Regulatory Compliance

MiFID II: Data and the insights it can provide beyond compliance.

Global Trends and the Implications of MIFID II

Contents

Introduction

This paper will look at the potential insights and trends that can be derived from data obtained through MiFID II, looking at and beyond initial trading activity trends and further into what the drivers are for these trends, how external factors may affect this and whether technology developments have had an impact on business activities.

Since its implementation in November 2007, MiFID has been the cornerstone of capital markets regulation in Europe. However, since its inception, not all benefits have been fed down to the end investor as envisaged. MiFID II is aiming to address the shortcomings of the original MiFID release and has been amended with measures due to the lessons learned from the financial crisis.

Key MiFID II provisions

► Organized trading facilities (OTF): in line with G20 objectives, OTC derivative trading is obliged to move to trading venues — regulated markets (RM), multilateral trading facilities (MTF) and OTF — to reduce bilateral risk. OTF is a new category for non-equities allowing some discretion by operator over execution, but with restrictions on the use of own capital.

► Transaction reporting: asset classes that have previously been exempt from any reporting obligations are now included into the MiFID II reporting scope. The reporting requirements now also apply to a greater range of investment firms that were previously exempt from MiFID I. Additionally, the transaction reports and all orders will need to be retained at the disposal of the competent authority for five years.

► Dark pools: double volume caps are introduced at a trading venue (4%) and on a global basis (8%) to restrict dark pool trading for equity instruments, and to increase transparency with significant impacts for broker crossing networks (BCN).

► High-frequency trading (HFT): HFT firms will be subject to a range of restrictions and controls, which include testing of algorithms by the participants, built in circuit breakers, the introduction of minimum tick sizes across trading venues and allowing venues to adjust fees for cancelled orders.

► Open access: it aims to increase competition and limit vertical siloes by allowing firms to select their own clearing house, rather than being restricted to the clearing house of the trading venue.

► Restrictions for commodity derivatives: a harmonized system for setting position limits for commodity derivatives is introduced with ESMA to define the calculation methodology and checks with the competent authority to set the specific parameters for these limits.

► Investor protections: a ban of inducements for firms offering independent advice, enhanced provisions around suitability and appropriateness, particularly around complex products, and the introduction of regulatory powers to ban and suspend trading for specific products.

► Consolidated tape: it provides a post-trade transparency regime initially for equities and equity-like products only, but allowing deferred publication or volume masking, which will require further clarity from ESMA on waivers and deferred publication requirements.

► Third-country access: MiFID II introduces a harmonized regime for the access of investment firms and market operators of third-countries, who wish to service professional and eligible counterparties in the EU. However, the EU Commission will have to assess the equivalence of the regulatory environment before third country firms can leverage the passporting regime.

► Synchronization of clocks: trading venues and their members are required to synchronize their business clocks that are used to record the time of any reportable event.

MIFID II – Background and Context

What is MIFID II?

The Markets in Financial Instruments Directive (MiFID) has essentially been seen so far as an IT and compliance exercise for financial services firms. As a result, much of the analysis surrounding MiFID compliance and the development of business strategies for the new regulatory landscape have focused on building the supporting IT infrastructure and on upgrading systems. *Jones (2018).*

The impact of MiFID extends far beyond mere IT and compliance alone. The unprecedented scope of harmonisation of securities markets legislation and the resulting open architecture ushered in by MiFID, especially in trade execution and reporting, will cause a profound upheaval within existing market structures.

So What Are The Major Points?

MiFID II commands significant changes in business and operating models, systems, data, people and processes. As a result, a fundamental transformation will emerge. The biggest impact will be experienced by banks, broker dealers and trading venues. The new regulations MIFID II imposes encompass a vast and dense array of ordinance which now requires:

- Institutions to report information about most trades immediately, including price and volume.
- Traders of European Union securities must hand over personal identification, such as passport numbers, to every venue they trade on.
- Brokers need to synchronise their clocks and time-stamp all trades.
- Bond traders – for the first time – need to tell the market about deals they've done within 15 minutes of them taking place.
- Brokers and investment managers will have to record all conversations related to a deal and store them for at least five years.

While there are many provisions and impacts of MiFID II, one of the most significant is that **fund managers now must pay for the research they use** as MiFID II forces the unbundling of research from traditional portfolio management services. This means investment banks now have to charge separately for research and brokerage services to avoid conflicts of interest (i.e. it opened the way for commissions to go to banks that offered the best tips and access, rather than the best prices for putting through a client's trades). The consequence of this is that fund managers get choosier and it's widely expected the prices being quoted for access to research will drop in 2018, and some analysts could lose their jobs.

Next, **MiFID II addresses Dark Pools** – These are private markets that allow investors to buy and sell large blocks of shares without revealing beforehand the size of the orders or the price they paid. MiFID II now imposes limits on the level of trading permitted in these dark pools so that only 8 per cent of volume in any stock can change hands this way.

There will still be dark trading for orders that are too small for dark pools but too big to risk placing on a stock exchange. Such orders will be completed using some of the below methods:

- **Systematic Internaliser -** It's the new name that banks and trading firms will go by when they fill their clients' buy or sell orders directly using their own capital.
- **Periodic Auctions –** These will be held by public exchanges which hide the order size for a stock until sufficient volume has been accumulated to trigger a sale.
- **Lit Exchanges –** A lit market, or light pool market, refers to ECN stock exchanges where the order book is made public for all who subscribe.

Though the outcomes thus far have divided opinions within the industry, the fact remained that after the introduction of the new regulations, trading on lit exchanges had not increased. But while the full extent of MiFID II's impacts are yet to play out, in other areas that MiFID looms over such as research related activity, commentators such as Lo & Ritson-Candler (2018) assert that, increased activity in the financial sector is already evident, including:

An increase in M&A activity:

Research providers are looking to their competitors to see if deals can be done to help expand sector coverage, enter new markets, acquire star analysts, and/or increase scale. Asset managers are also considering potential transactions to build in-house capability and drive cost efficiencies.

The development of new research products or functionality:

Research providers are, for example, considering offering corporate sponsored research for the first time, to capitalise on increased demand for research coverage from issuers. Equally, some research houses are looking to deepen their expertise in coverage of certain sectors to stand out in the market. This too is driving prospective M&A

Using technology to maximise existing research platforms:

Research providers are adding functionality, data analytics tools, etc., to differentiate their offering and embed themselves with existing clients.

This paper focuses on the two main provisions noted abov. But the new regulation is wide-ranging, introducing new rules to govern the payment of investment research, new trade transparency requirements, strengthened requirements around the provision of investment advice and new product governance rules. MiFID II is not just a compliance exercise. There are major strategic implications that could bring market opportunities and competitive advantage for those who start to plan, or potential revenue loss for those who fail to react.

Current and Expected Trends

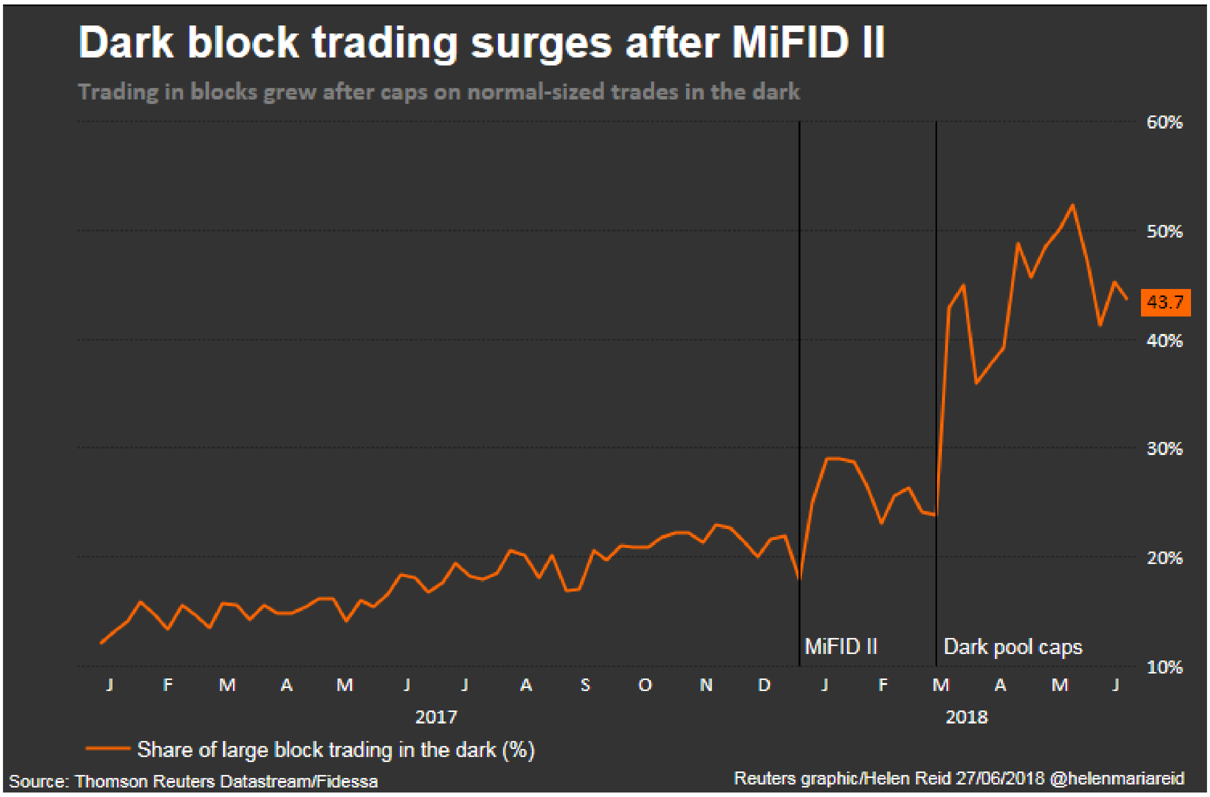
How the Market reacted to MIFID II

- In August 2018 the Financial Times reported that the overall market volumes, fed in part by higher volatility, went **up dramatically from the prior-year** period. More fundamentally, market participants are demonstrating growing comfort with electronic trading. The results in Europe to the arrival of MiFID are roughly comparable.

  On Tradeweb platforms, trading volumes in European credit derivatives rose 136 in the first half of 2018, and up 72 per cent in equity derivatives. Likewise, volume in European government bonds is up 45 per cent in the same period. *Olesky (2018).*

- Reuters reported that at first glance, it seemed to have failed its biggest test. The share of trading on so-called lit exchanges, where prices and trades are clearly visible, bare rose in the first months of the new regime.

  Trading volumes fell significantly in dark pools - non-transparent venues where trades did not contribute to price formation. Yet Accordingly, the average **"dark" trade size has almost doubled, having risen in May to 23,190 euros from 12,488 euros in January**. That is a sign investors are turning to non-transparent venues specifically for large trades. *Reuters (2018).*



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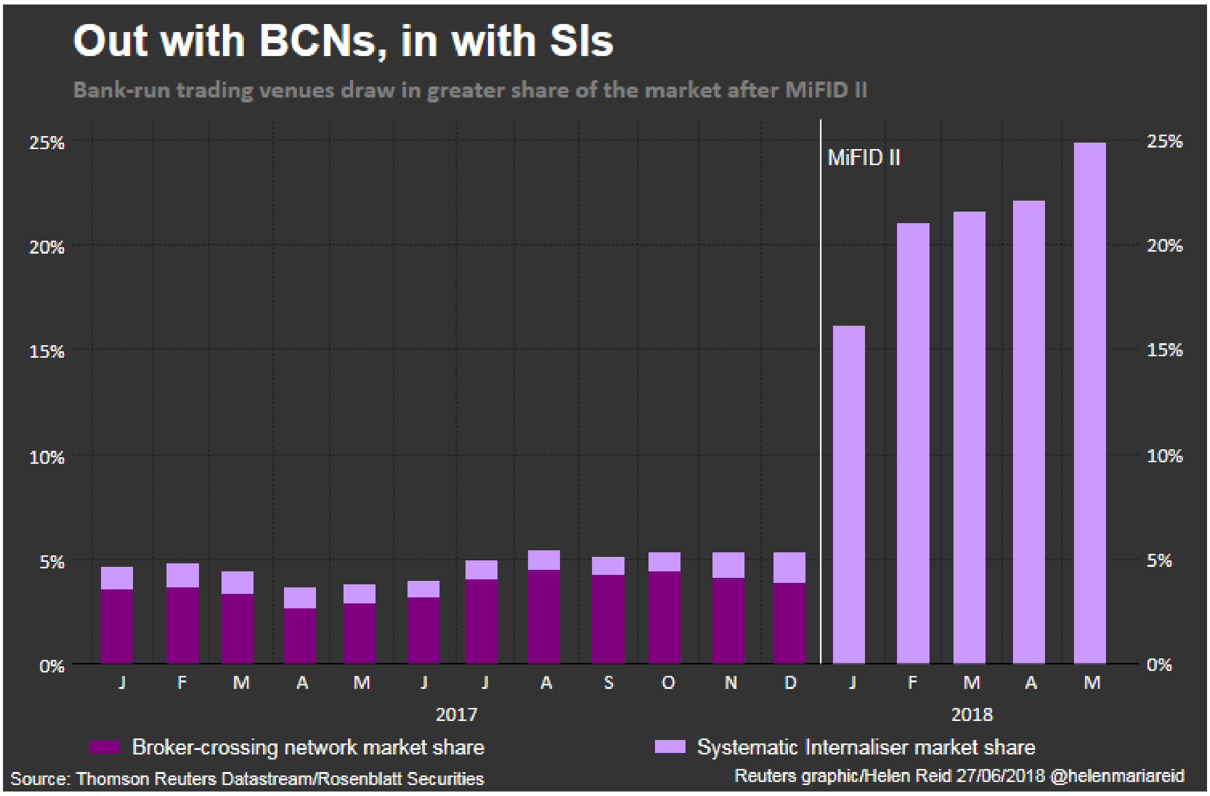

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- Bank-run trading venues called systematic internalizes (SI) took a more significant share of trading flow, representing a quarter of overall European turnover, according to Market Share Reporter and other data providers.
- MiFID II discontinued private trading networks run by banks, forcing them to re-register these services as SIs that can only execute trades against their own book and must provide public price quotes for trades up to "standard market size".

As was the intent of MIFID I, Casey and Lannoo (2006) stipulate that the primary consideration of the MiFID II regulation remains firstly to protect investors, secondly to boost transparency and lastly to rebuild trust in financial institutions after the fallout of the 2008 fiscal crisis. There are some views on the impacts such sweeping regulation will have, namely:

1. MiFID will lead to a further consolidation phase in the brokerage industry.
2. exchanges are expected to remain the main source of liquidity and price formation for the time being, but they will be subject to more competition in their trade reporting and settlement activities.
3. As OTC markets are going to be more heavily regulated, the distance between OTC markets and regulated markets will be narrowed as the former become more transparent, more competitive and more closely monitored.
4. A significant **rise in algorithmic trading** is almost a certainty.
5. Trading volumes should increase as a result of greater competition between execution venues and enhanced market transparency.
6. Connectivity is a central feature of the post-MiFID trading landscape that will be characterised by the fragmentation of liquidity pools as trading is decentralised.

7. A massive market for market data will arise out of MiFID. - Concentration rule

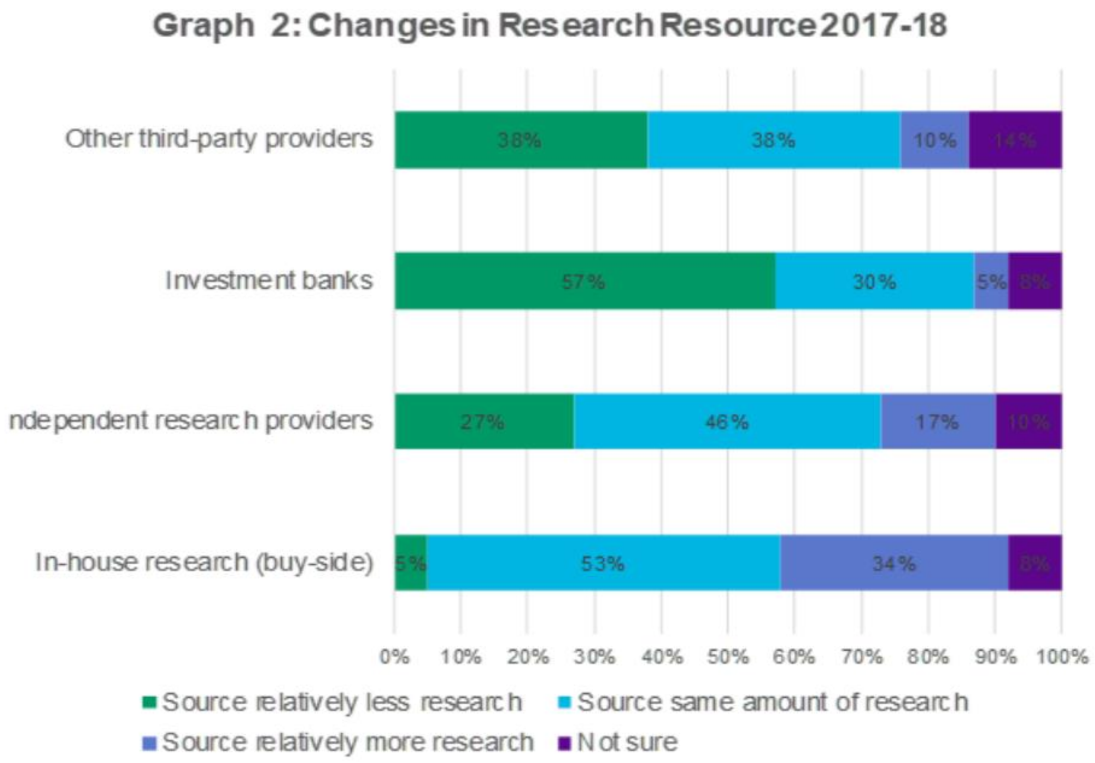
8. MiFID necessitates a response on the part of buy-side firms. The buy side will be faced with the challenge of ensuring efficient data management, as market data are likely to increase significantly post-MiFID.

9. ‘Goldplating’ will continue (additional rules and regulatory obligations that go beyond the European Structural and Investment Funds (ESIF) that make the implementation of ESIF more costly and burdensome for programme bodies and beneficiaries.)

10. Given the heavy regime of MiFID, the search for less stringent regimes, such as those for investment funds (UCITS), can be expected, but also non-passportable national regimes may emerge.

There was much coverage and speculation about the impacts of the MiFID II regulatory framework once the 2018 deadline finally arrived. Since then, there has been fierce debate about whether it has accomplished its intended objectives and the longer term impacts it will have. It was intended to standardize practices across Europe and increase transparency to restore confidence in financial markets after the 2008 financial crisis. One of the ways it intends to accomplish this is to increase transparency and flexibility in payments for research (via the requirement that brokerages and banks unbundle payments for research relative to trading costs).

The changes associated with MiFID II also likely affected the production function of analysts. Prior to MiFID II, brokerages often provided “waterfront” coverage (i.e., forecasts on all firms in a category), even if the incremental information content was low, because fund managers were not directly paying for the reports *(CFA Institute, 2017)*. Following MiFID II, there is a greater need to demonstrate value added as they note that the buy-side have on average reduced the amount of sell-side research they are consuming and increased the amount of research produced in-house.



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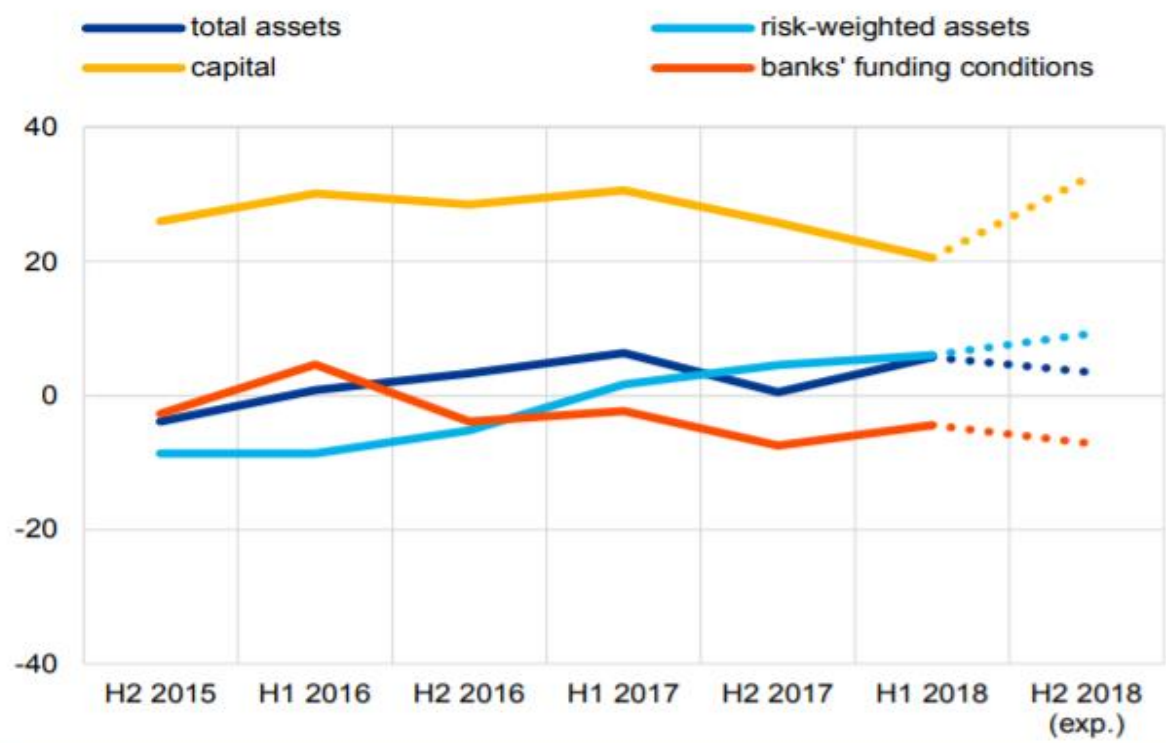
Drivers of Trends Beyond Financial Trading

The July 2018 Bank Lending Survey (BLS) questionnaire included two biannual ad hoc questions to assess the extent to which **new regulatory or supervisory requirements affected banks' lending policies** via the potential impact on their capital, leverage, liquidity position or provisioning and the credit conditions that they apply to loans. These new questions cover regulatory or supervisory actions that have recently been implemented or that are expected to be implemented in the near future. Furthermore, banks were also asked to indicate the effect of these actions on their funding conditions.

Impact of regulatory or supervisory action on banks' risk-weighted assets, capital and funding conditions

(net percentages of banks)



Notes: For "total assets", "risk-weighted assets" and "capital", the net percentages are defined as the difference between the sum of the percentages for "increased considerably" and "increased somewhat" and the sum of the percentages for "decreased somewhat" and "decreased considerably". For "banks' funding conditions", the net percentages are defined as the difference between the sum of the percentages for "experienced a considerable tightening" and "experienced a moderate tightening" and the sum of the percentages for "experienced a moderate easing" and "experienced a considerable easing".

Graph source

Euro area banks replied that, in relation to regulatory or supervisory actions, their total assets and liquid assets increased in the first half of 2018. They also reported an increase in their risk-weighted assets, owing to an increase in average loans, while they continued to report a decrease in riskier loans. Euro area banks further reported that they were continuing to strengthen their capital positions, both through retained earnings and capital issuance. Moreover, they continued to indicate that regulatory or supervisory actions had had a net easing impact on their funding conditions.

Despite the opportunities to capture market share, there are also significant cost impacts of MiFID II. In 2011, the EC estimated initial MiFID II implementation costs to be between €512m and €732m, with ongoing compliance costs in the region of €312m to €586m. This is significantly lower than the overall €2b implementation cost of MiFID I.

The expanded scope and the far-reaching impact of MiFID II could very well lead to costs exceeding expectations. Given the cost of the investment required to meet regulatory demands, coupled with increased capital and liquidity requirements due to Basel III and CRD IV, some companies may become unprofitable. Furthermore, with the burden of adhering to all regulatory frameworks both at a local and EU level, there is a significant moat to enter to financial services industry leading to a consolidation of big players and lack of new and diverse market entrants.

How Has MIFID II Affected Lending?

After MIFID II, in the second half of 2018, euro area banks saw regulatory or supervisory actions having a tightening impact on credit standards for loans to large enterprises and housing loans, while they expect the impact on loans to SMEs and on consumer credit to be broadly neutral.

Contribution of regulatory or supervisory action to the tightening of banks' credit standards and margins

(net percentages)

	Impact of regulatory or supervisory action on the tightening of credit			
	standards		margins	
	H2 2017	H1 2018	H2 2017	H1 2018
Impact on loans and credit lines to SMEs	-1	2	-3	1
Impact on loans and credit lines to large enterprises	-1	3	-4	1
Impact on loans to households for house purchase	0	3	-1	6
Impact on consumer credit and other lending to households	1	1	2	-1

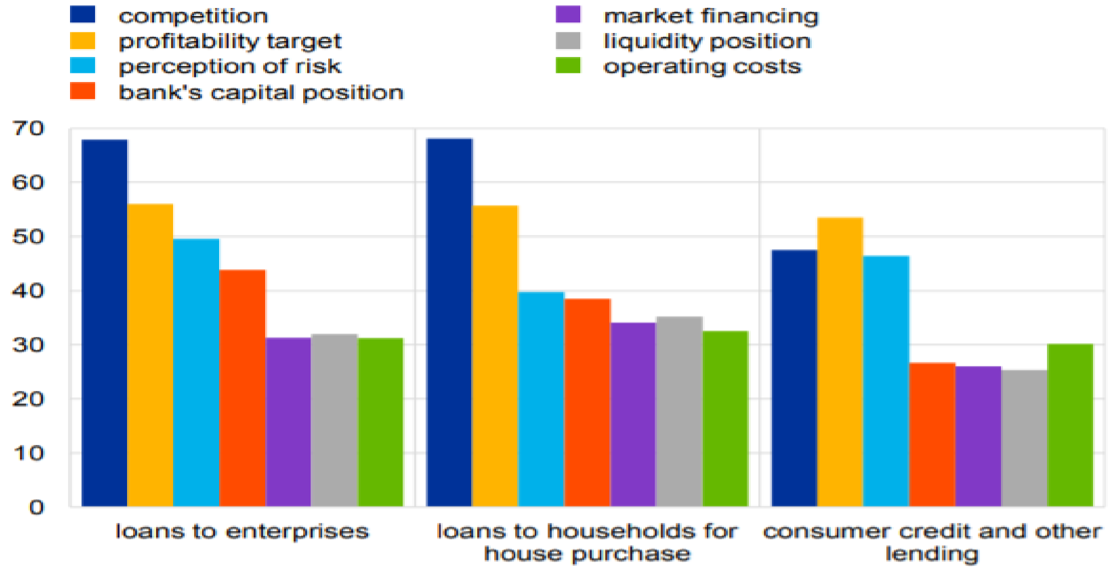
Graph source

The 2018 BLS report also highlighted that the ECB attention given to the determinants of lending margins in Euro area banks competition and profitability targets were reported to be the most significant factors for loans to enterprises (68% and 56%, respectively), loans to households for house purchase (68% and 56%, respectively).

Furthermore, a substantial share of banks also reported that risk perceptions had been a significant factor over the past six months (loans to enterprises: 50%; loans to households for house purchase: 40%; consumer credit and other lending to households: 46%). Across the three categories of loans, risk perceptions were least relevant for housing loans, which tend to have the highest levels of collateral.

Significance of the factors determining the level of banks' lending margins

(percentages of banks; over the past six months)



Notes: The percentages are defined as the sum of the percentages for "somewhat significant" and "very significant". Bank's lending margin is defined as the difference between the lending rate and the relevant market reference rate. The relevant market reference rate (e.g. EURIBOR, LIBOR or the interest rate swap of a corresponding maturity for fixed-rate loans) depends on the characteristics of the loan and can differ over time.

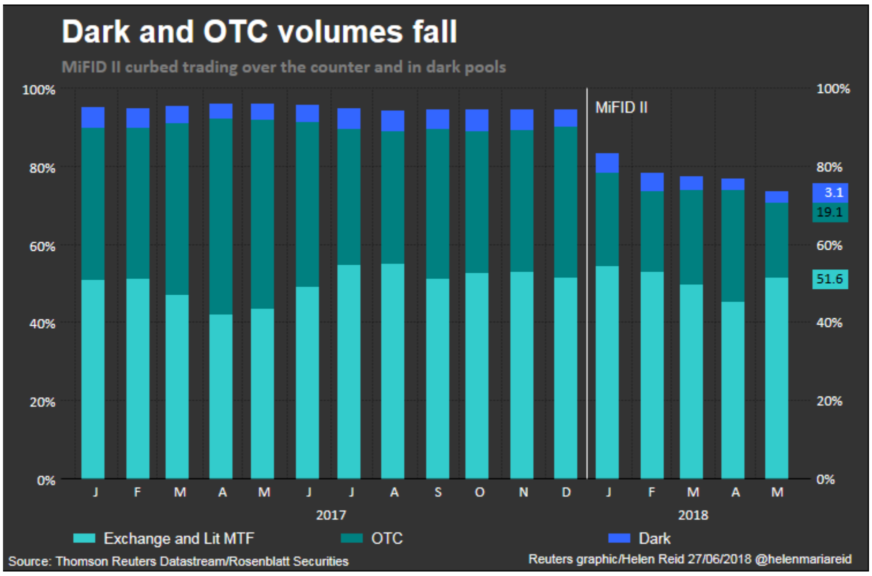
Graph source

Yet overall, the survey found that for loans to enterprises, loans to households for house purchase and for consumer credit and other lending to households, competitive pressures and risk perceptions contributed to an easing in credit standards in the second quarter of 2018, while banks' risk tolerance and their cost of funds and balance sheet constraints had a broadly neutral impact.

Lastly, in terms of the impact of banks' non-performing loans (NPLs) on their lending policies, euro area banks reported that their NPLs contributed to a tightening in their credit standards and terms and conditions across all categories of loans over the past six months. However, this tightening impact has generally diminished relative to the impact between 2014 and 2017, and it is expected to decrease further in the next six months. Banks' NPL ratios affected their lending policies mainly through their impact on risk perceptions, risk tolerance and the cost of cleaning up the balance sheet. (*Euro area bank lending survey Q2 2018.)*

Trend 1: Shift Towards Electronic Trading

Previously, a large chunk of bond and derivatives trade has been carried out "over the counter" (i.e. not via exchanges where transactions are recorded) and a lot of deals have traditionally been made over the phone. By contrast, shares are largely traded on stock exchanges. One of the major trends that can be seen resulting from the implementation of MIFID II, is the level of electronic trading that has emerged which has seen a decline in the volumes traded for over-the-counter products like swaps, forward rate agreements and exotic options. The reasons for this shift towards electronic trading may be due to new trading technologies, greater access to data and analytics and gains in efficiency throughout the trade execution process.



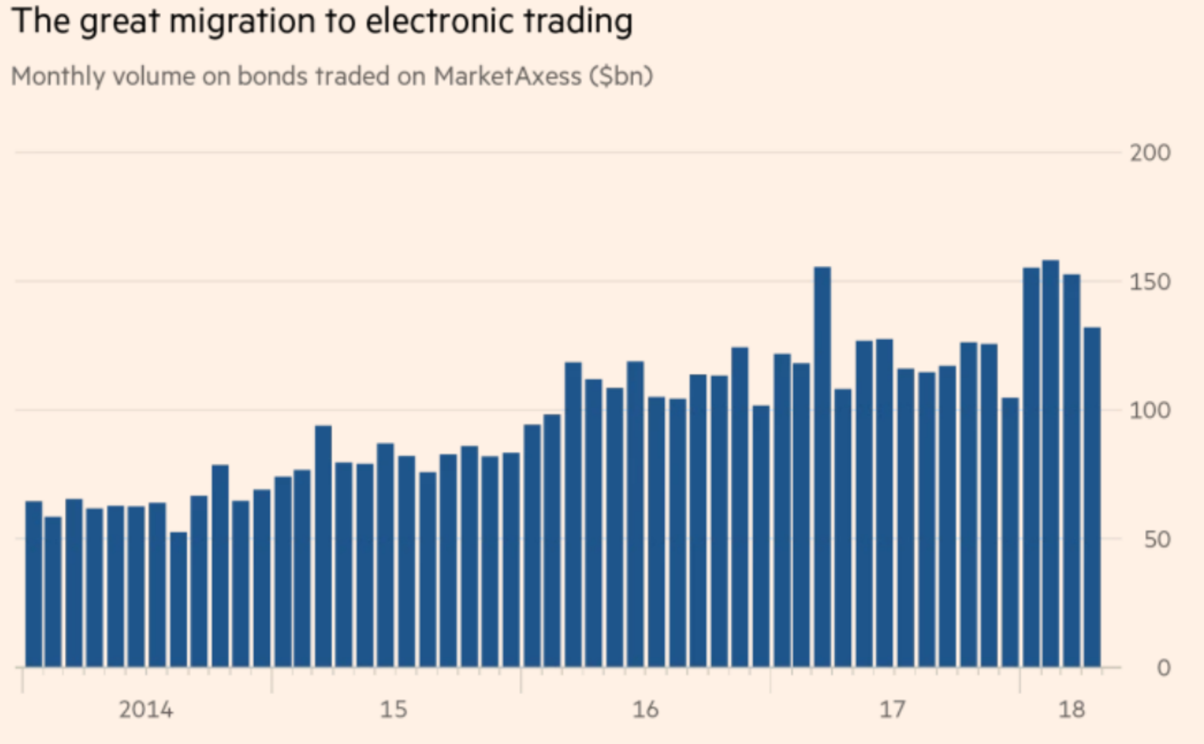
Brexit concerns only add to this movement as there have been clear signals from Brussels that they are trying to repatriate much of the derivatives clearing business focused in London to Paris, Frankfurt and other continental financial hubs. Up until now the UK regulators have been the first line of defence for the entire EU bloc which the European Commission now wants to bring under the control of ESMA, while the ECB is seeking to change its statues to give it supervisory authority over clearing houses. However, this plan does not mean that ESMA will have supervisory authority over clearing houses. Instead, this will be carried out locally by member states national authorities which means supervision will be more decentralised than before. To put this in perspective, according to Bank of International Settlements data from 2016, the UK processes nearly 70%, by turnover, of the euro-denominated traded interest rate derivatives every day. The next four biggest players—France, Germany, Denmark and the US—account for little over 20%. *(ESMA 2018)*

Graphic [source]

It is thought that this advancement to electronification will continue in the coming years in line with increased use of automation execution, best execution analysis and more intelligent use of pre and post trade data. The central challenge in financial markets will always be to unlock liquidity in highly regulated, ultra-competitive markets. Technology will play a fundamental role in making that happen.

Even bond markets are showing a greater increase in the level of electronic trading. The same sentiment can be seen reported in Bloomberg where it was stated that a shift towards computerised buying and selling has taken place over the last several years and the market is now beginning to mature.

That said however, about 80% of bond trading in the US is still conducted over the phone or using a chat service. *(Bloombeg 2018)*. Now with the implementation of MIFID II, half of investment-grade corporate cash bond trading volume is now conducted electronically in Europe, easily topping the 19% of electronic volume in the United States. MiFID II is expected to push even more European business to electronic venues, as dealers try to minimize skyrocketing compliance costs with new technology platforms.



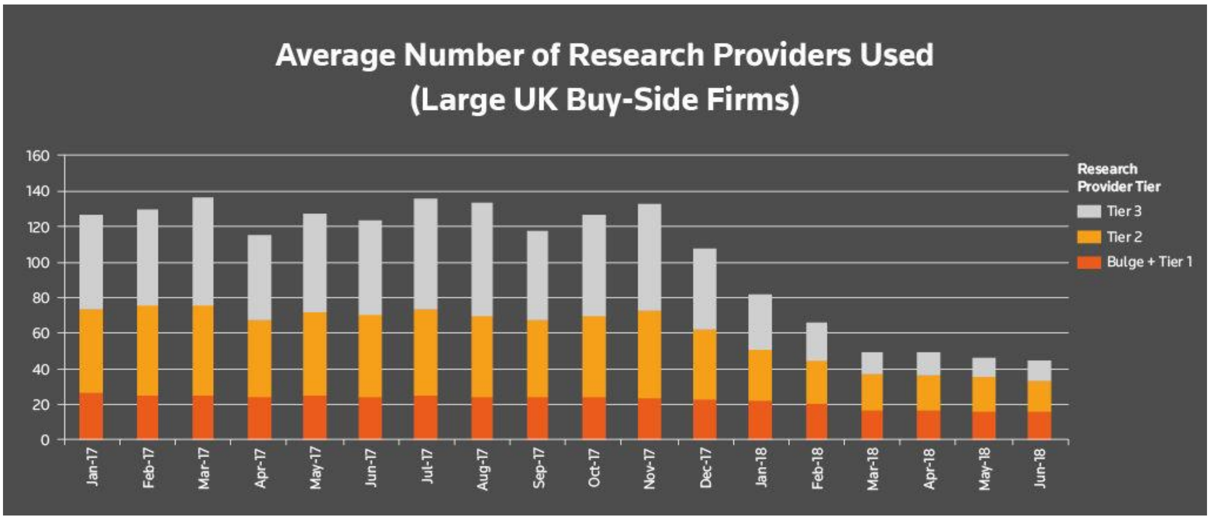
Graph source

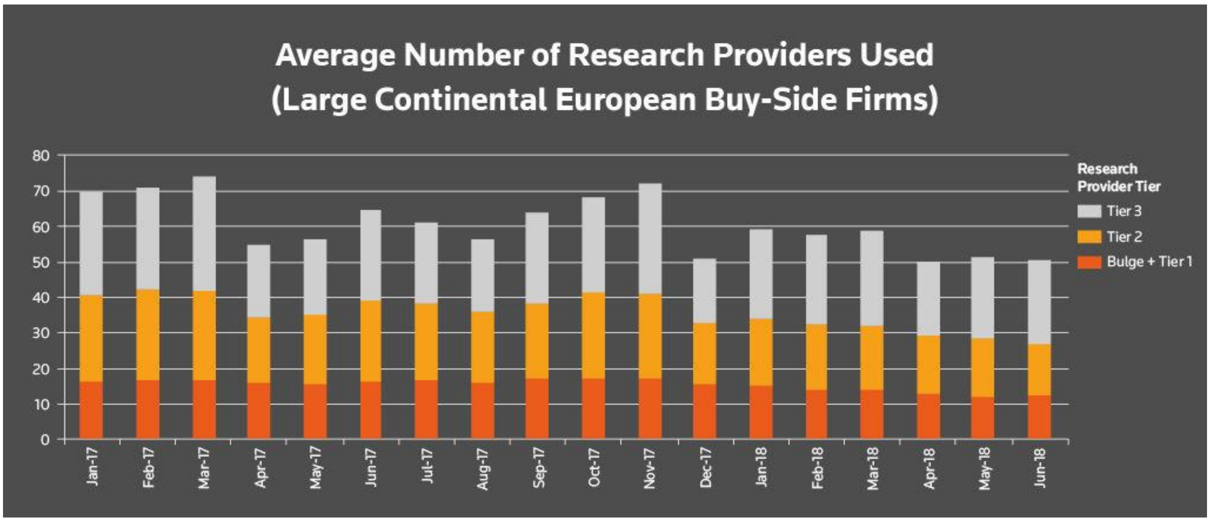
> "We saw an increase in electronic trading of mandated products under MiFID II… While early days, we believe European clients have made a smooth transition to trading more business electronically." *(Reuters 2018)*
>
> **Enrico Bruni**
> Head of Europe and Asia Business at Tradeweb

Trend 2: Use of In-House Research by Buy-Side firms

With the new requirements resulting from the unbundling of research as a result of MiFID II, The CFA 2017 report indicates that for buy-side firms when procuring research, coverage and quality had both dropped. They had also scaled back their broker lists slightly, though not to the extent they had anticipated at the start of the process.

The report noted that Most of our interviewees were supportive of the aims of MiFID II regulation, identifying the main benefits as (i) a reduction in research costs for end-clients2, (ii) better accountability in research procurement and (iii) greater transparency on costs and charges for the end-clients. But opinion was more divided on whether all of these goals had been achieved yet and there were concerns about the longer-term consequences of the forces unleashed by the MiFID II reforms.





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The same CFA survey conducted a wider survey of its European members in September 2017 to gauge the expectations of buy-side professionals regarding the pricing of research and the allocation of costs. They found that most asset management firms intend to absorb research costs rather than charge clients because clients do not want to pay for equity research given its public goods characteristics. The report further noted that 78 percent of 330 investment firms expect to source relatively less research from the sell-side under MiFID II, while sourcing more research in-house *(Preece 2017).* The fact that more tier 3 firms on continental Europe still maintain a tendency to purchase from research providers could indicate a cultural difference with the UK.

Furthering this point, McKinsey (2017) speculated that "*the majority of banks will rationalize their research and execution capabilities by focusing on their "home-field advantage" in local sectors and regional markets. Demand from local and global clients will likely support one to three such banks per region*". But beyond producing quality, differentiated research, banks will also need to adopt new operating models for their equity research businesses. This calls for focusing on four strategic priorities:

1. **Establishing a research footprint** that capitalizes on strengths of coverage in sectors and regions, and extending reach through joint ventures.

2. **Understanding the scarcity and perishability of ideas**, and what value clients place on research in different forms—reports, analyst and corporate-management access, conferences, and other forms of information and analytics.

3. **Translating client preferences and demands** into informed pricing structures. Explicit prices must be assigned to research, whether item-by-item for individual products and services or through packages or broad subscriptions.

4. **Adopting new technologies** to generate novel investment ideas and lower costs. The sell side can leverage AI to interpret high-frequency market data in real time, patterns in both supply and demand chains, and social media. They can reduce costs by automating basic financial analysis and maintenance research. For client coverage, analytical tools can discern clients' preferred means of research delivery and service.

The willingness and ability to absorb research costs rather than passing them on to clients was largely determined by size. Larger firms were more likely to absorb research costs, with 67 percent of those with more than 250 billion euros ($295 billion) of assets under management saying the firm would pay. That compares with 42 percent of firms with less than 1 billion euros under management. Some 22 percent of those smaller firms expected clients to pay for research.

Interestingly, only 9 percent of the largest firms were passing on costs to clients. The degree of uncertainty was also greater among the smaller firms and a quarter said they were not sure whether the cost would be absorbed or passed on to clients. Asked whether total costs for research and execution services would increase as a result of MiFID II, 49 percent of the smaller firms said they expected costs to increase; 49 percent of the larger firms saw costs decreasing. *(Reuters 2017)*

> "Importantly, we predict and find evidence that buy-side investment firms turn to more in-house research after MiFID II implementation."
>
> **Fang (et al)**

Trend 3: Quality of Research

The MiFID II requirement has led asset managers to be pickier over research. Providers have also struggled to decide appropriate charges, while MiFID II's rules on inducement make investment companies wary of accepting cheap or free research. The decline in research is especially steep for analysis of smaller companies. Since the introduction of MiFID II, the average number of analysts covering UK-listed companies with a market value below £150m had shrunk from 0.8 to 0.6. (*Fang, B. et al (2019)*)

They go on to suggest that continental Europe is experiencing *"... a decrease in the number of sell-side analysts covering European firms after MiFID II implementation*." For example, 334 firms completely lose their analyst coverage." And as previously mentioned there is evidence that buyside investment firms turn to more in-house research after MiFID II implementation.

While indeed the MiFID II introduction has somewhat reduced the overall level of analyst coverage in the EU, it is thought this is part of a long-term downward trend, initiated prior to MiFID II *(Anselmi and Petrella 2021).*

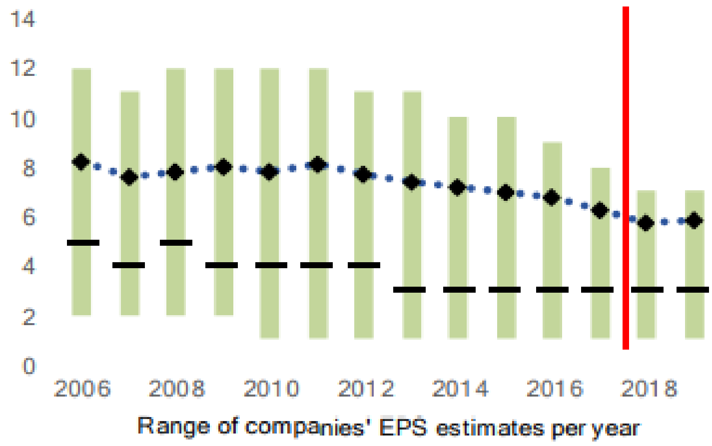
A 2020 ESMA report echoes this by stating "*The introduction of MiFID II has not led to a significant difference in the number of analysts producing Earnings per Share (EPS) estimates ('research intensity'). Recent increases in the number of companies no longer being covered by research analysts ('research coverage') appear to be a continuation of a long-term trend. The quality of research has been steadily improving in recent years*."

- The ESMA report provides further evidence that indicates it does not appear that the introduction of MiFID II (see the vertical red line) in January 2018 has led to a significant difference in the number of analysts producing EPS estimates per firm.

- This is illustrated by the median (black horizontal bar) in each box just before and after the vertical red line staying identical (3 analysts per firm).

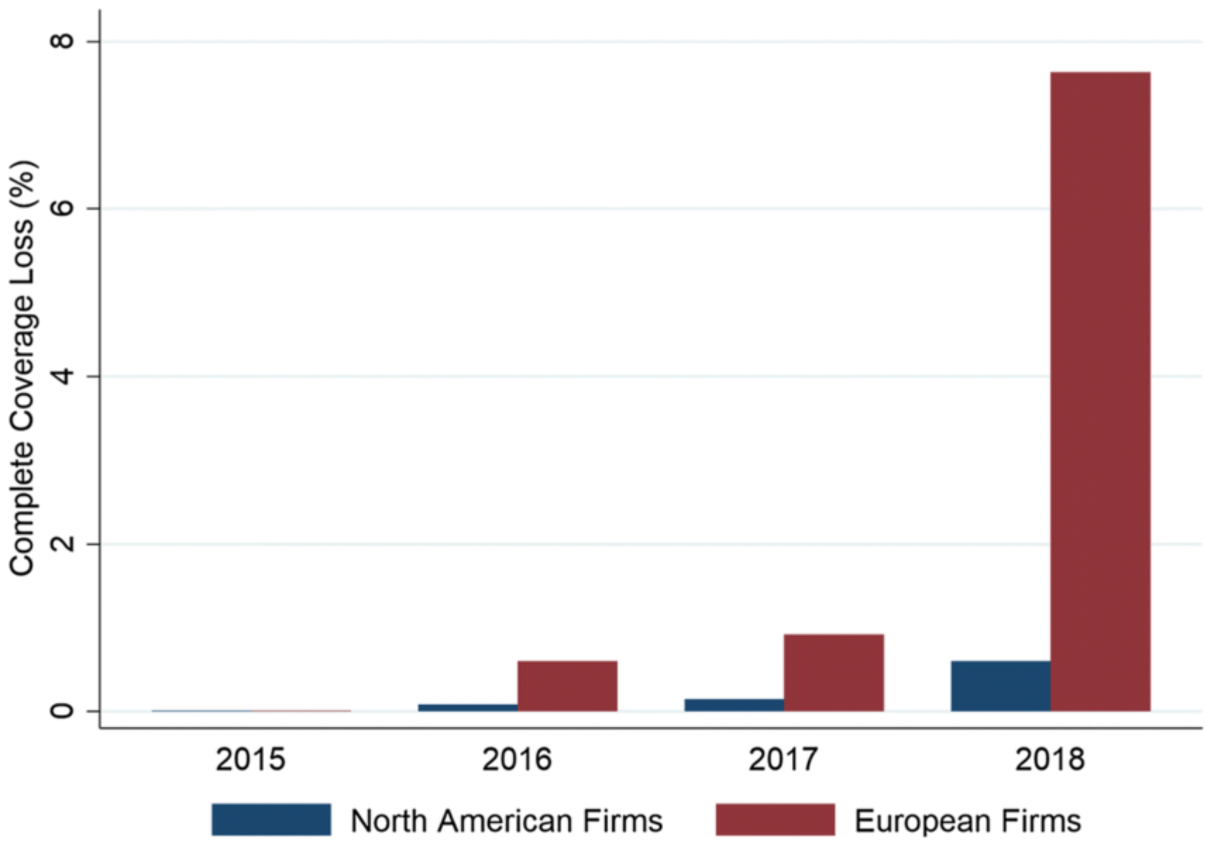
Impact of MiFID II on intensity of research for all companies

Stable number of analysts covering each firm before and after MiFID



Note: Sample of 4,870 EU firms that have been in operation at all times bet. 2006 and end-2019, and at all times researched (i.e. have EPS estimates produced) by analysts. Black diamonds (horizontal bars) in each box = average (median) across firms in the year. 25th and 75th percentiles = bottom and top edges in each box. MiFID II date of application = vertical red line.
Sources: Refinitiv, I/B/E/S, ESMA calculations

Graph source



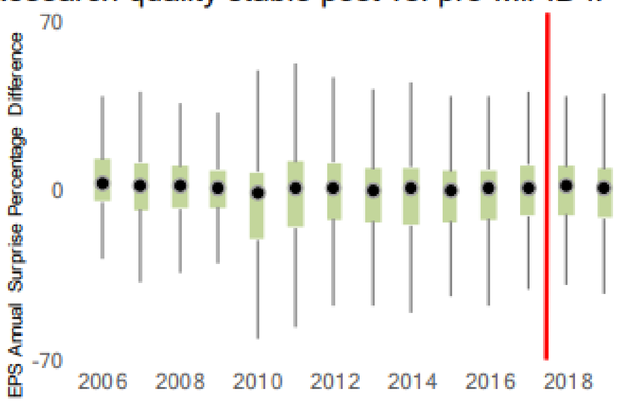
Graph Source

In fact, the same ESMA report states that "Regarding the quality of research post-MiFID II, recent studies have concluded that analyst forecasts tend to be on average more accurate after the implementation of MiFID II (Fang et al. (2020), Guo and Mota (2019), and Lang et al. (2019)). In particular, Guo and Mota (2019) find that analysts who remain employed after MiFID II tend to produce better quality research, while analysts that produce less accurate research are more likely to cease their research activities entirely.

- This leads to interesting implications for the industry, as while the total number of analysts producing research for EU and UK firms has reduced due to longer term trends, the quality of these reports has remained stable.
- It also suggests the research industry could be rationalising its coverage of large companies (i.e. fewer analysts per firm but of greater quality). Or simply a continuation of the longer-term trends alluded to earlier.

Impact of MiFID II on research quality

Research quality stable post vs. pre-MiFID II



Note: Sample of 5,200 EU firms that have at any time been in operation at all times bet. 2006 and end-2019, and at all times researched (i.e. have EPs estimates produced) by analysts. Black horizontal bars in each box = median across firms in the year. 25th and 75th percentiles = bottom and top edges in each box. Additional lines ('whiskers') = 10th and 90th percentiles. MiFID II date of application = vertical red line.
Sources: Refinitiv, I/B/E/S, ESMA calculations.

Graph source

Technological Developments

With introduction of such sweeping regulatory change, U.S. and European banks are spending a total of as much as $20 billion a year on technology to enable fixed-income dealers to comply with new regulations such as MiFID II. Such regulations are forcing companies within the financial services sector to upgrade their technology (Spezzati, 2017).

To deal with the mounting regulatory stringencies and requirements, certain companies in the financial services industry are focusing on regulatory technology and are aiming to prove that he regulatory reporting burden for firms could be reduced by automating the interpretation process. This simplifies the process by utilising Artificial Intelligence which can sift through huge quantities of data in a matter of seconds and can establish connections between completely unrelated sets of data, saving firms hours of manual intervention. These RegTech solutions can break down the barriers between the various unstructured data silos, helping firms to meet the holistic requirements of major pieces of regulation such as MAR and MiFID II. *(Groenfeldt, 2018).*

Furthermore, English & Hammond (2017) highlighted in a key report issued by Thompson Reuters following close examination of the market sentiment towards fintech and regtech in which they found that:

- There was a significant increase in the favourable opinion of regtech innovation and digital disruption with 75 percent of respondents reporting a positive view (26 percent extremely positive). In contrast, 40 percent reported a positive view in 2016 (15 percent extremely positive).

- The biggest financial technology challenge for firms in the coming year is seen as the need to upgrade legacy systems along with cyber resilience and technology risks. On the benefit side, the deployment of fintech is expected to lead to improvements in efficiency and productivity.

- Regtech solutions are increasingly impacting how firms manage compliance and have risen by almost a quarter to 76 percent in 2017 (52 percent in 2016). The number of respondents who reported having already implemented a regtech solution almost doubled in 2017 to 30 percent (17 percent in 2016). The majority of firms (69 percent, and 74 percent G-SIFIs) believe that the successful deployment of fintech/regtech should drive up efficiency and effectiveness, allowing more time to focus on value-added activities.

- The top three are: interpreting regulations and their impact (21 percent), implementation of regulatory change (16 percent) and capturing regulatory change (16 percent). In contrast, in 2016 the top three were: compliance monitoring (47 percent), regulatory reporting (40 percent) and capturing regulatory change (35 percent).

- The budget available for regtech continues to vary widely. Over a third (38 percent) of respondents expect their budget for regtech solutions to grow in the next twelve months (35 percent in 2016). At the other end of the spectrum, the number of firms that reported having no budget for regtech has dropped significantly to 9 percent in 2017 (24 percent in 2016).

It is clear that given the increased range of reporting requirements, and need for accuracy, driven by these and other global regulations, many leading firms must consider more strategic and technologically enabled solutions for enhanced operational data stores and reporting engines. Those firms that have already invested in enhancing their data architecture across multiple asset classes will be best placed, while others will need to investigate this as an immediate priority.

Conclusion

While there has been a dedicated and extensive push towards a more secure and transparent global financial system, there is an equal desire for the industry itself to continue a business-as-usual approach. Certainly, there is the acknowledgement of the failings and oversights of in the past. But organisations now need to be committed to a new investment landscape that involves greater scrutiny and dedication to parameter safeguards. Particularly, the rise of automation and push towards AI in the financial services industry raises serious questions about what might go wrong and if it does, who will be accountable?

ABOUT THE AUTHOR

Jack Daly is an experienced management consulting professional and business analyst. He is dedicated to delivering client value through operational excellence, business transformation and strategic planning. His previous roles have included work on regulatory compliance and non-performing exposures with large Irish banking institutions.

Jack holds a first-class honours BSc in Business and Management from Technological University Dublin college of business, specialising in strategic management and finance. His passions include discovering and learning about business trends, building things, data and new technologies.

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