet its requirements. Preparing for mandatory clearing, Eurex Clearing AG had developed set up a central counterparty to clear OTC derivatives transactions. The offering is aimed primarily at institutional clients and their interest rate derivatives business (interest rate swaps). It especially focuses on security and efficiency, allowing customers to gain the full benefit of Eurex Clearing's risk and collateral management services for their OTC transactions as well. In line with expectations, Eurex's clearing volumes in OTC interest rate derivatives have increased significantly since the beginning of 2018.

Brexit – and the associated uncertainty as to whether clearing houses outside the scope of EU regulation will be permitted to clear euro-denominated interest rate swaps in the future – offers another opportunity for Eurex Clearing to increase its market share in this product area. With the Eurex Clearing Partnership Program, which was started in October 2017, Eurex Clearing created an alternative for clearing interest rate swaps within the EU. The programme met with broad market acceptance: by the beginning of February 2019, 33 market participants from the US, the UK, Asia and Continental Europe had already opted to participate in the programme. Hence, the notional outstanding volume on Eurex Clearing increased considerably in 2018 year on year. The company anticipates another significant increase in 2019.

Within the framework of the performance-based partnership programme, Eurex Clearing AG shares a substantial portion of the economic success of its interest rate swap segment with the ten most active participants. These are also given a seat on the Eurex Clearing AG Supervisory Board or on the newly established Fixed Income and Currency (FIC) Board Advisory Committee. Clients are thus directly involved in further developing the strategy and expanding the clearing house's products and services. At the end of 2018, Eurex Clearing announced that it plans to extend the partnership programme to include the repo business and foreign exchange trading.

Trading and clearing of power and gas products on EEX

The Leipzig-based European Energy Exchange AG (EEX) allows Deutsche Börse Group to offer a broad product range for the trading and clearing of spot and derivatives contracts on power and gas and emission certificates. In turn, EEX benefits from the markedly higher demand for energy trading and clearing services. The double-digit growth rates in this area are not only the result of external growth but also structural organic growth thanks to Deutsche Börse Group's good market position. For instance, EEX has evolved into the central marketplace for energy, energy-related and commodities products in Continental Europe; its product range includes the markets in Germany, France, the Netherlands, Belgium, Italy and Spain. It has also been active in the US market since May 2017, through the acquisition of Nodal Exchange. EEX also generated organic growth, especially in the power and gas business. While this growth momentum is based on the changing importance of renewable energy sources – wind power in particular – for power generation, the resulting gains in the availability of power are difficult to predict, also due to the strong fragmentation of the European energy market, and the fact that market participants predominantly trade off-exchange. Owing to this high degree of fragmentation, as well as the inefficiency of OTC markets, demand for on-exchange trading and clearing solutions for such transactions has been growing over recent years. On 12 June 2018, the European Cross-Border Intraday Initiative (XBID) was launched – a power market platform developed under the initiative of the European Commission. At year-end 2013, Deutsche Börse had won the tendering process to develop and operate a pan-European intraday trading platform. The start of XBID – and hence, the opening up of national European markets for competition – mark an important step towards creating an integrated European intraday energy market. EEX believes it is well positioned in this changing competitive environment to achieve structural growth and gain additional market share by providing more efficient trading and clearing solutions. EEX has already succeeded in significantly increasing its market share in recent years; its energy derivatives share, for example, was around 37 per cent at the end of 2018.

Growth in foreign-exchange trading (360T)

With the full acquisition of 360T, Deutsche Börse AG successfully explored a new asset class – foreign-exchange trading. 360T® is a leading, globally active foreign-exchange trading platform, whose broad customer base includes companies, buy-side customers and banks. The acquisition offers the potential for revenue synergies amounting to an eight-figure sum (in euros) over the medium term, with 360T leveraging Deutsche Börse Group's international sales network and expertise to grow its business. By combining the skills and experience of 360T in the foreign-exchange market with Deutsche Börse Group's IT competence, the Group will be able to tap the resulting revenue potential. 360T has thus made progress with various measures for achieving synergies: The technology for the central order book has been completed and is in the roll-out phase. The pilot phase of the clearing services for OTC foreign exchange transactions will start in the first half of 2019. Having successfully completed the test operations, market participants will be able to use clearing services for OTC foreign exchange transactions for the first time. The third project is the introduction of the rolling spot futures and classic futures contracts, which were rolled out at the beginning of June 2018. For 360T, the goal of all three measures over the coming months will be to attract market participants who will use these offers regularly, in order to gradually build liquidity.

Thanks to its leading position, 360T further benefits from a structural trend: even though, at present, the vast majority of daily foreign-exchange trading volumes is still executed off-exchange, demand for transparent, electronic multi-bank trading platforms such as 360T is rising. With this in mind, Deutsche Börse Group acquired the GTX Electronic Communication Network (ECN) business of GAIN Capital Holdings, Inc. in 2018 to expand its position in the global currency market and in the US market. The acquisition represents another step taken by 360T to expand its business. With GTX, 360T has won a spot interbank FX platform whose product range and customer base complement 360T's existing business.

To date, regulatory obligations such as EMIR have not yet been expanded to cover the foreign-exchange market. If this were to happen in the near future, Deutsche Börse Group would be able to tap further opportunities from its extensive portfolio of products and services it offers in the context of regulatory requirements.

Cross-border settlement of investment funds

Clients of Deutsche Börse Group can use Clearstream's settlement and custody services for their entire fund portfolio – covering traditional investment funds, exchange-traded funds (ETFs) as well as hedge funds. Given that supervisory authorities are also calling for more efficient settlement and custody solutions in order to guarantee maximum security for client assets under custody, the Group expects to acquire additional client portfolios in the future. For example, portfolios from Lombard Odier and Banque Internationale à Luxembourg were acquired already in 2018. The Group is also continuously expanding its range of products and services. For instance, Clearstream S.A. acquired Swisscanto Funds Centre Ltd., London, (SFCL), from Zürcher Kantonalbank during the year under review. The company was renamed Clearstream Funds Centre Ltd. as at 2 November 2018. Through the transaction, Clearstream has extended its range of fund services, to include the management of distribution agreements as well as data compilation. In addition to SFCL's existing client base, Clearstream plans to offer the company's range of services to its existing clients, too. Extending the product and service range, Clearstream expects to generate additional net revenue by realising cross-selling synergies.

Cross-border securities settlement (T2S)

Initiated by the ECB, the purpose of the T2S project is to harmonise cross-border securities settlement using central bank funds across Europe. For Deutsche Börse Group, this holds the opportunity of winning new clients for Clearstream's innovative services, such as global liquidity management. The Group expects higher custody volumes and additional new services from T2S in the long term, which can only be provided through Clearstream via its integrated international central securities depository (ICSD). Clients can now use Clearstream as a central point of access for domestic and international settlements, both in central bank and commercial bank funds. National central securities depositories (CSDs) – Clearstream Banking AG in Germany and LuxCSD S.A. in Luxembourg – offer their clients T2S settlements at ECB terms, without any mark-up. Full interoperability between national and international CSDs will enhance liquidity and collateral management.

Collateral and liquidity management

Clearstream's collateral and liquidity management offering helps clients cope with the structural changes they are facing, such as those resulting from the additional liquidity requirements under Basel III and the clearing obligations under EMIR which have been applicable since December 2015. Banks can use the assets held in custody by Clearstream on their behalf more efficiently across different platforms and countries.

Expansion of the index business

Deutsche Börse Group's objective in its index business is to position its established European index provider STOXX with an even more global profile in order to develop further indices (on top of its DAX® and STOXX® index families) and market them on a worldwide basis. Diversifying the range of indices should allow the acquisition of new client groups within Europe as well as in Asia and the Americas. In addition, we will position our index business to better exploit the structural trend towards passive investment products (ETFs). An increasing number of private clients and asset managers now follow this trend; not only are the costs lower, but many active investment strategies have been returning under-average performance.

Other structural growth opportunities

In addition to these initiatives, the Group has identified a number of other structural factors that could have a positive impact on its future business success.

- The importance of risk management has risen continuously in the wake of the financial crisis and is also likely to increase further in the future. The company expects market participants to make greater use of Eurex Clearing's clearing services to net out transactions in different asset classes and hence to eliminate counterparty risk.
- With respect to the Clearstream (post-trading) segment, the company anticipates a long-term increase in capital raising through equity and debt financing on the capital markets. This ties in with the higher capital and liquidity requirements for banks and the resulting negative impact on the total volume of available credit. For the Clearstream (post-trading) segment, this could have a positive effect on custody volumes, especially for international bonds. In addition, given the growing internationalisation of the capital markets, the company is continuing to expect a sharper rise in the bond volume issued internationally compared with national bond issues.
- The Group's Regulatory Reporting Hub has been live since the beginning of January 2018. Developed in cooperation with the Group's clients, the Hub offers a one-stop shop for solutions, helping clients to fulfil their reporting duties under MiFID II. Altogether, more than 2,200 institutions have connected to the Regulatory Reporting Hub.

Cyclical opportunities

In addition to its structural growth opportunities, Deutsche Börse Group has cyclical opportunities, for instance as a result of positive macroeconomic developments. Although the company cannot influence these cyclical opportunities directly, they could lift Deutsche Börse Group's net revenue and net profit for the period attributable to Deutsche Börse AG shareholders significantly in the medium term:

- The volumes of interest rate derivatives traded on the Group's derivatives markets could rise if speculation on trends in long-term yields on German and other European government bonds grows, and if the spread between the various European government bonds continues to narrow.
- While the company does not expect a substantial change in the ECB's low interest rate policy during the forecast period, the US Federal Reserve may continue to gradually hike its key interest rates during 2019, following the turnaround of its policy. Among other things, this would positively impact net interest income from banking business in the Clearstream (post-trading) segment, as some 50 per cent of its daily cash balances are denominated in US dollars. An average rise in key interest rates of 1 basis point affecting all customer cash deposits could lift income by some €130 million.

- In the cash and derivatives market segments – Xetra (cash equities) and Eurex (financial derivatives) – positive economic development, a lasting rise in investor confidence in the capital markets leading to a renewed rise in risk appetite among market participants and a sustained increase in market volatility could again stimulate trading activity by market participants and boost trading volumes.

Technological opportunities

New developments such as cloud-based services related to artificial intelligence (AI), big data, robotics and blockchain technology, combined with the innovation potential of fintechs, are driving change in the financial services sector. This new wave of technology might help overcome barriers to market harmonisation, while creating additional efficiency and mitigating risks. This development is expected to last for the next ten years, with digitisation set to accelerate. The challenge for incumbent providers is in finding the right way to open up new business models and innovative technologies.

The Group has optimised internal processes, particularly in relation to cloud services; HR processes, purchasing and settlement of travel expenses, among other things, are now executed in the cloud. This has significantly streamlined the processes and is having a positive effect on the Group's costs. The Group is also working on transferring services and processes with clients to the cloud. For instance, the introduction of new trading platforms or the updating of existing infrastructure may potentially be tested beforehand by clients, via the cloud. This would lead to significantly more agile processes within the Group, as new processes would be introduced at more frequent intervals, allowing the Group to respond more effectively to clients' requirements. However, regulatory approval is required to implement this successfully. The Group is currently coordinating closely with both the regulators and providers of cloud services, in order to meet the regulatory requirements.

Besides cloud-based applications, the Group is also making progress in the area of robotics. The Group will implement this technology, in particular, within the scope of coordinating or standardised creation of invoices, client reports etc. To leverage the potential improvements in this area, the Group put together a team that not only has the necessary expertise but is also focused exclusively on developing and implementing the corresponding processes.

Blockchain technology constitutes another aspect of technological opportunities. It is considered a disruptive technology at times – at present, the financial services sector is evaluating the associated opportunities. Thanks to its decentralised nature, it facilitates direct interaction between participants, thus offering the potential for simplifying complex processes. Established market infrastructure providers such as Deutsche Börse Group, which covers the entire value creation chain from a single source, play an important role when it comes to tapping this potential – meeting existing industry standards at the same time. Besides legal and regulatory requirements, this also involves adhering to security standards, as well as limiting risks and ensuring cost efficiency.

As part of its corporate strategy, Deutsche Börse Group pursues a cooperative approach with regard to new technological developments. This approach is designed to further strengthen the Group's leading technological role, while gauging the potential of new technologies along the value creation chain (from the issue of securities to trading, clearing, and settlement). Against this background, for example, the Group developed various blockchain prototypes in cooperation with Deutsche Bundesbank, Eurex Clearing as the central counterparty, and other central securities depositories, in order to showcase how this technology might be applied to solve business issues. One of these prototypes involved a concept for the

risk-free transfer of commercial bank money, based on blockchain technology. The goal is to enhance efficiency by integrating blockchain technology into the Group's post-trading infrastructure. Through Deutsche Börse Group's central counterparty, it will be possible to reduce the risks involved in the transfer of digital commercial bank money. Moreover, through the interface between Eurex Clearing and Clearstream, the Group's central securities depository, the new concept could also contribute to enhancing the efficiency of post-trading processes such as settlement services or asset servicing.

As at 7 August 2018, Deutsche Börse Group acquired a minority interest in HQLAx S. à r. l. – a fintech company specialising in liquidity and collateral management for institutional clients on the international securities lending and repo markets. The Group is thus strengthening its collaboration with HQLAx, to use innovative technologies to improve efficiency in the fragmented securities lending market. To this end, it announced that it is working with HQLAx on developing a solution for securities lending on the basis of a blockchain platform. The first banks are already in the process of being connected and extensive talks are being held with the relevant supervisory authorities.

Further Group projects are the newly-created Content Lab, working on improving the use of data in providing client services, and the Product Development Lab, which develops micro-services. Beyond this, Deutsche Börse Group is currently examining whether to offer application programming interface (API) connectivity to its systems, in order to facilitate new data and analytical offers to clients using cloud technologies.

Report on expected developments

The report on expected developments describes Deutsche Börse Group's expected performance for the financial year 2019. It contains statements and information on events in the future, and is based on the company's expectations and assumptions at the time of publication of this annual report. In turn, these are subject to known and unknown opportunities, risks and uncertainties. Numerous factors, many of which are outside the company's control, influence the Group's success, its business strategy and its financial results. Should opportunities, risks or uncertainties materialise or should one of the assumptions made turn out to be incorrect, the Group's actual performance could deviate either positively or negatively from the expectations and assumptions contained in the forward-looking statements and information contained in this report on expected developments.

Developments in the operating environment

Macroeconomic environment

With global economic growth already slowing during the course of 2018, inflation rising, and monetary policy becoming more restrictive (especially in the US), Deutsche Börse Group expects a further weakening of global growth during the forecast period. The ongoing trade conflict, mainly between China and the US, pressure on emerging markets due to the tighter US interest rate policy, the appreciation of the US dollar, as well as the political situation in Europe, especially with regard to the imminent exit of the United Kingdom from the European Union, are some of the reasons. Against this background, uncertainty should increase among market participants, and market volatility could rise temporarily. A settlement of the trade dispute, a stabilisation of the political situation in Europe, and a clear direction

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