



The future of equity research



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**BLOOMBERG
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Foreword

“The society welcomes the current review of the research business model as an opportunity to consider if the system works in clients’ best interests and to consider what improvements are needed.”

CFA Society of the UK

“Clearer identification of the value of research and improved disclosure about the cost of research to clients are attractive outcomes, but we also need to take care to identify all the impacts of any change.”

Will Goodhart, Chief Executive, CFA Society of the UK

“The changing landscape of both the sell-side and the buy-side from the new regulatory rules will lead to a new set of challenges for the IR professional. We welcome this initiative by Edison to provide a clear understanding of the changes ahead and the potential impact, helping all IR professionals plan how best to prioritise and how to engage with the investor base.”

Fay Dodds, Vice President, Investor Relations at Burberry

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Neil Scarth has held a wide range of roles in asset management and investment banking in Europe and North America - ranging from running equity businesses at global banks to launching and managing various asset management products. Neil has comprehensive knowledge of the strategic and competitive framework that governs the inter-relationships between plan sponsors, asset managers and investment banks. His portfolio management experience has included equity long/short (Deephaven Capital International, London, Symmetry Management, New York) and pension/mutual fund advisory (Trilogy Global Advisors, New York). Investment banking experience includes running integrated institutional equity business units for ABN-AMRO and Merrill Lynch. He was a member of the UK Investment Management Association's

Research Review Advisory Panel and had authored a White Paper on Equity Research Valuation sponsored by CFA UK and the CFA Institute. Neil holds an MA from the University of Southern California and a BA from Carleton University.

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Neil Shah is the Director of Research at Edison Investment Research, one of the largest independent research firms, with offices in London, New York, Frankfurt, Sydney and Wellington. He joined Edison in January 2005. Neil started his career at Price Waterhouse in 1994 in the banking, capital markets and treasury tax team. In 1997 he joined the pan-European research team at Goldman Sachs, covering construction and building materials. He left Goldman Sachs in 2003 to set up Tusker Capital, a long/short hedge fund. Neil graduated from the London School of Economics with a BSc in economics.

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Peter is one of the original founders of the Edison Group and is CEO of Edison in North America, based in the New York office. Prior to this Peter had a successful career on the buy side, including a role as senior investment manager at Hermes Investment Management, managing a UK-focused small/mid-cap portfolio, and with a close involvement in Hermes' shareholder activism initiatives. Peter started his career with Sun Life of Canada Asset Management as an investment analyst.

About Bloomberg Intelligence: BI<GO>

Bloomberg Intelligence (BI) provides in-depth analysis and datasets on industries, companies and credit, government, economic and litigation that affect decision making. BI analysis covers the macro picture of company-level operating, financial and valuation information, backed by data from Bloomberg and over 300 third-party data contributors. The research spans over 130 industries and 1,200 companies globally.

Together with the power of the Bloomberg Professional[®] service, clients gain unsurpassed depth and breadth of insight into sectors, industries and companies on an integrated platform to facilitate investment ideas, simplify strategic and financing recommendations and explore new industries and companies.

About Frost Consulting

Frost Consulting is a leading authority on the global investment research procurement value chain and related market structure/regulatory change. Frost works globally with a wide variety of asset owners, asset managers and other industry participants on research valuation, budgeting and payment solutions.

Frost operates FrostRB, a multi-asset class monetary research valuation/budgeting/reporting software platform that helps asset managers to meet challenging MiFID II research requirements seamlessly. FrostRB is highly customisable, allowing managers to create research budgets that are a direct extension of their investment process and strategies, thus increasing both research ROI and alignment with client investment mandates.

About Edison Group

Edison, founded in 2003, is a strategic advisory and investment research company. We service nearly 500 corporate clients with Investor Relations, Investment Research and Strategic Consulting from our offices in North America, Europe and Asia. Edison's renowned international investment research platform enables us to provide a highly differentiated approach to strategic advisory work based on deep multi-sector knowledge and extensive networks of investors, advisors and companies.

Executive summary

The investment research industry will be profoundly affected by sweeping reforms that are ongoing in the EU in the form of MiFID II. Under the new regime, asset managers will need to fund external research from their own profit and loss account (P&L) or through research payment accounts with clear audit trails. While implementation is for 2018, fund managers are already starting to adjust their business models.

Woodford Investment Management and M&G are two recent examples of funds that have decided to fund research from their own P&L, and we are hearing numerous stories of compliance departments asking asset managers to demonstrate the value of a research note or an analyst, where previously payments would have been made through the buy-side broker voting system.

The UK is bound to integrate all EU law pending its official exit from the European Union, which is unlikely to take place before 2018. It must therefore transpose MiFID II into national law, along with the EU's other 27 member states, by 3 July 2017, ahead of the 3 January 2018 start date.

With the asset management industry continuing to consolidate and operate on a global basis (the top 120 asset managers now look after 53% of global assets under management), we expect these changes to resonate on a global basis as asset managers are likely to adopt common systems globally to reduce complexity for their businesses. This was the case with the evolution of Commission Sharing Agreement (CSA) payments, known as Client Commission Agreements (CCAs) in the US.

This paper looks to continue the debate around the EU's MiFID II reforms. It builds on and updates the work set out in the original paper of January 2014 and provides updates on regulatory and

research/industry developments over the past two years – notably the publication of the MiFID II delegated act from the European Commission. It finds that **regulatory change has had a significant impact in the shaping of the equity research ecosystem.**

In the short term, we see six key developments:

1. **Revenues generated from securities trading will continue to be separated** from payments for investment research services.
2. **The content universe available to asset managers will open.** Historically, the bundled payment for execution and research services restricted the universe of suppliers available to asset managers for research inputs to those produced by the investment banks. With links between commissions and research spend being broken, the competitive research landscape opens up significantly.
3. **The model for research produced by investment banks will shift to priced from unpriced.** A CFA Society survey in September 2013 found that 58.7% of those surveyed felt that the sell side should move to a priced model for the provision of research.
4. **The shrinkage of overall payments made for research services to investment banks will continue.** 59.9% of respondents in the CFA Society survey expected commission spend to go down if sell-side houses priced research. This view continues to be held – a January 2016 Bloomberg event found that over 65% of respondents said they expect the total amount paid by firms for research to decrease if research is priced.
5. **The reallocation of spend among research providers will continue.** Price discovery tends to be a very good thing for high-quality producers of research, but is extremely commoditising for the average producers of research. Some 59.8% of those surveyed by the CFA Society felt that the current research model does not best serve investors, while 70.1% felt that independent research would gain market share. Some 70% of respondents at the Bloomberg

event expected the number of independent research providers to increase.

6. **The consolidation on both the buy side and sell side** will continue as the buy side moves to produce more of its research inputs in house in response to pressures to move research spend from off-balance sheet to on-balance sheet, effectively paying out of their own P&L rather than through client commissions. 73.2% of those surveyed by the CFA Society felt that sell-side analyst numbers will fall in the next few years.

These changes are likely to transform the equity research industry.

After decades of failing to innovate, we believe there are six potential longer-term changes the industry may see as a result of the regulatory changes being proposed:

1. **Asset managers will start to access a network of new research inputs.** “Differentiated alpha” is more likely to spring from research sources that are not used by virtually all of an asset manager’s competitors.

Asset managers that have made the effort to identify and procure alpha-generating content from the unbundled universe will frequently guard the identity of those sources in an attempt to sustain this comparative advantage.

Over time, we expect that an asset manager’s approach to the wider content universe will become an intrinsic part of their investment strategy, from both an operational and client marketing perspective.

2. **Innovation will be required to deliver research content in searchable format.** Banks and other research organisations are recognising that before they can become contenders for payment, they have to make it easier for asset managers to access the information they want.

In a world where the default mechanism of finding information is Google, the onus on the research providers will be to create searchable XML documents and sites, moving away from pdfs.

3. **Changing research content will be needed at investment banks.**

As asset managers start to price and value research inputs, they would look to optimise value to cost.

Managers of cash equities businesses understand the value a good analyst can bring. They create value for their institutional clients through deep industry insight. They attract initial public offerings (IPOs) (with appropriate chaperoning) and allow banks to provide liquidity to their clients, for example allowing a bank to price block trades more effectively. Ultimately, they probably provide the best corporate access.

However, such analysts are few in number and the economics of their business do not sustain in-depth research on a large tail of stocks. As investment banks prioritise profitable or potentially sustainable segments of their business, research patterns are likely to follow. This may encourage banks to specialise in areas of relative strength, where highly rated sector analyst teams are profitable and generate the greatest opportunities.

4. **Long-tail strategies will come into play, with research aggregators potentially becoming some of the largest beneficiaries.**

There are changes (both regulatory and technological) taking place in the research market that suggest to us that Chris Anderson's theory of the long tail has many analogies to what we are seeing in the research environment.

Anderson explains: "the theory of the long tail can be boiled down to this: Our culture and economy are increasingly shifting away from a focus on a relatively small number of hits (mainstream products and markets) at the head of the demand curve, and moving toward a huge number of niches in the tail."

Firms such as Gerson Lehrman Group, which filled the research gap by providing timely and proprietary insights from a long tail of expertise that broking firms have struggled to provide, is one such example.

As the research content universe expands and becomes more searchable, asset managers are likely to pick and choose niche services as they require them. The biggest winners in this space are likely to be those aggregators that can marry up supply and demand in the same way Amazon, iTunes and Netflix have in books, music and movies.

5. **Stock exchanges will facilitate the provision of research.** With the larger banks recognising that provision of detailed research on a large tail of securities is no longer commercially viable and with more and more sell-side houses exiting the cash equities business, stock exchanges around the world have started to recognise that this paucity of coverage on stocks listed on their exchanges is not in their best interest.

Stock exchanges recognise that volume is generated not just by the institutional investment community, but also by both the private wealth and retail community that lacks access to reliable data and high-quality research. We are seeing increasingly larger budgets by exchanges being allocated to the provision of research as they compete with each other to become an attractive listing venue.

6. **Issuer-sponsored coverage will grow.** As sell-side coverage diminishes, there has been a growth in the number of firms or issuers commissioning a research provider to produce equity research.

We cannot help drawing a parallel from the bond market, where there are three dominant information providers on bond ratings: Standard & Poor's, Moody's and Fitch. Their information, paid for by issuers, is relied on as a base case by investment banks and asset managers. These market participants are free to take a different view from the ratings agencies (and profit from it if they are right). However, a lot of the groundwork in providing that information has already been done by the ratings agencies.

As the cash equities business becomes increasingly commoditised and asset managers remain reluctant to take the cost of research onto their own P&Ls, there is a possible market solution in the provision of information from a number of issuer-sponsored houses. Instead of regulators facilitating this push, increasingly it seems that the world's stock exchanges are providing the impetus for this.

As with the bond world, these houses will sit alongside the research inputs from the teams at global investment banks and from niche research providers (the long tail). If the industry has the appetite for change, far from losing research inputs, the asset manager faces a world with a greater degree of choice, which is provided at a more transparent and lower cost. This will ultimately be better for both the asset manager and for the end-client.

The (changing) role of equity research

An industry born out of regulation

Before debating the future shape of the equity research industry, it is worth dwelling for a moment on why the industry exists. To understand the scale of the challenge facing all participants in the equity research ecosystem, it is necessary to consider the historic regulatory and economic forces that have shaped the current environment.

Understanding this will serve to underline the importance and potential impact of current regulatory changes being proposed.

Paying from your client's pocket or your own?

For the traditional sell-side equity researcher, the principal customer is the asset management community. Three pieces of legislation created an economic incentive for asset managers to seek inputs from the sell-side equity research community rather than source these inputs internally:

- The Securities Exchange Act, 1934, US
- Investment Advisors Act, 1940, US
- Investment Companies Act, 1940, US

The Securities Exchange Act set the central architecture for secondary equity trading and issuance regulation including the formation of the key US regulator, the Securities and Exchange Commission (SEC). A key section from a research perspective was section 28(e) of the Securities Exchange Act of 1934, which provided a “safe harbor”. This established that asset managers would *not* be in breach of their fiduciary obligation to their clients if they used equity commissions to purchase both brokerage services (execution) and research.

Key impact

The provision to allow asset managers to use equity commissions to purchase research established a practice that has defined the economic relationship between research producers and asset managers ever since.

Products/services that assist the asset manager in making investment decisions can be paid for via commissions.

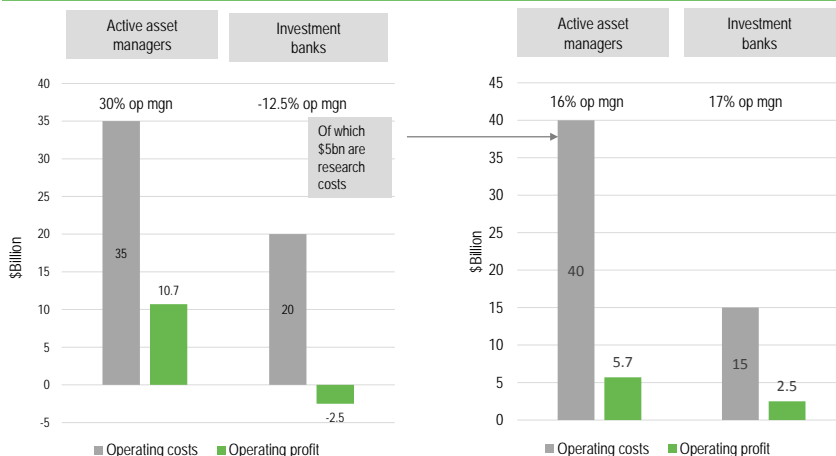
In the case of grey areas, asset managers must divide costs between research and non-research functionality. Together with other pieces of legislation, notably the Investment Advisors Act of 1940 and the Investment Companies Act of 1940, the principle has evolved that while asset managers can use commissions to purchase research, they cannot use commissions to subsidise any of their ongoing business expenses, including rent, salaries, travel, marketing, etc.

Key impact

This provides an economic incentive for asset managers to purchase external research – it can be funded by client commissions while research generated by their internal staff cannot.

Exhibit 1 illustrates the impact if the c US\$5bn a year spent by investment banks to deliver research were to be absorbed by the P&L of the asset managers; namely, their margins could be cut by 50%.

Exhibit 1: Asset managers' margins would halve if they absorbed the cost of investment bank research



Source: Frost Consulting estimates

Advent of the waterfront coverage model

The creation of integrated investment banks through the Big Bang in the UK and the 1999 Gramm-Leach-Bliley Act in the US accelerated the adoption of investment banking cross-subsidising research. The ultimate impact of this was the broad-based creation of the waterfront coverage model and the production of research far beyond that which an institutional investor commission pool could support on a standalone basis.

The Gramm-Leach-Bliley Act of 1999 (repeal of Glass-Steagall) repealed the provisions of the Banking Act of 1933 that mandated the separation of retail and investment banks. In reality, regulatory decisions had already watered down the provision. Travelers Group acquired investment bank Salomon Brothers in 1998. The subsequent merger of Travelers with Citibank effectively created the first US integrated investment bank. Others soon followed.

Key impact

The creation of the integrated investment banking model had important implications for the production of equity research at investment banks. These banks offered a range of services, and research could support these products beyond its traditional role of providing investment recommendations to asset managers. Research was often critical in securing high-margin investment banking mandates for IPOs or M&A.

Integrated investment banks had the ability to cross-subsidise products. Since research was being used for more than security recommendations to asset managers, the research “revenue” could extend beyond research commissions generated by institutional investors. Investment banking and other internal departments could contribute to the cost of research production as it served their wider objectives.

Consequently, at least some portion of research production was not related to asset manager demand. This evolved into the “waterfront research coverage” model, in which most large banks would attempt to cover as wide a range of stocks and sectors as possible in an attempt to capture corporate finance business. The result was an “oversupply” of research relative to actual end-demand, with large, liquid stocks often covered by more than 100 sell-side analysts.

These key pieces of legislation largely determined the organisation and economics of research distribution until the first decade of this century. Since 2000, a new set of regulations has come into force that has put into reverse the drivers that led to the growth of the equity-research industry, and has led to the industry's current restructuring.

Separation of corporate finance and research

In 2001, New York Attorney General (NYAG) Eliot Spitzer began an investigation of potential conflicts of interest at Merrill Lynch regarding equity research recommendations being influenced by investment banking client considerations. The investigation expanded rapidly and in 2002 the NYAG filed a suit against several integrated investment banks alleging various aspects of this conflict of interest. The banks settled for US\$1.4bn later that year and agreed to a number of measures to separate investment banking from the research function. In addition, they agreed (for a limited period) to fund independent research recommendations that they would also make available to their retail clients. As a part of the settlement the firms paid US\$460m to fund independent research for a five-year period ending in 2009.

Key impact

Theoretically, this settlement ended the cross-subsidisation of research by investment banking, forcing research departments to realign their cost base and product offering to the primary source of revenues: commissions from institutional investors.

Best execution: Opening up competition

In 2001, the UK treasury appointed Paul Myners, former Gartmore chair, to review the institutional investment landscape. The result, the *Review of Institutional Investment in the United Kingdom* (otherwise known as the Myners Report), initiated changes that are still reverberating. It argued, among other things, that asset managers should change the way they treat client commissions for the purchase of research and execution services. This opened the debate on use of commissions.

A compromise was found by the Financial Services Authority (FSA, now known as the Financial Conduct Authority [FCA]) in *CP176 Bundled Brokerage and Soft Commission Arrangements*, published in 2003. This

allowed UK asset managers to continue to use commissions to purchase both execution and research services, but mandated that research and execution commissions must be split.

The FSA did not introduce unbundling, which refers to the separation of the execution and non-execution components of equity commission payments. Yet it did identify the practice as a potential solution. In an unbundled trade, the execution fee would remain with the executing broker, while the non-execution fee could be placed in a Commission Sharing Agreement (CSA) – an account from which the asset manager could pay any type of research producer, not just a broker.

This differed significantly from the US “soft-dollar” arrangement. Rather than paying specific pre-agreed bills, the CSA structure allowed the asset manager to retroactively distribute CSA commissions to a wide variety of service providers. Current market practice is that asset managers normally instruct investment banks holding their CSA balances to pay third-party research providers every quarter.

What happens in one market often follows in others. The separation of execution and research payments was reinforced in the US through *Regulation National Market System*, or Reg NMS in 2005. The most salient measure of this regulation was the establishment of the concept of “best execution”. This made it incumbent on both brokers and asset managers to achieve best execution for their clients.

This was followed by *Commission Guidance Regarding Client Commission Practices 2006* in the US, which updated the guidance on section 28(e) of the Securities Exchange Act of 1934 and allowed the creation of the Client Commission Arrangement (CCA), the US equivalent of the UK CSA.

The EU enshrined the concept of best execution into the original MiFID, which came into force in 2007.

Key impacts

This set of regulations had a number of impacts on the equity research industry:

- It enshrined the principle of best execution and the concept of paying for execution and research services separately.
- By separating the payment mechanisms, it effectively ended an investment banking oligopoly over asset manager research spend.
- It created a two-tier system among investment banks; those that offered a CSA execution product gained market share, others lost share and commission income.
- It rationalised asset managers' execution counterparty lists.
- It opened up competition for asset manager research spend to a much wider group of industry participants. This has significantly expanded the potential content universe for the asset manager, although most are yet to capitalise on this change.
- With assets being increasingly managed on a global basis, best execution was an interesting case study of how regulation eventually moves to other markets.

Global adoption of the CSA/CCA regime

Unbundling, in theory, would allow asset managers to choose the best provider of each service. Some valuable research providers may be suboptimal in terms of equity execution, while other banks excel at execution, but produce less compelling research.

In a CSA transaction, execution commission is retained by the investment bank handling the trade, while the (larger) non-execution component is kept in an account at the bank on the asset manager's behalf. As CSA trades accumulate, the balance in the account rises.

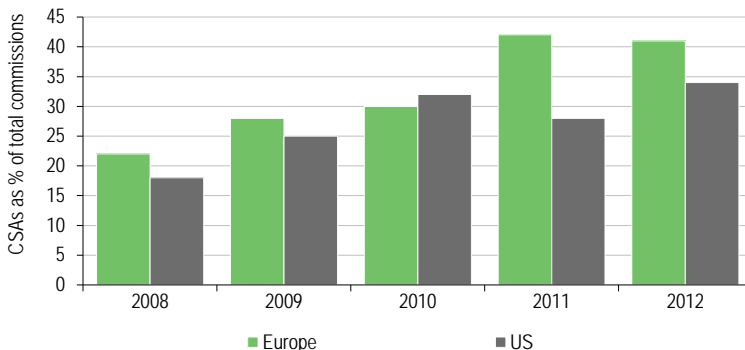
Periodically, the asset manager instructs the bank to pay research producers directly from the accumulated funds in the CSA account.

Although commission unbundling was originally a UK regulatory initiative, its spread has been accelerating, both in terms of its market share in the total commission market and geographically, for three key reasons:

1. It is indirectly supported by “best execution” regulations.
2. Once asset managers become accustomed to CSAs, they appreciate the flexibility in commission allocation that these structures deliver. As the UK subsidiaries of global asset managers used the structure, CSAs were frequently rolled out globally because most asset managers prefer not to run multiple operational systems in different regions.
3. Asset managers in geographies in which unbundling is difficult (usually because of unintended tax considerations) find themselves at a competitive disadvantage in an increasingly global asset management market. These managers frequently lobby the local regulator to allow CSAs to enhance their competitiveness. The most recent example was the approval of CSAs by Sweden’s Financial Supervisory Authority.

Consequently, CSAs are rapidly becoming the dominant commission category globally.

Exhibit 2: CSAs growing as a percentage of total commissions



Source: Greenwich Associates

Two-tier banking system: A UK case study

The profound changes engendered by the transition to the unbundled commission environment are best illustrated by the experience in the UK, where global unbundling started and where CSA penetration is highest. Currently, CSAs represent around 70% of total commissions in the UK market.

This has had a major impact on the economics of the investment banks, with knock-on effects for investment bank research production.

The end of the one-to-one relationship between research and execution quickly created a two-tier system among the investment banks. Large banks that offered a CSA execution product (the ability to allow asset managers to direct research payments to third parties including bank and non-bank research producers) gained execution market share.

Most asset manager trading desks had long wanted to rationalise execution counterparty lists, the ranks of which had been swollen by the one-to-one research/execution relationship of the 40-year-old bundled commission system. They now had the ability to pay a virtually unlimited

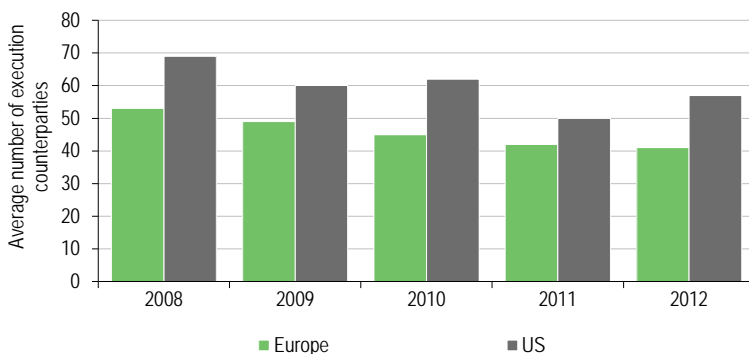
number of research providers through a limited number of CSA execution providers.

Many mid-sized and smaller brokers that did not offer a CSA execution product were increasingly compensated for their research via CSA payments from other banks, rather than through equity execution.

This had three important impacts:

1. It meant that, as their order flow declined, these dealers quickly developed expensive excess capacity in their trading operations.
2. The CSA payments from other banks were almost always at lower absolute amounts than the previous execution relationship, placing pressure on the economics of the firms as a whole.
3. With CSAs representing c 70% of total UK commissions, banks that did not offer a CSA execution product were left competing for the remaining 30%.

Exhibit 3: Decline in the number of execution counterparties for asset managers



Source: Greenwich Associates

Regulatory change and a cyclical downturn

The perfect storm

The far-reaching regulatory changes outlined above came at a time (and partially as a result) of the worst bear market for equities since the 1930s. This meant a significant decline in available commissions for the cash equities business. The effect is particularly severe outside North America, where commissions are calculated as a percentage of the value of the share price.

Since the onset of the global financial crisis in late 2007, the equity businesses of the global investment banks have been under economic pressure. Investment banks' return on equity, which frequently exceeded 25% through 2007, retreated to low single digits. This was positive for some and negative for others.

Meanwhile, investment banks' weighted average cost of capital, which hovered at mid-single digits for most of 2001-07, has doubled in many cases. This reversal in spreads has caused even the most historically profitable banks to reassess their business models.

Some of this is cyclical: cash equities, M&A and IPOs have been in a bear market as the successive subprime debt and sovereign wealth crises have elevated macro risk and reduced investor and corporate confidence.

However, some of this is structural and permanent. From a balance sheet perspective, higher regulatory capital requirements, more expensive capital and the forced reduction in activities, including proprietary trading, will substantially reduce earnings leverage. From a product perspective, the rise of equity derivatives, private equity and ETFs have provided substantial competition to traditional actively managed cash equities.

Quantifying the impact: c 50% fewer analysts

Between a savage bear market in equities (in an *ad valorem* market) and commission unbundling, Frost Consulting estimates that the available secondary commission to the subset of small and mid-cap brokers not offering a CSA execution product fell by c 80% between 2007 and 2012. This combination of factors had inescapable implications for their research budgets. A substantial wave of consolidation and exits from the cash equities business has led to a meaningful reduction in brokerage/research capacity in this sector.

While it is difficult to quantify the impact due to the unpriced nature of research from investment banks, there is a general acknowledgement that the industry has seen a significant reduction in both revenues received by, and budgets allocated to, investment banks producing equity research:

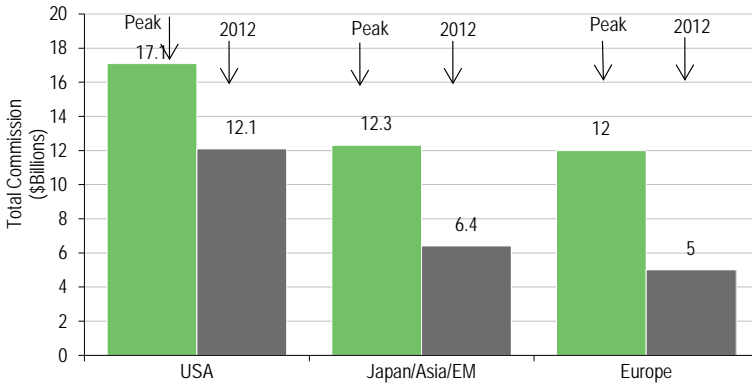
- On the revenue side, Frost Consulting estimates there has been a 43% reduction in global commissions for equity research, as shown in Exhibit 4.
- On the cost side, Frost Consulting estimates that there has been a 40% reduction in budgets allocated by the c 600 firms producing equity research from US\$8.2bn at the peak to US\$4.8bn in 2013 (see Exhibit 5). Note that these costs only represent direct analyst costs. The additional expenses of an integrated cash equity business would include trading, sales management, IT and infrastructure, etc. The research costs depicted are likely to represent c 25% of total cash equity costs for large investment banks.
- Anecdotal evidence from multiple research aggregators indicates that the average number of analysts following all global equities (including those with no coverage) may have fallen by c 50% between 2007 and 2012, from roughly four analysts per stock to about two.

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- The World Federation of Exchanges estimates that 35-40% of all publically traded equities have no research coverage. This is a reflection that there still is a significant concentration of analyst coverage towards the more liquid securities.
 - Data compiled by Coalition show that between 2007 and 2014 the cash equities revenues for the top 12 banks in Europe, the Middle East and North Africa which produce research fell 56%, while equity capital market revenues declined by 21%. The decline in analyst numbers has not kept pace with the revenue declines yet, with the number of analysts falling 17% during the same period.

These numbers seem to be broadly consistent with the experience of practitioners in the equity research field. The World Federation of Exchanges estimates there are c 45,000 listed securities, excluding investment funds. On the basis of each analyst covering 10 stocks, this would suggest that analyst numbers had fallen from 18,000 at the 2007 peak to 9,000. It would also suggest that the cost of covering a stock is US\$55k, similar to numbers quoted by ANALEC, which suggested the cost of covering a single stock can be as high as US\$60k.

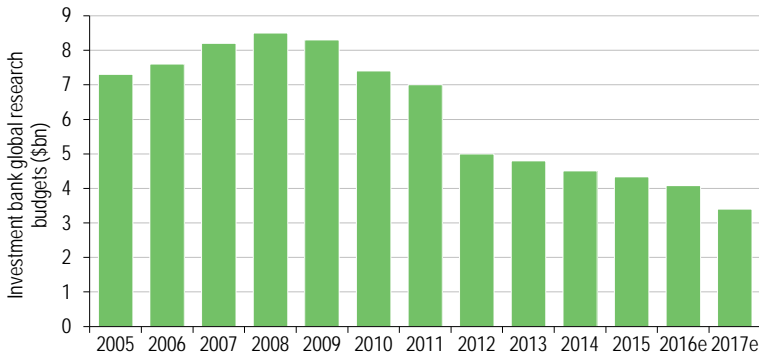
It is worth pointing out that the numbers alone do not capture the loss of expertise. At many investment banks, a response to the decline in revenues has been to replace experienced but expensive senior analysts with junior, and therefore cheaper, analysts. The data do not capture the generational and experiential loss.

Exhibit 4: 43% decline from peak to 2012 in equity commission payments



Source: Frost Consulting

Exhibit 5: c50% decline from peak to 2015 in capital allocated to producing investment banking research



Source: Frost Consulting

In short, we have seen a withdrawal of capacity from the sell side in response to declining revenues. To provide a more concrete illustration of the impact on any one market, below is a non-exhaustive

list of several names that have either exited the cash equities business in the UK, significantly scaled down their operations or merged with others (in theory reducing equity research capacity):

1. Altium – exited cash equities.
2. Arbuthnot Securities – acquired by Hanson Westhouse (now Stockdale).
3. Astaire – exited cash equities.
4. Brewin Dolphin – merged with Singers to create N+1 Singer.
5. Collins Stewart Hawkpoint – acquired by Canaccord Financial Inc.
6. Dresdner Kleinwort – significant scaling down ahead of its sale.
7. Evolution Group – acquired by Investec.
8. Execution Noble Group – acquired by Espirito Santo, and subsequently sold to Haitong Securities of China, which then focused the business on Asian equities, leading to a number of layoffs for teams covering UK/European small/mid-cap stocks.
9. Fairfax – went into administration.
10. ICAP – exited full-service cash equities.
11. ING Bank – significantly scaled down equity research coverage to focus on core Benelux market.
12. Jendens – went into administration.
13. Lehman Brothers – probably the most famous casualty of the financial crisis.
14. Lloyds Bank – exited after a brief foray into the cash equities market.
15. Matrix – exited cash equities.
16. MF Global – went into administration.
17. Nomura – understood to have closed Nomura Code and have shut the European equities business.
18. Piper Jaffray – significantly scaled down its European cash equities team.

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19. RBS – exited cash equities.
 20. Religare Capital Markets – exited from UK investment banking.
 21. Seymour Pierce – bought out of a pre-pack administration by Cantor Fitzgerald Europe.
 22. UniCredit – closed London cash equities operation.
 23. Oriel Securities – acquired by Stifel Financial.
 24. Charles Stanley Securities – acquired by Panmure Gordon.
 25. Sanlam Securities – closed its UK equities business.
 26. Standard & Poor's – plans to sell its equity and fund research business.

UK catalyses regulatory change

Conflicts of interest

While both asset managers and investment banks acknowledged that the old model was unsustainable, little progress had been made in developing a new one.

In the long evolution of regulation relating to research procurement, the FSA paper *Conflicts of Interest*, published in 2012, may represent the most significant catalyst for change in almost a century. In addition to revising the UK rulebook, the regulator's ideas have initiated change at EU level through MiFID II, a package of policy measures that sit under the recast Markets in Financial Instruments Directive, which will apply to investment firms throughout the European Economic Area from 2018.

The FSA paper was issued as part of a thematic review of the UK asset management industry. While the majority of news reports focused on the banning of the use of commissions to pay for corporate access, a closer read of the paper suggests there were much deeper implications.

The FSA concluded that: "...many firms had failed to establish an adequate framework for identifying and managing conflicts of interests. We also identified breaches of our detailed rules governing the use of customers' commissions and the fair allocation of trades between customers. We concluded that most of the firms visited could not demonstrate that customers avoid inappropriate costs and have fair access to all suitable investment opportunities".

To communicate its findings to the wider asset management community, the FSA sent a "Dear CEO" letter to 195 CEOs of UK asset management firms, requiring them to confirm that they were compliant with the regulator's conflicts of interest regime.

The FSA found evidence that few firms had been reviewing whether the products and services they provided met the evidential standards set out in its Conduct of Business Sourcebook (COBS) at chapter 11.6.5E. This provision determines what constitutes research, using cumulative criteria. The FSA highlighted the means by which various firms had failed to demonstrate how paying for corporate access or privileged access to IPOs from client commissions met the standards for research or execution services.

COBS 11.6.5E (since amended, in 2014)

...an investment manager will have reasonable grounds to be satisfied that the requirements of the rule on use of dealing commission are met if the research:

- (a) is capable of adding value to the investment or trading decisions by providing new insights that inform the investment manager when making such decisions about its customers' portfolios;**
- (b) whatever form its output takes, represents original thought, in the critical and careful consideration and assessment of new and existing facts, and does not merely repeat or repackage what has been presented before;**
- (c) has intellectual rigour and does not merely state what is commonplace or self-evident; and**
- (d) involves analysis or manipulation of data to reach meaningful conclusions.**

FCA tightens UK regime

Within months, the FCA, which replaced the FSA in April 2013, launched *CP13/17 Consultation on the use of dealing commission rules*. The paper sought to reinforce and clarify existing rules to help firms make better judgements about what could and could not be paid for with dealing commissions. To that end, the FCA put forward proposals to change its dealing commission rules, as set out in COBS 11.6.

Revised rules, which largely mirrored those the regulator had proposed, came into force in June 2014. They are fully explained, along with respondents' feedback to the regulator's initial proposals, in *PS14/7 Changes to the use of dealing commission rules*.

- **Corporate access:** the revised rule confirmed that corporate access cannot be paid for using dealing commissions, along with raw data feeds, translation services and preferential access to IPOs, on the basis that they do not amount to “substantive” research.
- **Substantive research:** the FCA strengthened language around what research services qualify as “substantive” and can therefore not be paid for using dealing commissions. It committed to introduce a presumption of breach if the cumulative criteria at COBS 11.6.5E are not met.
- **Mixed-use assessments:** the regulator clarified expectations around mixed-use assessments, where “substantive” research is provided alongside other goods or services that are not allowed to be paid for using dealing commissions. The FCA expects investment managers to disaggregate the “substantive” research from the other services, whether priced or non-priced, to calculate the correct amount of charges passed to the customer through dealing commissions.

COBS 11.6.5E

...for a good or service to amount to the provision of substantive research the relevant research must:

- (a) be capable of adding value to the investment or trading decisions by providing new insights that inform the investment manager when making such decisions about its customers' portfolios;**
- (b) whatever form its output takes, represent original thought, in the critical and careful consideration and assessment of new and existing facts, and must not merely repeat or repackage what has been presented before;**
- (c) have intellectual rigour and must not merely state what is commonplace or self-evident; and**
- (d) present the investment manager with meaningful conclusions based on analysis or manipulation of data.**

Many firms sought clarification over the rewording of COBS 11.6.5E(1)(d). They queried whether, under the new rule, only written research would meet the criteria to be considered “substantive”. The FCA confirmed that the criteria continue to be neutral in terms of the format in which they are provided, as many conclusions are often orally articulated.

There was also some uncertainty as to whether investment managers would have to agree with or follow research conclusions in their actual investment decision. The FCA advised that this would not be the case, noting that sometimes research which offers a contradictory view can often still be of value.

Behavioural change

To demonstrate that they are in compliance with the FCA rulebook, asset managers in the UK have been:

- **Setting research budgets for each of their investment bank research providers.** One example could be an asset manager agreeing to Tier 1 access to an investment bank's autos research for US\$250,000 pa and Tier 2 access to the investment bank's pharma and tech research for US\$100,000 pa;
- **Devising mechanisms to determine what these absolute monetary research compensation levels** should be, both on an aggregate and individual basis; and
- **Gradually more selective about what services and products they procure.** This is a marked departure from how investment bank research was consumed previously. Historically, large asset managers received virtually all research from all providers. This was based on the premise that once an equity execution dealing relationship was in place with an investment bank, it would make available all its research.

Regulatory evolution: Impact of MiFID II

MiFID II bans third-party inducements

The European Commission put forward proposals to revise the original MiFID in 2011. A vast package of policy proposals, comprising a Directive and a Regulation, MiFID II is set to reshape every inch of the EU's financial markets. It is designed to reflect how markets and technology have evolved since 2007.

The trio of EU lawmakers, comprising the European Commission, European Parliament and the Council of the EU, reached agreement on the overarching principles set out in the Level 1 MiFID II text in January 2014 after years of intense political debate. The final MiFID II text was published in the EU rulebook – the Official Journal of the EU – and became law in June 2014. The regime will take effect in 2018, a year later than initially envisaged.

The MiFID II Directive (2014/65/EU) prevents portfolio managers from receiving any third-party inducements, with a limited exception for “minor non-monetary benefits”. This suggested investment managers would be banned from receiving research from brokers or other third parties in return for dealing commissions.

Directive 2014/65/EU

Article 24(8)

When providing portfolio management the investment firm shall not accept and retain fees, commissions or any monetary or non-monetary benefits paid or provided by any third party or a person acting on behalf of a third party in relation to the provision of the service to clients. Minor non-monetary benefits that are capable of enhancing the quality of service provided to a client and are of a scale and nature such that they could not be

judged to impair compliance with the investment firm's duty to act in the best interest of the client shall be clearly disclosed and are excluded from this paragraph.

ESMA proposals capture investment research

In May 2014, the European Securities and Markets Authority (ESMA) received a formal request from the European Commission to provide technical advice to assist in the development of various supplementary rules, in the form of Level 2 delegated acts.

ESMA was asked to provide advice on, among other issues, the definition and conditions for “non-monetary benefits” that can be received when providing independent advice or portfolio management. To this end, it launched a consultation in May 2014 (ESMA/2014/549), soliciting views on its proposed advice.

ESMA suggested that the term “non-monetary benefits” should be interpreted as narrowly as possible. As a result, only generic, widely distributed financial research would be construed as a minor non-monetary benefit and so could therefore be paid for using dealing commissions. Value-added research, on the other hand, would not be considered a minor benefit under MiFID II and could not be paid for using dealing commissions. This proposal, if adopted by the European Commission, would require full unbundling of most research from dealing commissions, likely paving the way to a non-commission, “hard dollar”-only system.

ESMA Consultation Paper ESMA/2014/549

Section 2.15(14)

...any research that involves a third party allocating valuable resources to a specific portfolio manager would not constitute a minor non-monetary benefit and could be judged to impair compliance with the portfolio manager's duty to act in their

client's best interest...any research that is tailored or bespoke in its content or rationed in how it is distributed or accessed would be of a scale and nature such that its provision is likely to influence the recipient's behaviour and cannot be a minor non-monetary benefit. This would include privileged access to research analysts, bespoke reports or analytical models, investor field trips, or services linked to research such as corporate access and market data services, which by their nature are limited in access and/or can have a material value.

FCA propels EU policy debate: DP14/3

In July 2014, the FCA issued *DP14/3 Discussion on the use of dealing commission regime*. Published against the backdrop of MiFID II reform, which would likely introduce significant structural change across Europe, the FCA confirmed its support for unbundling research from dealing commissions on a pan-EU basis. As a priced market would be unlikely to emerge organically, this, in the FCA's view, would be the most appropriate way to minimise conflicts of interest, drive more efficient price formation, boost competition in the research industry and remove the current opacity in the market.

The paper looked at the effect the UK dealing commission regime has on the wider market for research. The FCA did not consult on detailed policy proposals at this stage, given ongoing MiFID II negotiations. However, the FCA committed to take feedback into account as it considers how to implement final MiFID II rules into local law.

After discussions with over 130 stakeholders, including investment firms and trade bodies, the FCA concluded:

- **Conduct risk:** even with close regulatory scrutiny, the use of dealing commission to pay for investment research is likely to still give rise to conduct risk, owing to the inherent conflict of interest it creates for investment managers.

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- **Commission sharing agreements:** while the FCA saw some improvement since 2006, with more investment managers setting budgets and making wider use of CSAs, such measures have not improved the accountability and transparency over the use of dealing commissions to its satisfaction. Still, the link between the volume and value of trading activity and research payments remains strong in many firms surveyed.
 - **Competition:** the bundling of research and execution services prevents transparent price formation and competition, potentially negating the quality of research. It is thus more challenging for investment managers to assess value for money, and for independent research providers to compete on an equal footing.

Even under CSAs, research commission spend can still be influenced by trading volumes and trading decisions, which are often linked to the “broker vote” process used to allocate commissions.

The FCA found that most investment managers in the UK rely on the broker vote. While this ranks brokers according to the investment managers’ view of the research being provided, the vote does not assess the value of the research in monetary terms. Instead it represents a percentage of the CSA balance; higher-ranked brokers are given a greater percentage of the CSA spend. The FCA said the process offers too little detail as to what the fund manager was valuing when voting for a specific research provider. Moreover, while some firms have been allocating a set number of research votes to each investment team, payments for research still remain intrinsically linked to execution because the number of votes is usually pro-rated to the volume of trades executed or amount of assets managed by that team.

The FCA found a wide range of broker models for assigning costs and assessing the profitability of their research services. Many surveyed did not know the cost of the research provided to clients, so found pricing difficult to determine. When paid bundled commission rates, they were not clear what proportion was for research rather than execution

services. If investment managers do not provide detailed feedback on what they value the most, brokers cannot set an appropriate price because the value of research depends for the most part on how it is used.

ESMA softens final proposals

ESMA delivered its technical advice to the European Commission in December 2014 in *Final Report ESMA/2014/1569*.

Marking a distinct retreat from earlier proposals, ESMA's final advice outlined a potentially positive model for investment managers, which might permit them to still pay for investment research out of dealing commissions, via a ring-fenced client research payment account – subject to a new set of stringent conditions. Previously, ESMA had sought to ban most research from being purchased under execution agreements, with a vague, undefined exception for “minor non-monetary benefits”.

ESMA Technical Advice ESMA/2014/1569

Section 7

The provision of research by third parties to investment firms providing portfolio management to clients should not be regarded as an inducement if it is received in return for:

- 1. Direct payments by the investment firm out of its own resources (which they may choose to reflect in an increase to the firm's portfolio management or advice fees); or**
- 2. Payments from a separate research payment account controlled by the investment firm, provided the following conditions relating to the operation of this account are met.**

In giving firms the option to use a research payment account, ESMA seems to have taken on board some of the concerns expressed by stakeholders during the consultation process as to the disruption an

unbundled model, where commission use is limited, could cause to the industry across Europe and potentially worldwide. In receipt of ESMA's advice, the European Commission then had to draft the official text of the "delegated act" that supports MiFID II, taking on board ESMA's proposals, as well as the views of the European Parliament and Council of the EU.

UK pushes to ban CSAs

In February 2015, the FCA published *FS15/1 Feedback statement on DP14/3 Discussion on the use of dealing commission regime*. The paper, which summarised feedback to the regulator's 2014 discussion paper, strongly endorsed ESMA's proposals on research and inducements.

At this time, there was still much ambiguity arising from ESMA's advice as to whether dealing commissions may be used to fund a research payment account, resulting in a modified form of CSA.

In this paper, the FCA argued that CSAs should not continue to be used. In its view, they are incompatible with ESMA's intention to minimise conflicts of interest, with reference to the EU regulator's comment that there should be no link between execution and research payments. It maintained that research provided under bundled execution arrangements is an inducement and does give rise to potential conflicts of interest. In its view, the research payment account is a new payment vehicle, distinct from CSA arrangements.

FCA views on CSAs

FS15/1

In our view, the intention of the technical advice is to create a 'hard dollar' research market, with the option for research invoices to then be paid either by the investment firm itself, or from a research payment account linked to the client portfolio that has benefitted from the research received.

National securities regulators in all EU member states, including the UK's FCA, will need to integrate MiFID II rules into local law. To this end, the UK regulator will implement any further changes to the country's own inducements and use of dealing commissions rules in the COBS chapter of its handbook before the 3 July 2017 deadline for transposition.

Delays, appeals

While the proposal itself looks relatively straightforward, the complexities of its potential consequences, as outlined above, caused a series of delays to the MiFID II time frame.

ESMA submitted its technical advice to the European Commission in December 2014, which should then have published a delegated act, based on the advice, by mid-2015.

MiFID II was due to take effect in January 2017, although schedules slipped substantially in many areas. MiFID II will now apply from January 2018.

The delay can be attributed in part to late intervention from the French, German and UK authorities. After Martin Wheatley's departure as CEO of the FCA in July 2015, there are indications that the UK regulator may have softened its stance. In August 2015, these countries urged EU lawmakers to rethink some of the MiFID II proposals, including those on investment research. In their view, ESMA's proposals would lead to what they described as a *de facto* ban on non-independent investment advice.

They argued that the proposals deviate too far from the framework agreement made by all EU countries in early 2014. They also called into question the European Commission's jurisdiction to class what they describe as "complementary research" as a non-permissible inducement. It remains unclear as to whether, when they refer to "complimentary research", they mean investment research in general because this was not mentioned in the overarching Level 1 MiFID II text. Or, whether it refers to fixed-income research, also subject to the MiFID II rules,

agnostic to asset class in this regard, for which there is currently no pricing mechanism.

European Commission's delegated act

On 7 April, the European Commission adopted a delegated act that sets out further provisions on investor protection, including payments for investment research. The act, facing no objection from the European Parliament or Council of the EU, will take effect across the bloc on 3 January 2018.

The act was published in the form of a Directive, so will need to be implemented by the EU's individual national securities regulators into their local law. Different interpretations may be reached, which could lead to divergence across the bloc.

Under the act, investment research would need to be paid for in one of two ways: either from a fund manager's own account, which would be recoverable by raising management fees, or via a client research payment account.

Delegated Directive

C(2016) 2031 final

Recital 26:

Investment firms providing both execution and research services should price and supply them separately in order to enable investment firms established in the Union to comply with the requirement to not accept and retain fees, commissions or any monetary or non-monetary benefits paid or provided by any third party or a person acting on behalf of a third party.

Article 13(1):

The provision of research by third parties to investment firms providing portfolio management or other investment or ancillary

services to client shall not be regarded as an inducement if it is received in return for any of the following:

- (a) direct payments by the investment firm out of its own resources,**
- (b) payments from a separate research payment account controlled by the investment firm.**

The research charge may be collected alongside dealing commissions, but because the strict conditions attached to the payment account regime render the simple CSA infeasible, it would need to become a lot more sophisticated. There may be growth in the use of commission sharing models in continental Europe as take-up to date has been limited.

Delegated Directive

C(2016) 2031 final

Recital 27:

The research payment account should only be funded by a specific research charge to the client which should not only be based on a research budget set by the investment firm and not linked to the volume and/or value of transactions executed on behalf of clients. Any operational arrangements for the collection of the client's research charge should fully comply with those conditions. When using such arrangements, an investment firm should ensure that the cost of research funded by client charges is not linked to the volume or value of other services or benefits or used to cover any other purposes, such as charges for execution.

Article 13(3)

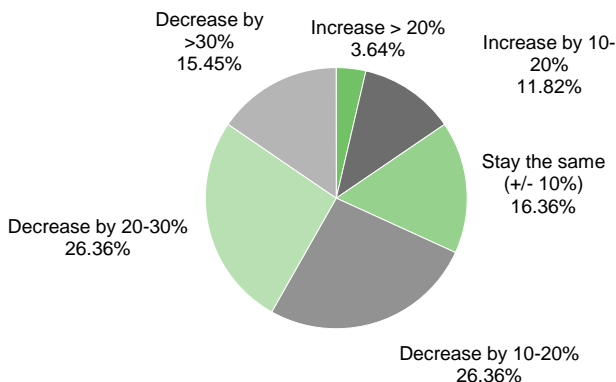
Every operational arrangement for the collection of the client research charge, where it is not collected separately but

alongside a transaction commission, shall indicate a separately identifiable research charge and fully comply.

While Article 13 suggests that commissions might be used to fund a research payment account, strict rules governing their use may make them an unattractive option. Discrete costs for research may pressure margins, likely increasing operating costs, which could make active managers less competitive than passive managers that do not rely on research. Asset managers, especially smaller ones, may struggle, leading to less spending on research.

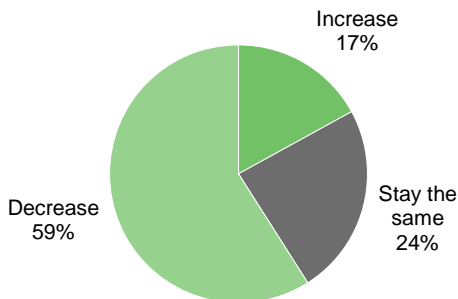
In January 2016, Bloomberg hosted an event looking at the impact of MiFID II on the independent research market, *Spotlight on Independent Research*. It conducted several surveys among audience participants, a mixture of professionals from the sell side, buy side and independent research providers. The majority expected external research budgets to decline.

Exhibit 6: External research budget spend



Source: Bloomberg survey of 106 investment professionals, 27 January 2016

Exhibit 7: Research budget expectations for smaller managers



Source: Bloomberg survey of 106 investment professionals, 27 January 2016

Asset managers that opt to pay for research via a dedicated client account would need to follow a strict budgetary and disclosure regime.

Delegated Directive

C(2016) 2031 final

Article 13

The research payment account would be subject to several conditions, including:

- **It must be based on a pre-agreed budget;**
- **Clients would need to consent to any budget increase and receive annual updates;**
- **All purchases must be subject to controls/oversight, with a clear audit trail of all purchases made;**
- **The account should not be used to fund internal research;**
- **If there is a surplus in the account at the end of the period, the firm must have a process to rebate those funds to the client or offset it in the following period;**

-
- **Investment firms must regularly assess the quality of the research purchased, based on robust quality criteria and its ability to contribute to better investment decisions;**
 - **The account must not be used to fund internal research; and**
 - **There must be no link to transaction volume or value.**

The burden that such criteria would impose on firms, which would affect each and every client relationship, may ultimately make them an unattractive option. Breach of a rule, no matter how small, could, for example, lead to a hefty regulatory penalty, which could lead to financial and reputational damage.

Marking a retreat from prior proposals, the delegated act would allow short-term market commentary that does not contain substantive analysis to be provided without charge. Such communications are classified as a minor non-monetary benefit in the act so, as a result, not all sales or trading calls would be treated as chargeable research.

Delegated Directive

C(2016) 2031 final

Recital 29:

Non-substantive material or services consisting of short-term market commentary on the latest economic statistics or company results for example or information on upcoming releases or events, which is provided by a third party and contains only a brief summary of its own opinion on such information that is not substantiated nor includes any substantive analysis such as where they simply reiterate a view based on an existing recommendation or substantive research material or services, can be deemed to be information relating to a financial instrument or investment service of a scale and nature such so that it constitutes an acceptable minor non-monetary benefit.

The act also offers asset managers more flexibility to provide estimates or calculations before receiving the actual research, and confirming the exact price afterwards. This added detail seeks to address concerns that the benefit of research may sometimes materialise later in the investment process.

The European Commission adopted the act on 7 April 2016. The Council of the EU approved the rule on 17 June and the Parliament gave its consent on 15 July.

Later in 2016, the EU's national securities regulators will be consulting on how to implement the rules locally.

En garde: French regulator steers research debate

French investment companies are gaining clarity on how the MiFID II research-commission rule will work in practice. France's Autorité des Marchés Financiers (AMF) was the first national securities regulator in the EU to give guidance on the rule since it was published on 7 April.

In a paper issued on 12 September, the AMF said it considers commission sharing-style arrangements compatible with the new research-payment account model, contrary to comments made by the UK FCA in February 2015. The AMF would also permit preferential terms for charging research costs to certain clients, so long as this is not detrimental to others. Contrary to existing UK rules, the AMF indicated that brokers might be able to continue providing corporate access without fee.

Autorité des Marchés Financiers

Public Consultation on New Rules for Funding Research by Investment Firms Under MiFID II

The provisions of the Delegated Directive appear not to be incompatible with commission sharing agreements. However, operational processes for monitoring expenses charged under commission-sharing agreements will, in particular, need to be adjusted as follows:

(1) Execution fees will need to be charged to client accounts separately from research charges

(2) Research costs will need to be charged in accordance with the budget process.

The AMF wants the rule copied into all countries' national law to prevent it from being undermined by a non-literal transposition, though it is standard practice for a directive to be integrated by countries individually. This could prevent the UK's FCA from toughening, or "gold-plating" the rule.

Parry and riposte: U.K. seeks stricter research industry revamp

On 29 September 2016, the FCA published *CP16/29 Consultation paper 3 on the Markets in Financial Instruments Directive II implementation*. The paper sets out the FCA's plans to integrate the MiFID II conduct of business rules into UK law and seeks industry feedback by 4 January, 2017.

Fund managers in the U.K. can expect stricter research-commission rules than their continental peers given the FCA's plans to embellish the 7 April rule. While France's AMF views commission-sharing models as generally compatible with the new regime, the UK watchdog specifies far more process and legal enhancements.

FCA Integrates MiFID II CP16/29

- 3.24** In our view, using a single RPA to manage each separate research budget set by the firm would be the most effective way to meet the requirements. MiFID II also allows the firm to collect a client research charge alongside a transaction charge or cost. However, research charges deducted in this way are still required to accrue into a separate RPA used by the firm for the particular budget that the portfolio is subject to. Operationally, this will require changes to current Commission Sharing Agreement accounts to ensure adequate control and oversight by the investment firm as required by the RPA structure.
- 3.26** While MiFID II permits an investment firm to collect research charges from their clients alongside transactions costs or charges, it does not in our view allow brokers providing research to retain charges directly for the research they provide to the investment firm alongside a transaction commission paid by that firm's clients. The research charge must always go to the RPA, and can then be paid out to the relevant broker.

The FCA expects managers to have mechanisms in place to block the receipt of unsolicited research or other benefits that would otherwise constitute an inducement. It would also continue to ban brokers from providing corporate access as part of a bundled service.

Companies in the UK carrying out collective portfolio management are likely to fall subject to the MiFID II research-commission restrictions too, unlike their continental peers, potentially putting them at a disadvantage. The FCA wants to extend the rule to mutual, hedge and other alternative investment fund managers under the UCITS and AIFM Directives.

Almost 450 such managers will be affected, which could see them incur between £5.4 million and £12.1 million in one-time costs and between £2.9 million and £6.5 million in ongoing expenses, in the FCA's estimation. The European Commission has previously discussed potentially extending the MiFID II regime to collective portfolio managers on a pan-EU basis, but has not yet taken steps to do so. Collective

investment managers are currently subject to existing UK research commission restrictions at COBS 11.6. In the FCA's view, extending the new rules to collective investment managers would retain consistency with its current approach and help reduce the risk of regulatory arbitrage, especially as about 65% of companies undertaking collective portfolio management also undertake individual portfolio management under MiFID II.

The FCA intends to copy the MiFID II rule into its conduct of business sourcebook at a new chapter COBS 2.3B, replacing its UK dealing-commission rules. It also wants to incorporate existing guidance from the current regime at COBS 2.3B, as well as new guidance, to clarify its interpretation of the steps companies could take to ensure compliance with the new regime. While this could make the new approach clearer for both investment managers and firms providing investment research, it may lead to divergence across the EU.

The FCA intends to publish a follow-up policy statement, setting out the final changes to its rulebook, in the first half of 2017.

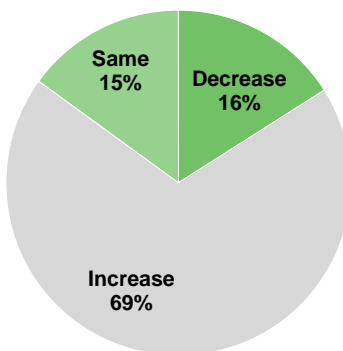
Disruption ahead

If payments for investment research are more distanced from dealing commissions, competition for research may increase as asset managers look beyond traditional sources, which may trigger fragmentation in the market. There is also the possibility they could move research in house or increase the size of their internal research groups.

Plans to separate research from execution spending could also cause banks to streamline their research offerings. Larger banks, which can cross-subsidise research and offer a wider range of ancillary services, may thrive in a more competitive market, along with established smaller providers. However, those in the middle may be more at risk, although they could see an opportunity in providing research on small or mid-sized companies that may receive less attention from larger competitors.

The price and underlying value of investment research will be subject to closer scrutiny under MiFID II. This is regardless of whether asset managers choose to pay for research via a client research payment account – a more sophisticated form of commission sharing agreement – or from their own P&L. Asset managers may become more selective about what they buy, choosing tailored coverage instead of paying a lump sum for a wider bundle of research.

Exhibit 8: Survey results show expectations of an increase in the number of research providers as a result of MiFID II



Source: Bloomberg Survey of 106 investment professionals, 27 January 2016

Competition in the investment research market should rise as a result. Portfolio managers would likely be more selective about the research they purchase and could shop around from multiple providers. If so, independent research providers would be able to compete more easily and gain access to the multi-billion pound equity research market, which until now has been the near-exclusive domain of investment banks and brokers.

The Brexit conundrum

Companies that do business in the UK face prolonged uncertainty after the electorate voted on 23 June to leave the EU. Following the trigger of

Article 50 of the Lisbon Treaty, which governs the exit process, the UK has two years to negotiate withdrawal terms with the remaining 27 EU member states. Until the UK formally leaves the EU, it is required to integrate and follow EU law, which includes MiFID II. The UK is therefore bound to integrate MiFID II reforms on investment research into national law by 3 July 2017, six months before the rules take effect across the bloc.

Post-Brexit, the UK is likely to maintain EU-equivalent regulation to ensure that UK-based financial-services companies do not lose access to 27 EU markets, including Germany and France. MiFID II rules on research commissions are likely therefore to remain, although the UK may have more flexibility to tailor the principles to the particularities of the UK market.

Global impact of research budgeting

Regulators outside the EU have yet to issue proposals to separate research costs from dealing commissions. Without international convergence, EU companies that would have to pay for research may become less competitive than overseas peers that would be able to use commissions and Europe may lose its stature as a money-management market. Global companies could deploy the EU system on a worldwide basis in order to minimise operational strain. This would have a knock-on effect for suppliers of execution and research services worldwide.

The initial regulatory impetus came from the UK, and has now spread to the EU. Ultimately, the effect is likely to be global. The European Commission is one of the world's most significant voices, regulating the globe's largest economy.

Many, including the FCA, have stressed the importance of including the US and Asia. The UK regulator believes global interest will increase if EU-wide reforms succeed. This is because MIFID II is designed to bring benefits to end-investors by reducing conflicts of interest for investment managers, and improving competition in the market for research. EU reform may thus shape the wider international debate. Globally active investment managers – who will want to meet the highest standards in the best interests of their customers – may voluntarily move to adopt a similar approach, which would likely have a knock-on effect for international suppliers of execution and research services.

The asset management industry is global and continues to consolidate. A July 2013 study by Boston Consulting Group highlighted that 120 managers look after US\$33 trillion of assets under management (AUM), around 53% of the global total. The same study highlighted that in 2012, the top 10 US asset managers took 65% of all net asset inflows in the US, up from 54% the previous year, suggesting the big are just getting bigger.

In an asset management industry increasingly characterised by global clients and global service providers, the impact of MiFID II is likely to be worldwide, despite its European origin.

Of all of the global transmission mechanisms, ironically, the least important is likely to be regulation itself. Three other powerful forces will combine to encourage asset managers in many regions to move towards adopting these principles - the compliance, legal and commercial considerations.

Harmonisation of operating procedures

Many complex, global asset managers will find it easier to run one commission allocation system globally, than multiple systems in different regions. The transition from a broker vote to monetary research budgeting at the client level will be required in Europe. This is a significant challenge – and one that is not optional. Many policy decisions will have to be made in effecting this transition. Having decided on these approaches and having committed the resources to make the transition, many firms are expected to roll these processes out globally.

In some cases this will be a result of a global approach to managing portfolios in which analysts physically located in one region will support portfolio managers sitting in another. Using a monetary research budget in one region and a broker vote in another would be impractical, both in terms of paying research producers and allocating research costs at the client level in Europe.

In many cases, the analysis of overlapping jurisdictions has ironically made the global approach the simplest option. Consider the case of a Hong Kong-based portfolio manager employed by a Swiss asset manager running FTSE 100 benchmarked money for an Italian asset owner that has a US-based custodian. Which rules would apply – and to whom? Some managers whose initial intention was to ring-fence Europe, ultimately reluctantly concluded that it just wasn't possible given the maze of overlapping jurisdictions. Moreover, after the financial crisis,

regulatory arbitrage, however tempting, is viewed as very risky, particularly by publically traded asset managers.

As global managers implement research budgeting in all countries in which they operate, this alters the competitive balance in all of those geographies, regardless of whether local regulation requires research budgeting (including the US). The ability of asset managers to articulate and demonstrate alignment between research budgets and investment strategies, thereby increasing research spending return on investment, will emerge as a competitive consideration in manager selection.

Compliance and legal considerations

Gone are the days in which research spending was the sole province of the investment department of an asset manager (at least in Europe). With the explicit instruction of regulators and the active encouragement of asset management industry associations, research budgeting is now a group activity involving legal, compliance, and in some cases, CEOs.

The UK Investment Association (the industry association for asset managers) recommended that asset management boards of directors approve industry budgets. The CFA Society of the UK has called on asset managers to publicise their research valuation methodologies and actively compete on the basis of the efficiency of their research spending. Finally, MiFID II will require a formal Written Research Valuation Policy.

Notwithstanding the web of new regulation at the micro level, there is an overarching compliance requirement for asset managers to treat their clients equally. If asset managers are giving considerable research spending transparency to their European asset owners, why would they not extend this to their other clients? This rapidly becomes the intersection of compliance, legal and commercial considerations.

Consider the New York-based asset manager that has IBM UK and IBM US as separate pension clients. Based on the letter of the law, the

manager would be required to extend considerable research spending transparency to IBM UK, but strictly speaking, would have no obligation to provide it to the IBM US pension fund.

Probably all departments of the asset manager, compliance, legal, marketing, executive and investments, would regard that as a sub-optimal and risky approach. A number of US-based managers appear to have extended UK reporting rules to all of their US clients as soon as they were awarded managed accounts by UK asset owners that had to be treated under UK rules.

The shifting attitudes of asset owners

Various studies and surveys over recent years have suggested that asset owners appear to be disinterested in research spending, made on their behalf (and using their money), by asset managers. This stands in stark contrast to the almost universal use by asset owners of transaction cost analysis (TCA), to ensure that execution spending is not an unwarranted drag on investment performance.

However, the sheer duration of the European research spending debate – from 2001 (Myners Report) to 2016 (MiFID II) – appears to have finally caught the attention of at least some portions of the asset owner community.

The relationship between performance attribution and research spending is complex and certainly not linear. Nonetheless, there are very easily measured components of research spending that are increasingly attracting the scrutiny of asset owners. These include:

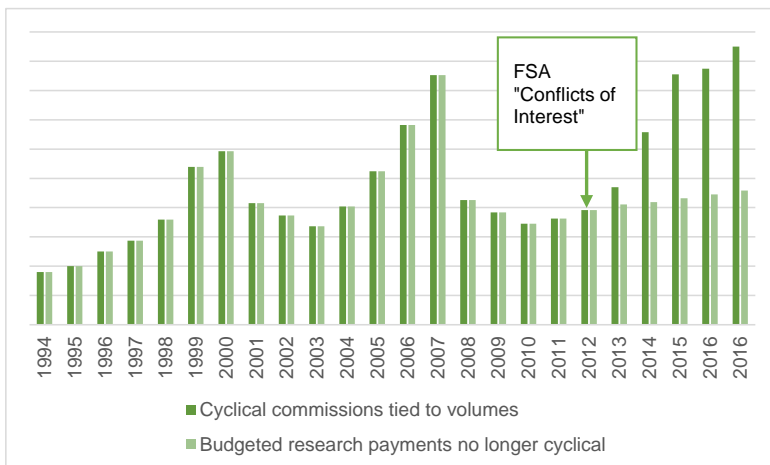
- **Cross-subsidisation:** This refers to funds that receive the benefit of research purchased by other funds, or conversely, expenditures by funds on research that has no bearing its stated investment mandate. A simple example would be a Japanese small-cap equity fund whose research commissions inadvertently or indirectly purchased research on UK electrical utilities or US food retailers that

had nothing to do with, or no impact on, Japanese small-cap equities.

- **Accountability to asset owner:** This group increasingly expect that their research commissions are spent on research products that support the mandate in which they are invested. MiFID II client reporting regulations will place new requirements on asset managers to demonstrate this.
- **The cost of research and impact on returns:** Sovereign wealth funds (SWFs) have been at the forefront of thinking on this issue. They have expressed considerable interest in monetary research budgeting, which, on one level is surprising, as they are not regulated.

Their interest stems from the fact that, unlike asset managers, they have only one client. Whether the fund pays for research via commissions, or via a cheque to a research producer, the impact on the fund is identical – the money is still coming out of the fund. Consequently, some SWF executives began to question why their research payments were so volatile. In a “bundled broker vote” environment, research commissions are dictated by the volatile combination of AUM, turnover and, where commissions are *ad valorem* (outside North America), share prices. Where any and/or all of these variables are headed in an upward direction, research payments for similar services could increase by orders of magnitude of tens of percentage points, as illustrated in Exhibit 9.

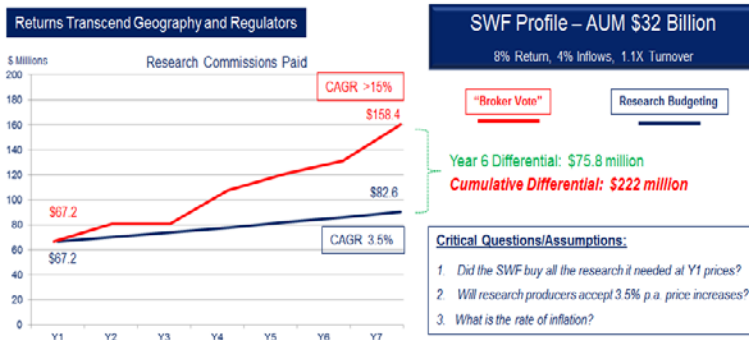
Exhibit 9: Separation of research from execution leads to lower, less-cyclical, spend



Source: Frost Consulting

One fund simulated the impact of research spending (based on a bundled broker vote model) to a research budget regime featuring a 3.5% per annum price increase. The results were noteworthy, particularly given that the differential between the two regimes was deducted directly from returns.

Exhibit 10: SWFs see improvement in returns from a switch to research budgeting



Source: Frost Consulting

The cumulative dollar differential between the two approaches over seven years was more than three times the amount of the initial research budget. The analysis is dependent upon research producers accepting a 3.5% annual price increase. In a near-zero inflation environment in 2016, research producers would likely welcome that outcome.

The net result of this analysis is that many SWFs are planning to employ a research budgeting regime on the assets managed internally – for the extremely basic reason that it enhances performance. This is a striking example of why research budgeting is not merely a compliance box-ticking exercise: it has a material impact on returns.

The wider effect of this attitude shift amongst SWFs relates to the fact that the majority of their assets are managed by external third-party managers and we would anticipate asset managers changing their approach if research budgeting started to influence the SWFs’ external manager-selection process. Regardless of the local regulatory framework in the jurisdiction where the prospective asset manager is domiciled, it will likely be difficult to convince SWFs that the “bundled broker vote” model is in their interests, even if regulation permitted it.

Benchmarking research spending

Secondary equity commissions are worth roughly \$30 billion per annum. Of this, roughly a third (\$10 billion) is spent on execution, with the remainder (\$20 billion) spent on research. As noted earlier, TCA is nearly ubiquitous, while systematic analysis of research spending is virtually non-existent. This is perplexing from a number of perspectives.

First, research commission spending is twice the quantum of execution spending. Remarkably, there has been scant attention paid to the relative impact of execution and research spending relative to long-term equity returns.

TCA outcomes are a function of multiple factors, including portfolio turnover, the markets in which the fund is operating (emerging markets versus developed markets) and equity volatility amongst others.

To cite a simple example, for a developed market fund with 1 times portfolio turnover, the maximum TCA effect under normal circumstances would be in the neighbourhood of 80 basis points. Consider this against the fact that long-term equity returns approximate 7% per annum. This suggests that 620 basis points (or 88.5% of the total return) is explained by factors other than execution impact.

Research spending covers critical drivers of returns, including asset allocation, regional/sector weightings and stock selection. The return impact of a stock going from \$50 to \$20, or vice versa, will overwhelm the execution impact on total return, even if the execution is far from the benchmark.

MiFID II may be a watershed event in the development of the research cost analysis (RCA) market. Multi-asset class monetary research budgeting requirements will lead asset managers to a far more granular understanding of the dollar costs of specific unpriced research products. Further, the requirement for managers to inform clients of their portion of the manager's research budget in advance will mean that asset owners

themselves will have unprecedented visibility into their own research costs (administered by their managers).

While there has always been a high-level fiduciary responsibility of asset owners (pension fund trustees and mutual fund boards, in particular), to have oversight of fund expenditures, including research spending, the opacity of the pre-MiFID II research funding regime meant that it was rarely a matter of focus.

At least in a US context, from a legal perspective, and in all jurisdictions from a fiduciary perspective, specific knowledge creates specific responsibilities. The moment an asset owner is informed by the asset manager that \$Xm is going to be withdrawn from their fund to purchase research (irrespective of the means of collection), it creates an obligation for the asset owner to be either comfortable with the arrangement, or to challenge it.

If that asset manager research budget is for any reason inappropriate, the asset owner cannot escape responsibility for being in possession of the information and having failed to act.

Over time, asset owners, particularly large ones with many asset managers, will receive increasing numbers of research budget allocations. This growing amount of data will allow them to form judgements over the appropriateness of these budgets. By necessity, this will have to be principles-based as different investment strategies will have differing research requirements which will be reflected in varying research budgets. The more sophisticated will quickly realise that the lowest possible cost for research may not create the best investment outcome.

It will be incumbent upon asset managers to explain the appropriateness of the proposed research budget, and how it supports the particular investment mandate in which the asset owner is invested.

Allocating research costs under MiFID II

Cross-subsidisation

This is a complex issue, particularly at large asset managers. It will have to be addressed under further MiFID II rules, given the requirement to inform asset owners in advance of their respective portion of the research budget.

This would be relatively simple if managers could allocate global research costs based on the percentage of AUM held by different asset owners over the entire asset base of the manager. However, as asset owners are invested in different proportions over a myriad of products running varying investment strategies, each with their own research needs, this makes it an impractical proposition.

Furthermore, the requirement would not ensure that the asset owners' research spending was on products that related to the investment product in which they were invested. Assume that an asset owner represented 1% of the AUM of a global equity manager. On the surface, it might seem reasonable to allocate 1% of the global research budget to the asset owner. But, what if the asset owner was only invested in the manager's Japanese small-cap equity product? Japanese small-cap equities represent less than 0.8% of global market capitalisation. If the asset owner were allocated 1% of the manager's global research budget, more than 99% of the asset owner's research commissions would be spent on products that had no bearing on the Japanese small-cap mandate.

Does this mean that all asset managers will have to construct monetary research budgets on a fund-by-fund basis? This would be an immense undertaking for large complex, global managers with hundreds or even thousands of products/mandates.

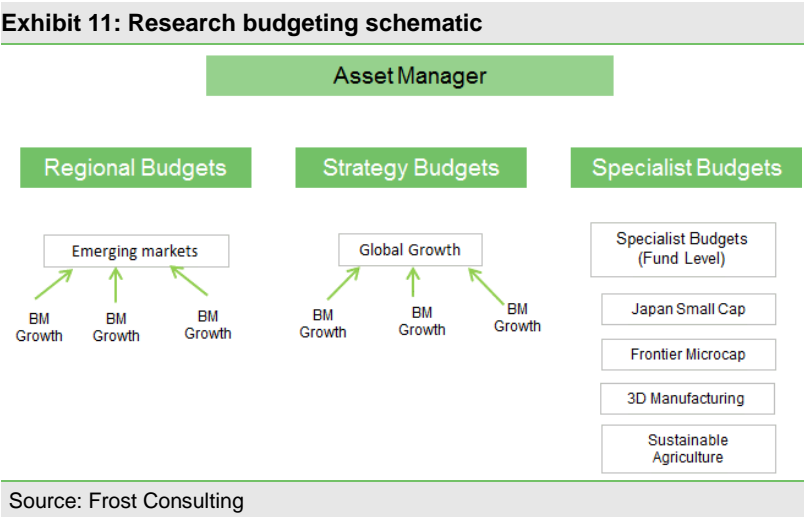
Fortunately, the answer is, not necessarily.

Levels of aggregation of research budgeting

The key principle behind research budget aggregation is the following question: what level of research budget construction will allow for a fair allocation of research costs to different clients?

This will vary from manager to manager and will be a function of fund/strategy structures, the assignment of investment staff to different products and the research needs/usage of different investment mandates. In some cases, asset managers may be able to establish research budgets at the regional or strategy level. If a manager has five emerging-market equity funds that are managed by the same group of investment professionals and use broadly similar research sources, the manager may be able to allocate research costs on the basis of the percentage of AUM in the strategy, rather than percentage of AUM in the funds.

In the aforementioned case of the Japanese small-cap fund, or other very specialized mandates, this may have to be done at the fund level.



The ultimate litmus test for the appropriateness of research budget allocations lies in the MiFID II requirement that asset owners can ask to see a record of the asset manager's research spending on their behalf. This includes the research producers, the research products/services purchased and the prices paid. If the investor in the Japanese small-cap fund finds that their research commissions have been spent on research covering UK electrical utilities and US food retailers, it would be a cause of major concern for the asset owner, and ultimately for the asset manager.

Multi-asset class research budgets

Perhaps one of the largest and long-standing examples of potential cross-subsidisation has been that which has occurred between asset classes. The equity asset class, because it has a quantifiable payment structure (commissions), has regularly and specifically been paying for (at least) equity research. Because other asset classes, notably fixed income and FX, are spread-based, whatever payment they have been making (to banks) for research is actually far more opaque than the equity regime that the regulators were so keen to reform.

Would a bank continue to provide “free” fixed-income research to an asset manager if the manager were not paying it substantial amounts of equity commission? Because bond trades are directed to the bank with the best price in a market-maker system, even if a manager wanted to pay a certain bank for fixed-income research, it may not have been possible. (In equities, the CSA system has allowed research payments to research producers with sub-par execution capabilities – via CSA cheque, rather than through execution). However, these types of arrangements do not commonly exist in other asset classes.

The fact that the MiFID II research budgeting rules will apply to all asset classes is likely to challenge almost all market participants. If equity processes struggle to change sufficiently to meet MiFID II requirements, the task for other asset classes will be Herculean.

Not only are non-equity investment professionals unused to research valuation, the payment mechanisms also present a great hurdle. Nonetheless, managers will somehow have to comply.

The growing popularity of multi-asset class products, driven by outcome rather than benchmark oriented strategies, will require managers to construct harmonized multi-asset class research budgets.

Research budget construction/valuing unpriced research services

Evolving from “broker-vote” systems

Historians sometimes argue that understanding the past is the key to understanding the future. Nowhere will this be truer than in the evolution from broker-vote systems to the requirements of the MiFID II world.

The pre-MiFID II/FCA PS 14/7 equity research business model was amongst the most unique and idiosyncratic in the world. In this highly unconventional “market”, ~\$20 billion per annum of valuable research produced by investment banks was floated into the ether. There was no actual quoted price for this research and associated sales and analytical services. No contracts were signed. Nobody agreed to buy anything. Yet this research cost the banks billions of dollars to produce.

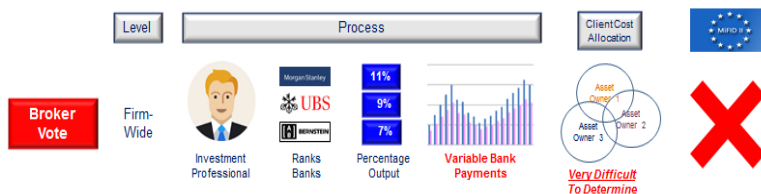
The investment banks typically sent all reports and services to asset managers, regardless of if they had been requested by the recipient. The banks in return wanted was some unspecified level of execution (and research) commissions generated by equity-trading volumes.

This arrangement lead to volatile revenues for the banks as commissions, particularly in *ad valorem* markets (outside of North America), were calculated as a number of basis points of the price of the share being traded, which is always changing. For any given asset manager, the amount of commission they would generate in the year ahead was unknowable, as it was a function of assets under management, equity turnover (portfolio trading) and share prices.

The primary means of research commission allocation was a broker vote. In this system, the investment professionals at the asset manager “voted” for banks that were providing useful research services. The results were expressed in percentages. If Bank A got 7% of the research vote, the asset manager traders would endeavour to give that bank 7% of its commission business through equity trading, whatever that happened to be that year.

Given the volatility of the commission number, an asset manager might pay 20% more for the same set of research services they had consumed the year before, not because the research was better, or more voluminous, but because portfolio turnover, AUM or share prices, or all three, had increased.

Exhibit 12: Current broker vote does not meet MiFID II requirements



Source: Frost Consulting

The fact that commissions are actually the asset owner’s money (they are deducted from investment returns) and were being spent on research in this fashion drew the attention of the UK regulator. The concern was that asset managers might have been less disciplined with research commission spending (their client’s money) than they would have been with their own money. Moreover, research commission spending was theoretically unlimited, as it was driven in part by share prices.

Through a series of thematic reviews and extensive interviews with asset managers, which began in 2011, the (then) FSA became concerned about the broker vote process. In DP 14/3, the watchdog described the

broker vote system as “inherently flawed”, “frequently lacking in detail” and noted that it “does not value research”. Indeed, applying a percentage number to an unknown and volatile commission series to calculate research payments to a bank without noting what specific research products are being consumed does not meet the definition of “research valuation” in the eyes of regulators.

This prompted the regulator to mandate the use of CSAs together with monetary (rather than “broker vote”) research budgets. This required the asset manager to value unpriced research and establish currency (rather than percentage)-based budgets for research consumption.

Moreover, asset managers were not allowed to spend research commissions on research products that were not used. As the banks showered asset managers with unsolicited research products/services, many of these were not used but were still implicitly paid for as asset managers rarely specified which products/ services they actually were paying for.

The FCA wanted managers to identify specific research products and value them. The sum of the values of the selected research products from a bank would be the monetary-research budget for that bank. The regulator played an active role in promoting its views in the MiFID II policy-formation process. Ultimately, MiFID II went further than the FCA by requiring managers to inform clients of research budgets in advance and extending the research budgeting regime to all asset classes.

MiFID II represented yet a further death knell in that firm-wide broker votes have little ability to achieve the type of research product and fund/strategy granularity required to reasonably allocate research costs to asset owners, particularly in advance.

Forecasting research budgets

The MiFID II requirement for asset managers to allocate budgeted research costs to asset owners in advance turns the *modus operandi* of

the traditional broker vote system on its head. The broker vote was an *ex-post* process in which a consideration of research services consumed in the previous period would be reflected in the percentage of commission allocated to the bank in the forthcoming period.

Under MiFID II, asset managers will have to forecast research budgets in advance, not only selecting which research products/services they wish to purchase, but placing a valuation on those services. Further, they will have to allocate those costs to asset owners, based upon the specific products in which they are invested. In most cases, asset managers, unless they are extremely simple in terms of product structure, are going to have to create research budgets at some level more granular than the firm level.

Research as a service

Another critical consideration is to determine the definition of the research that is being purchased. Under the UK's FCA rules, and also MiFID II, only "substantive" research may be purchased via commissions - in other words, research that has a useful impact on the manager's investment decision-making process.

A further complication is that research comes in many forms – documents, analyst models, analyst meetings, research opinions delivered via sales coverage etc. Do all of these research elements have to be "substantive" in and of themselves? Will a short quarterly earnings comment or a morning news summary have an impact on investment decision making?

For chief investment officers, and for asset owners, a key question is how much of the investment professionals' time should be spent on parsing the elements of research coverage to determine inclusion in various payment buckets, rather than finding investment opportunities?

One helpful approach is the more holistic concept of research as a "service". If an asset manager can satisfy themselves that a research

producer's "global healthcare research service" is substantive, then less time will be spent considering whether every component of that service meets the test. In most cases research "services" will include research reports, analyst models, analyst access/meetings, sales coverage, etc. – in short, everything that takes the research producer's output and moulds it to be relevant to the investment process of the asset manager.

As the new regulatory environment is forcing asset managers to make more-specific research consumption choices, the service concept is helpful. In many cases, managers are selecting a limited number of banks for "waterfront" research coverage (all the sectors/ regions in which the bank produces research). They may select research services from other producers, such as Japanese insurance, US enterprise software or German autos.

The "right" price for research

This is a complex conundrum to resolve. The FCA has acknowledged what the investment banks have known for years – that the same research product/service can be worth different amounts to different investors – or even different funds at the same firm.

What is the value of a very insightful analyst report on Facebook to a deep-value investor? The answer is likely zero, as the value investor would be unable to own Facebook in its investment mandate, given the stock's high equity valuation. However, the same report could be extremely valuable to a growth investor with 40% of its portfolio invested in Facebook-related themes.

The research pricing issue has sparked debates between departments at asset managers, now that research budgeting is a firm-wide exercise. Their legal teams may prefer the manager to pay for research from the firm's own P&L to reduce compliance risk. It will likely prove difficult for managers to demonstrate they are paying the lowest possible price for research, even though this would show compliance with this aspect of the new rule.

However, from the perspective of the investment department, the lowest possible cost for research may not create the best investment outcome for the client, the interests of whom are of paramount importance to the regulators.

Ultimately, research pricing under MiFID II will be related to the investment style and priorities of the manager. By definition, this means there is no “one size fits all” approach.

Additionally, in the absence of investment banks providing menu pricing, asset managers remain in a blind auction for finite investment banking research services. (Although other priced sources of research are available, most asset managers still get the vast majority of external research from investment banks/brokers). Irrespective of investment bank research pricing policies, regulators have made it clearly incumbent upon the asset managers to value unpriced research services, if they want to use client money to purchase them.

While there is clearly no one uniform answer for the “right price”, each asset manager’s investment process and fund strategies are a useful place to start when considering research pricing issues.

From an asset owner-outcome perspective, the “right” price for research is the amount the asset manager has to pay to purchase the external research that its investment strategies require to deliver the targeted returns to investors.

If the investment strategy does not require external research, then none should be purchased, with anyone’s money.

However, for the vast majority of asset management products, external research has always been part of the investment process. This is the investment process that the asset owner has inherently agreed when the investment was made.

More detailed valuation of research services by asset managers will likely increase spending efficiency. In many cases, for the first time ever,

managers may understand precisely how much they are paying for research on a product-by-product basis, rather than a bank-by-bank basis. The quantum and potential inconsistency of these product-based payments will be enlightening in many cases.

This, in turn, will facilitate comparison of price and value across different producers, including independent-research producers that frequently produce specifically priced products.

Over time, this should allow managers to create “harmonised” internal pricing structures that reflect the priorities of the investment process and the value derived from different research products/producers, thereby increasing the efficiency of research spending for asset managers and owners alike.

The “research intensity” of investment strategies

Part of price determination for research relates to the type and volume of external research various investment strategies require to generate their targeted returns. This varies as widely as the range of investment products themselves.

Some of the key variables may include:

- **Expected or targeted return.** Strategies with higher targeted returns, and therefore likely higher degrees of risk, may require higher research budgets.
- **Volatility/liquidity risk.** Volatility and liquidity are both risks with implications for research. If a position is too illiquid to sell easily, the importance of the investment thesis being correct is magnified. In addition, the unit cost of small-cap research or frontier market research may be higher than large-cap (equity) research based on its relative scarcity or the difficulty in accessing it.
- **Securities universe.** A manager with a large-cap equity value mandate in a small equity market (for example Belgium, Portugal)

may have to make decisions related to very few stocks. By contrast, the manager of a global all-cap fund would have to cover thousands of securities. Obviously, this has a bearing on the research budget.

- **Instrument Complexity.** This is primarily a fixed income issue. Managers likely require relatively little research related to US treasuries. The characteristics of both the issuer and the instruments are well known. At the other end of the spectrum, considering an investment in a local-currency, frontier-market, distressed credit of an auto parts manufacturer that is about to restructure its debt under the securities laws of Bangladesh, for example, would require a great deal of research.

Under MiFID II, all of this needs to be considered on a multi-asset class basis. This will prove challenging for non-equity strategies. It is likely to be a particular issue in fixed income given the sheer variety of instruments, as well as in customised OTC derivative/structured products.

Aligning research budgets with investment process/client outcomes

The agreement between the asset manager and the asset owner on the product's targeted return, should, by definition, contain a subsidiary agreement that the asset manager be allowed to purchase the external research necessary to generate the targeted return, which is the entire point of the exercise. These may be included in Investment Management Agreements or other documents that meet the MiFID II requirement to inform the asset owner of their portion of the manager's research budget.

Interests of the asset owner and asset manager are aligned. The asset owner has selected the investment product to play a specific role in the asset owner's aggregate return target and risk budget. No one has a greater interest in the investment product performing as targeted than the asset owner.

The agreement between the two parties, particularly for institutional mandates, is multi-faceted. Before the investment is made, the asset owner will require an understanding of the manager's investment process, fund strategy, risk framework and securities universe, which will combine to form the targeted return.

In a MiFID II environment, research budgeting should be a natural extension of the investment process/strategy.

Indeed, the paramount question should not be about the price of research, but rather the alignment of the research budget with the investment and return objectives agreed in the investment mandate.

An expedient way to assure alignment between research budgets and client objectives is to reflect the specific elements of the asset manager/asset owner agreement in the research budgeting process.

The investment strategy should be able to identify the types of external research it needs and their relative importance to the process. Within regions and sectors, investment style/parameters and portfolio construction can play an important role. Other variables include market capitalisation, as well as expected return and expected volatility. In the final analysis, the research budget should reflect the investable universe and expected returns of the investment product.

The key to the process is actively selecting and valuing research products based upon their importance to the investment outcome. As well as targeting research spending, the research selection process can avoid implicitly paying for research products that are not used.

A "vote" for a bank, under the broker vote system is unspecific if no consideration is given to which of the banks' (many) research products is being purchased. Such a "vote" implies that the manager is paying for unconsumed and often unwanted research products and may place equal weight on unequal industry sectors and regions (by market cap).

Under many broker-vote systems, there is a substantial misalignment between research spending and the actual portfolio concentrations (key investment themes) of the strategy/fund.

It is anticipated that asset owners will develop statistical methods to measure the alignment between research budgets/spending and parameters of specific investment mandates.

Formal written research valuation policy

Under MiFID II, asset managers must establish and maintain a formal written research valuation policy. This is broadly the equivalent of the “best execution” provision in the original MiFID.

This policy must detail:

1. The manager’s methodology for valuing research.
2. The mechanism by which the manager fairly allocates research costs to different clients.

The second requirement intersects with various other MiFID II research requirements in such a way that the allocation of research costs to specific clients, particularly at complex asset managers, is likely to be at a more granular level than company-wide.

The development of this policy will likely assist managers in thinking through how their individual investment processes can be reflected in this environment.

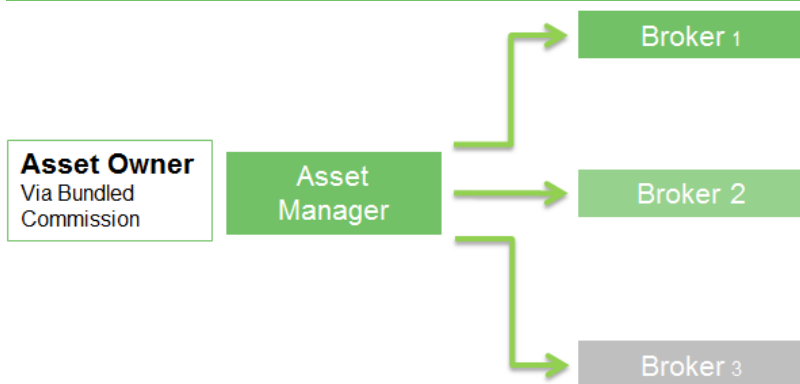
Research payment options under MiFID II

The methods of paying for research under MiFID II, once research budgets have been established, will require a change in process for the vast majority of asset managers.

Current payment processes

“Bundled” commissions (the combination of an execution and research commission) will be banned as a payment mechanism for research. Until now, this has been the most common way of purchasing research, particularly in geographies in which CSAs are not widely used (eg continental Europe).

Exhibit 13: Bundled commission allocation



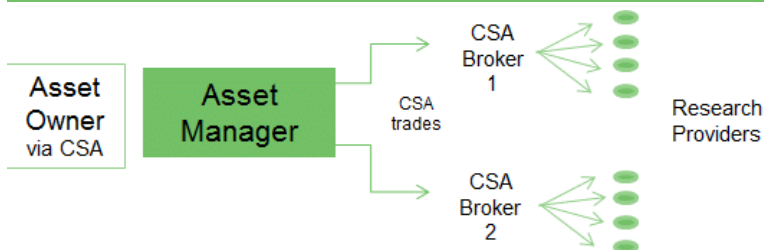
Source: Frost Consulting

In the example above, the asset manager is paying via “bundled commission”. The broker captures both research and execution portions of the commission. In this arrangement, each (broker) research relationship requires a discrete execution arrangement with the broker. This creates substantial potential misalignment of intended research payments in a “best execution” environment.

If a certain bank or broker has the other side of a large order, the asset manager can significantly exceed their planned research spending with that broker if the commissions are indivisible (bundled). It also means that the total research payments are extremely variable and theoretically unlimited. This further assumes that only brokers/investment banks are paid via commission. Purchases of non-investment bank research from

independent research providers would have to be funded by another means.

Exhibit 14: CSA models for research payments



Source: Frost Consulting

In the CSA model, the broker executing the trade keeps the execution commission (usually ~one-third of the total) and the research commissions accumulate as cash in an account held by the broker on behalf of the asset manager. Periodically, the manager will instruct the broker to make research payments from the CSA account, to itself, and also to other third-party providers (of any type, not just banks).

The CSA model does not require the asset manager to have an execution relationship with every (bank) research provider. This makes it easier to meet “best execution” requirements.

In the “enhanced” CSA model, required in the UK, the CSA is combined with a monetary research budget to control research spending and end the link between research expenditures and equity turnover.

MiFID II payment options

There are three permissible research payment models under MiFID II:

1. Direct payment from the P&L

Exhibit 15: Payment directly out of asset managers own P&L



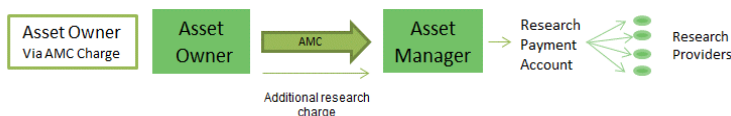
Source: Frost Consulting

The asset manager can pay for research directly out of the corporate P&L, with no additional research charge to the client. This will reduce asset managers' profit margins and may spark a lively internal examination of the price and value of research that the investment department proposes to purchase. A high-profile example of this was the Woodford Investment Management announcement in April 2016 that its flagship Equity Income Fund would no longer charge for research fees to the fund, instead the cost is being absorbed by its own P&L. This was followed by M&G, which in May 2016 announced it will stop charging investors for external research from 1 January 2017.

2. Client Money

The next two options involve the use of client money, and as a consequence, MiFID II requires that the research payments be made from a Research Payment Account (RPA) controlled by the asset manager. This is in contrast to the CSA model in which the CSA banks are making the research payments.

Exhibit 16: The “Swedish model”

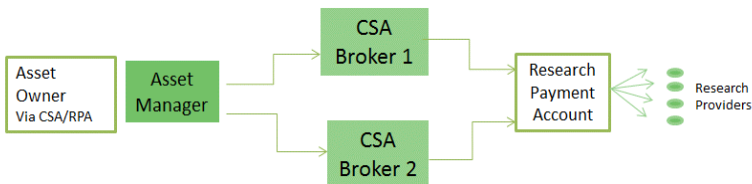


Source: Frost Consulting

2.1 Swedish model

In the option above, sometimes referred to as the “Swedish model”, the asset manager asks the asset owner for additional funds (on top of the agreed management fee) for research. These funds are placed directly into the RPA. While feasible for some managers, depending on the nature of the relationship with, or ownership of, the client, many managers appear to be reluctant to ask asset owners for further research funding.

Exhibit 17: Using CSAs to fund a RPA



Source: Frost Consulting

2.2 Commissions and payment accounts

The final option may be to use CSAs to fund the RPA. Regulators might permit research charges to be collected alongside transaction commissions, subject to stringent conditions and so long as there is no link to transaction volume or value. A CSA-funded RPA would be the only way asset managers could use commission to buy research in the EU under MiFID II. As the only alternatives are using the firm’s own P&L, or asking asset owners for more money, this may likely prove to be many managers’ preferred option.

A finite monetary research budget would be required, but the collection mechanism would be via CSA. Yet, in a change from the traditional CSA process, the CSA balances would be transferred from the CSA brokers to the RPA, from which the research payments would be made.

This approach has two advantages relative to the current CSA process. First, it simplifies the payment process. All the research payments are made from one account, rather than from multiple CSA brokers. Secondly, and perhaps more importantly, it anonymises research payments made by the asset manager.

Under the current system, the CSA broker making the research payment on behalf of the asset manager has visibility into which producers the manager is paying and how much. If managers have discovered proprietary sources of alpha, particularly outside of the bank/broker universe, it may not be in their interest for that information to be released.

Contrast this with the equity-execution market, in which asset managers' sensitivity to "information leakage" has led to huge system-wide capital expenditure on algorithmic trading tools and has caused managers to cut multi-million share blocks into clips of a few hundred shares.

Challenges of CSAs

The CSA/RPA model may be the predominant research funding choice post-MiFID II, if permitted. However, it will present challenges, particularly for managers with limited CSAs in place (eg those in continental Europe).

In order for managers to establish appropriately scaled CSA programmes, they would need to determine:

- The size of the anticipated research budget, firm-wide.
- The envisaged split between execution and research commissions in the CSA programme, and, given the firm's historical portfolio turnover levels.
- The percentage of total anticipated equity trading that will run through CSA programmes in order to generate the commission pool necessary to fund the research budget via the RPA.

-
- The optimal number of CSA brokerage relationships to establish, given the percentage of CSA turnover.
 - The means by which the data complexities of the multi-broker CSA programme will be managed.

This will not be a trivial exercise for many managers. In cases where the percentage of CSA trades required to fund the budget is the majority of the firm's equity turnover, many individual CSA broker relationships may be required to access sufficient trading liquidity to deliver “best execution”. Each CSA relationship requires a bilateral CSA agreement between the asset manager and the CSA broker.

Frost Consulting estimates that CSA trades are likely to comprise ~80% of total secondary trades in Europe by the end of 2018. As an indication, asset managers will need to consider how many of their current brokers would be required to reasonably execute the percentage of CSA trades they anticipate being needed to fund the research budget. This would be equivalent to the number of CSA brokers required on Jan. 3, 2018. As each CSA broker would be providing monthly CSA balance statements, potentially covering hundreds of thousands of trades and multiple sub-accounts, the data issues are not insignificant.

Consequently, managers will need to analyse in advance how to manage these data issues. In the pre-MiFID II environment of “organic” CSA growth, most managers added CSA relationships gradually, as the percentage of their CSA trades grew. Under MiFID II, CSA adoption could see rapid growth and managers would need to consider the architecture necessary to support the ultimate CSA volumes at the beginning of the process.

Research payment/budgets

Regardless of which research funding method is selected, more-granular research budgets will be required. In the latter two research payment

methods, because client money would be used, a monetary-research budget would be required.

Under the first option, where the asset manager would pay for research directly from the P&L, there would not be a requirement to keep a research budget. However, senior management and shareholders would likely be interested in the rationale for, and quantum of, research spending.

Conclusion

Undoubtedly, the transition from broker vote to MiFID II-compliant monetary-research budgeting and client allocation will be a challenge. However, there will be benefits to the entire asset owner/asset manager/research producer ecosystem over time.

Research budgeting will:

- Increase return on investment in research spending by sharpening focus.
- Result in more efficient research production as research producers receive more granular feedback on their products.
- Create greater alignment between asset manager research spending and asset owner investment objectives.

Ultimately, to the degree that the research valuation/budgeting regime improves returns for investors, the long and challenging process of transition will have delivered an important, tangible benefit.

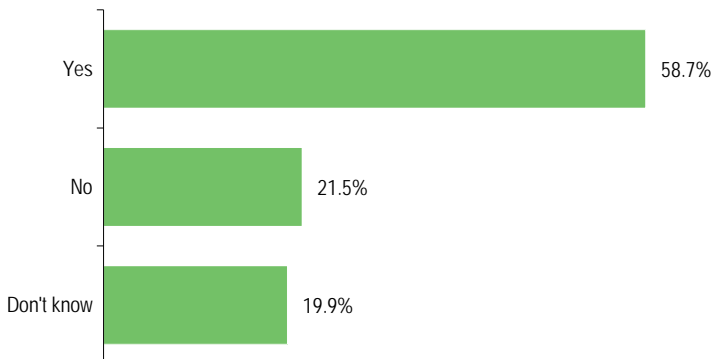
What the EU changes mean for research

The market for investment research sits firmly under the spotlight.

Key developments we would expect to see include:

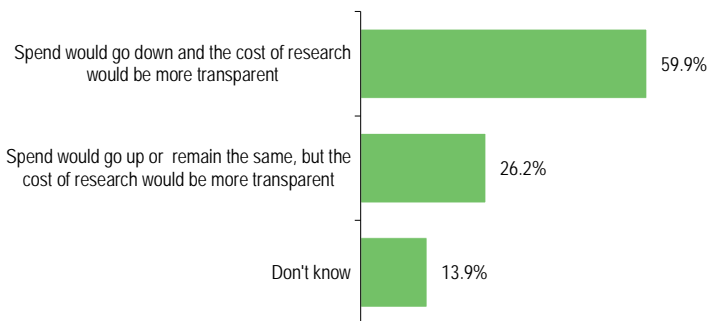
- The continued separation of revenues generated from the trading of securities and the payments for research services.
- A move in research produced from investment banks from an unpriced to a priced environment for research produced by investment banks. A CFA Society survey found that 58.7% of those surveyed felt that the sell side should move to a priced environment for the provision of research (see Exhibit 18).
- An opening of the content universe available to asset managers, with managers becoming more selective about what they buy. A la carte research may rise as a result, as managers could opt for tailored coverage over paying a lump sum for wider research.
- A continued shrinking of the overall payments made for research services to investment banks. Some 59.9% of respondents in the CFA Society survey expected commission spend to go down if sell-side houses priced research (see Exhibit 19).
- A reallocation of spend to research providers. Price discovery tends to be a very good thing for high-quality producers of research, but is extremely commoditising for the average producers of research. Some 59.8% of those surveyed by the CFA Society felt that the current research model does not best serve the investors, while 70.1% of felt that independent research would gain market share (see Exhibit 20 and Exhibit 21).
- A continued consolidation on both the buy side and sell side as the buy side moves to produce more of its research inputs in house in response to pressures to move research spend from off-balance sheet to on-balance sheet, effectively paying out of their own P&Ls rather than through client commissions. 73.2% of those surveyed by the CFA Society felt that sell-side analyst numbers would fall in the next few years.

Exhibit 18: CFA Society UK survey 2013: Should sell-side firms operate a schedule of prices for different elements or levels of research provision?



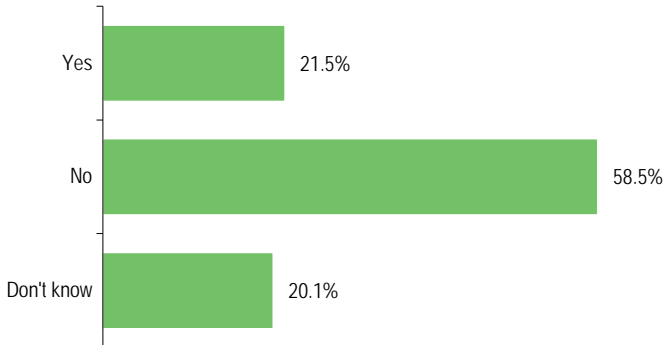
Source: CFA Society UK, September 2013

Exhibit 19: CFA Society UK survey 2013 – Would research commission spend go down if sell-side houses priced research or would it be more transparent?



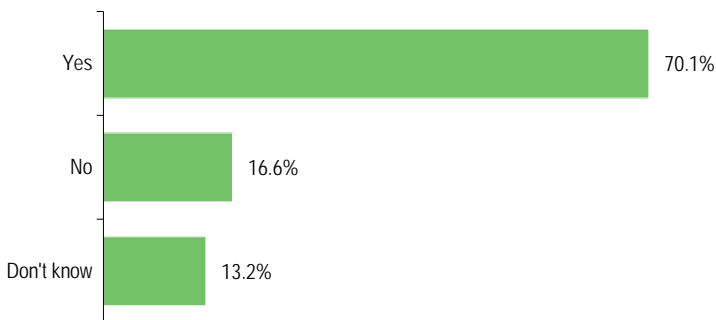
Source: CFA Society UK, September 2013

Exhibit 20: Does the current research model best serve the investor?



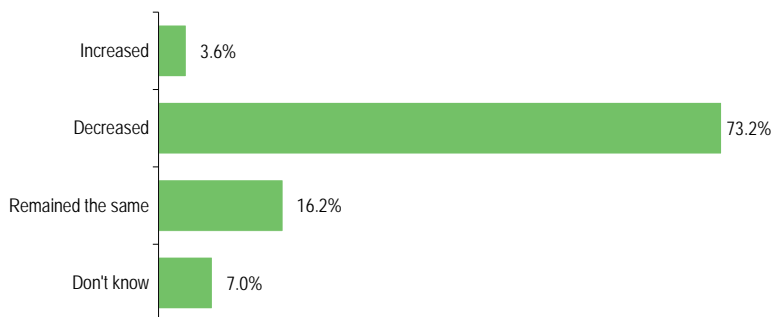
Source: CFA Society UK, September 2013

Exhibit 21: Do you think that independent research providers and other organisations will take share over time from traditional sell-side research firms (within investment banks) in terms of research payments, via commission unbundling or otherwise?



Source: CFA Society UK, September 2013

Exhibit 22: Within the next few years, what do you think will have happened to sell-side research analyst numbers?



Source: CFA Society UK, September 2013

Opportunity for research innovation

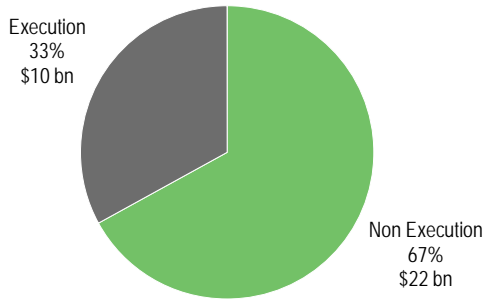
Equity commissions, the small percentage charge added to each equity trade to pay for execution and other services, are the economic currency of the global institutional equity market. Although the commission percentage is very small, the aggregate global commission number is very large.

Most commissions have two parts:

1. The execution charge, to pay for the trading, clearing and settlement of the equity transaction, and
2. A non-execution component to pay for other services (primarily research).

Frost Consulting estimates that these, combined, totalled US\$30bn in 2015. The respective splits are shown in Exhibit 23. Despite it being the smaller component of the pie, the execution side has seen significant innovation and an effective capex war over the last decade with the introduction and development of best execution, direct market access, algorithmic trading, TCA, multilateral trading facilities (MTFs) and dark pools.

While a little tongue in cheek, commentators on the research component of the pie would highlight the invention of the printing press, the move to word processing and the eventual distribution of research via email and the web as the most significant changes to the research industry.

Exhibit 23: Institutional secondary equity commissions

Source: Frost Consulting

Acknowledging the uncertainty and indeed the potential for no change, set out below are a number of the changes we envisage taking place within both buy-side and sell-side research.

Change 1: A network of new research inputs

A key issue for asset managers is how to change (in some cases) decades-old research procurement processes to take advantage of the new research spending flexibility. Without doubt, this will require cultural and operational changes at asset managers, some of which is already underway.

The generation-old virtual monopoly of investment banks over asset management research spending has stickiness. Most research procurement methodologies of asset managers are geared almost exclusively to purchasing research products/services from investment banks. Altering these models to incorporate a wider variety of “priced” research alternatives now available via commission may not be a trivial exercise for many.

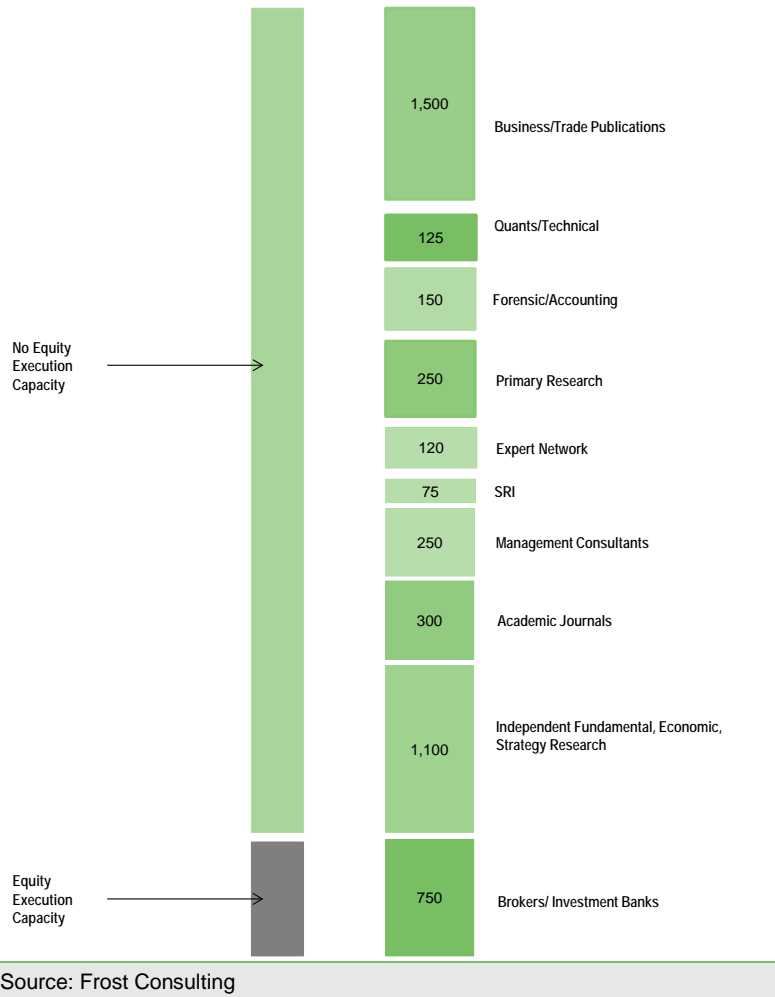
However, there are many asset managers that have embarked on this process. At a recent panel event, one asset manager explained how he paid an expert on franchises for inputs to his investment decisions on Nestlé.

The potential expansion of the size of the available research universe for asset managers is a challenge in itself. The grey vertical column in Exhibit 24 represents approximately 750 investment banks that distribute unpriced research in return for (hopefully) execution commission. The unbundled universe would include the grey and green vertical lines, and is much wider – most of these producers have no equity execution capacity as they are not banks. By definition, they must price their research products to survive.

A key issue for both asset managers and their clients is the degree to which the asset manager addresses the wider content universe. Some investors believe that the bulk of the alpha opportunities will not emanate from the investment banking research universe for three key reasons:

1. Investment banking research budgets are in decline and there is a strategic risk of building supplier reliance on an industry that looks to be contracting.
2. Investment banking research products are simultaneously released to all asset management clients, meaning the products are unlikely to be a source of sustainable comparative advantage for any one asset manager.
3. Research products from the non-investment universe may be individually commissioned by asset managers and the results are not subject to any requirement for re-distribution. Some of their value will derive from their proprietary nature.

Exhibit 24: Future alpha generation, leveraging the wider research universe



“Differentiated alpha” is more likely to spring from research sources that are not used by virtually all of an asset manager’s competitors.

Asset managers that have made the effort to identify and procure alpha-generating content from the unbundled universe will frequently guard the identity of those sources in an attempt to sustain this comparative advantage.

Over time, we expect that an asset manager's approach to the wider content universe will become an intrinsic part of their investment strategy, from both an operational and client marketing perspective.

Change 2: Unlocking the PDF

With asset managers facing an expanding research universe the distribution mechanisms for research are likely to change. In simple terms the distribution of research can be described as push and pull:

1. **Push:** In a legacy environment where investment bank research has no specific price, and its delivery and consumption is not bound by any contract, investment banks have distributed vast quantities of research to asset managers for no charge, in the hope of receiving an unspecified level of commission in return, whether the asset manager wanted the research or not. Asset managers frequently erected effective content firewalls to avoid being unnecessarily distracted by this deluge of information. Portfolio managers and analysts at large asset managers frequently received thousands of emails and hundreds of voicemails per week from the sales and research representatives of banks enjoining them to take some action over equities that may or may not have been relevant to the manager at the time.
2. **Pull:** Most asset managers prefer pulling research as and when they need it. However, given the volume of sell-side research being sent to them, often finding a key piece of information and identifying the author becomes a challenge in itself.

Banks and other research organisations are recognising that before they can become contenders for payment for research, they have to make it

easier for asset managers to access the information they want, while at the same time controlling where their content is being circulated.

This was illustrated in a quote from Simon Stilwell, who at the time was the CEO of Liberum. Simon went on record in a press interview when the company launched their digital research product, Optic, stating that “Fund managers don’t mind paying for research...But they only want to pay for something that is of value to them.” He noted of the traditional email and PDF distribution mechanisms that, “Readership rates are appalling. Something like 3% of the distributed audience were reading it. Either they didn’t value it, it was difficult to use, or they were so swamped they couldn’t get through it.”

An article by the *Financial Times* in November 2015 reported a European research manager, who asked not to be named, citing the “death of the PDF”, saying that his bank was pursuing a password-protected online portal and the enforcement of stricter client agreements banning the redistribution of content.

However, this is proving harder to do for two reasons:

1. Asset managers are reluctant to be tracked as to what they are consuming for fear of prices being moved if they are showing interest in a particular stock.
2. The unstructured nature of research content is makes it challenging to produce HTML content. Significant amount of time and money have been sunk into solutions provided by the likes of Quark and Eidos Media by banks including Goldman Sachs, HSBC, Morgan Stanley and Liberum, but the industry appears yet to have found the perfect solution.

The main benefit of adopting HTML over PDF is unlocking research content for mobile audiences. With more banks and research providers adopting HTML, research consumption has started moving to mobile. The next battleground for client attention is the smartphone. According to UK census data, Londoners endure an average commute of 74.2 minutes a day. That is 35 days per year

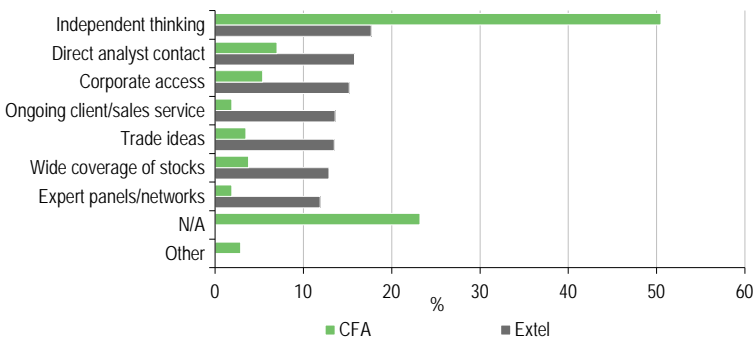
clients could be engaging with research content when unlocked for mobile audiences.

Edison, for example, has moved to the delivery of HTML research content, its model the opposite of banks, trying to get research content out to the widest possible audience.

Change 3: Banks' changing research content

In an unpriced research environment, banks do not have good feedback mechanisms as to what asset managers do and do not value. Asset managers have a wide range of needs. However, as they start to value research inputs and start to allocate a price to them, the profit-maximising firm would look to optimise value to cost. Looking at surveys from Extel and the CFA Society of the UK, asset managers ranked independent thinking as their top priority, followed by direct analyst contact and corporate access.

Exhibit 25: What asset managers value



Source: 2013 Extel and CFA Society UK surveys

Outside of these research inputs, common factors often cited for strategic relationships with banks include:

- **Access to their IPO pipeline.**
- **Access to their liquidity.**

Managers of cash equities businesses understand the value a good analyst can bring. They create value for their institutional clients through deep industry insight. They attract IPOs (with appropriate chaperoning) and allow banks to provide liquidity to their clients, for example, allowing a bank to price block trades more effectively. And ultimately they probably provide the best corporate access. However, they recognise that such analysts are few in number and that the economics of their business do not sustain in-depth research of a large tail of stocks.

A blueprint for the “shrink-to-fit” model may have been provided by a Nomura, which has historically had periodic ambitions to become a global player. The bank recently eliminated European equity coverage in order to concentrate on its Asian client base.

At the same time, we are seeing a “flight to quality” through:

- **A push to hire the best analysts in anticipation of broking lists being cut**, in an attempt to stand out from the competition. This thinking was echoed in a *Financial Times* quote from Terry Sinclair, head of European research at Citigroup, in November 2015: “We’ve had conversations with medium-sized funds still taking research from over 150 providers. If we think that we are top three, at worst top five, with the great majority of our target clients, we’ll expect to be well placed if lists shrink”..
- **Creation of innovative collaboration agreements**, with research departments working in collaboration with academic departments. UBS is understood to have started such an initiative with Massachusetts Institute of Technology (MIT).

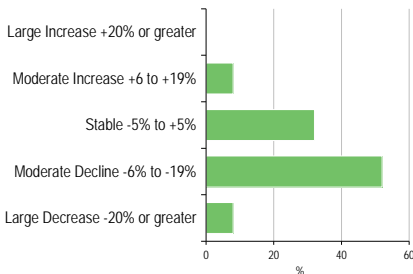
As investment banks prioritise profitable or potentially sustainable segments of their business, research patterns are likely to follow. This may encourage banks to specialise in areas of relative strength, where highly rated sector analyst teams are profitable and naturally generate opportunities on research, execution, corporate access and corporate finance businesses.

Change 4: Accessing the long tail of research

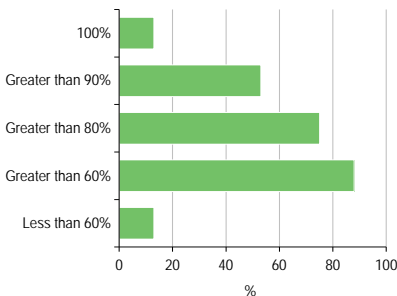
We recognise that the longstanding reliance of asset managers on investment banking research products has created institutional behaviours that may persist. The table below was the result of a survey of about 50 (primarily European) chief investment officers of large asset managers who attended a conference in Amsterdam in March 2012. It reveals that while most CIOs expected that investment bank research budgets would be flat or down going forward, the majority of asset managers represented remained significantly dependent on investment bank research products.

Exhibit 26: Dependency on investment banking research

Investment banking research budgets:
Expected % change through 2015 – asset
manager CIO responses



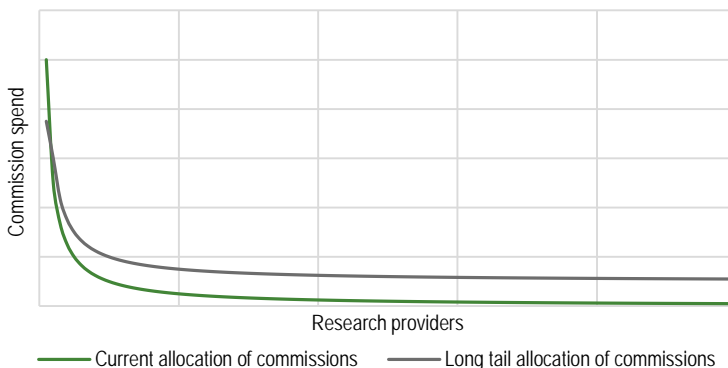
Percentage of total research from
investment banks – asset manager CIO
responses



Source: 2013 Extel and CFA Society UK surveys

Exhibit 27 below notionally describes the current allocation of commission spend among research providers. It is a reflection of the Pareto principle, namely the top 20% probably earn 80% of the commission pool. In practical terms, the top-ranked house earns disproportionately more from asset managers than the research provider ranked fifth or tenth.

Exhibit 27: Commission allocation follows a power law distribution



Source: Edison Investment Research and Frost Consulting

In theoretical terms, the distribution of commissions can be described by a power law distribution, reflecting asset managers' preferences in a market where there is a variety of options for them to choose from. The three characteristics typically required for a power curve distribution can be summarised as:

- **A large variety of choices being available for consumption.** This is worth bearing in mind when considering Exhibit 24 where as a feature of unbundling, the available research content universe for asset managers potentially increases dramatically.
- **Inequality among market participants.** Within the context of current asset manager consumption, there are analysts who are better than others and there are bank platforms that provide a louder voice than others for these analysts.
- **Network effects tend to amplify differences in quality.** The equity market is driven by sentiment. If the number one ranked technology analyst and a large global bank changed their view on the direction of the sector, most asset managers typically want to know about it.

The counter-intuitive thing about power laws are that as the system expands and thereby the number of options expands, rather than the curve flattening, it becomes more extreme as the gap between the number one choice and the median expands.

But all things are not equal. There are changes (both regulatory and technological) that are taking place in the research market place that suggest to us that Chris Anderson's theory of the long tail has many analogies to what we are seeing in the research environment.

Anderson's explains that "the theory of the Long Tail can be boiled down to this: [o]ur culture and economy are increasingly shifting away from a focus on a relatively small number of hits (mainstream products and markets) at the head of the demand curve, and moving toward a huge number of niches in the tail".

The physical world of selling a book has the constraints of printing, storage, distribution and the finite shelf space. To make a return, hits or high-volume products were desired. In a Kindle world, these costs have virtually disappeared and there are no physical restrictions on shelf space. Amazon now makes significant money from a small number of niche titles across a broad spectrum.

With this in mind, before considering how the market may resolve the issue of what asset managers consume and pay for, we make the following four observations or assumptions:

- **Asset manager behaviour**, while likely to change in terms of research consumption as a result of regulatory scrutiny, is unlikely to change dramatically.
- **Asset managers have a diverse set of needs.** Survey data shows how some value corporate access, while others do not. Some value ratings, others do not.
- **Choice available to asset managers for research** in an unbundled world has dramatically increased compared to the bundled world.

- **Distribution costs of research have changed in a digital world.**

No longer are asset managers beholden to large sales teams filtering and alerting them to daily content being produced from their respective banks. In an unbundled, digital world, where research content is made searchable, they call pull in and pay for the inputs they want from a long tail of content available to them.

Aggregators that can marry up supply and demand in the same way Amazon, iTunes and Netflix have in books, music and movies may see opportunities emerge. We have seen a number of new research aggregators start up, such as Research Tree, ResearchPool, RSRCHXChange, AIREX Market and ERIC (Electronic Research Interchange). These aggregators are a means for research providers from finding alternative means of monetising their research when traditional institutional payment streams are under pressure. Aggregator platforms like Research Tree can offer an effective distribution route to sophisticated private investors who often command large proportions of share registers. They also facilitate better access to the long tail of commercial clients that wouldn't normally have a direct relationship with the provider.

One firm that has had success following a long-tail model is Gerson Lehrman Group, which filled the research gap by providing timely and proprietary insights from a long tail of expertise that was difficult for broking firms to provide.

Research providers in the long tail will need to think about how to optimise their business models for this world. The following long-tail strategies will fall under consideration:

- **Make everything available.** The broader the offering, the more likely you are to find a buyer in a world where people are seeking niche inputs. In particular, be aware that the more global the offering, the better, as asset manager flows are shifting towards global funds. The power of the archive also cannot be understated here,

particularly when considering how Google search engine optimisation works.

- **Price it to overcome the psychological “not worth it” moment.**

For example, if an asset manager wants to access a two-year-old detailed analysis of the Dutch mortgage market, but finds it is priced at US\$100,000, or is required to fill in five forms to access it, chances are said asset manager would move on to the next problem of their day.

- **Help asset managers find the content they want.** Content has to be searchable. We have already discussed unlocking the PDF. However, there are steps beyond that. Modern digital content distributors understand their audience and can push personalised content based on previous preference compatible with the device (PC, mobile or tablet) that the content is being consumed on.

- **Brand and reputation matter.** The asset management industry is heavily regulated. Asset managers will want to ensure that the content being produced has credibility, the analysis is reliable, and the firm they are dealing with has systems and processes that ensure they are producing content that fits within a compliance regime. Many in the expert network industry have recently been penalised by regulators for supplying confidential inside information to the asset management community.

- **Be aware of network effects.** Anderson gave the example of how John Krakauer’s bestseller *Into Thin Air* led to the revival of *Touching the Void*, a book written 10 years earlier by Joe Simpson. The prize on offer to research providers through the long tail is discovery. If a leading global bank changes its view on oil stocks because of a Middle East risk view, and a research provider is timely enough to promote relevant content or an expert network at the same time, and the work is impressive enough to make a difference, the provider can climb through the rankings. The asset manager may well come back for more.

Change 5: Exchanges facilitating research

The long-tail research model suggests that commissions will continue to be concentrated among the large, global investment banks that can give asset managers capital markets insights, access to the best analysts, liquidity, IPO pipelines and corporate access. The smaller sell-side houses are faced with increased competition for commission dollars from a broader spectrum of research providers.

With the larger banks recognising that provision of detailed research on a large tail of securities is no longer commercially viable, and more and more sell-side houses exiting the cash equities business, few market participants would likely suggest we are going to see a reversal of the trend of diminishing sell-side coverage of stocks.

Stock exchanges around the world have started to recognise that this paucity of coverage on stocks listed on their exchanges is not in their best interest. Exchanges derive listing, data, and transaction fees based on the listing and trading of these equity issues and are now starting to allocate budget to respond to the demise of stock coverage from the investment banking community.

Stock exchanges also recognise that volume is generated not just by the institutional investment community, but also by the private wealth and retail community, which lack access to reliable data and high-quality research.

This is a process that is just starting, but we are seeing increasingly larger budgets by exchanges being allocated to the provision of research as they compete with each other to be an attractive listing venue. Set out below are a number of the exchange schemes in operation:

- **ASX:** The Australian Securities Exchange has started a trial equity-research scheme, initially allocating A\$1 million. In total this is expected to increase to A\$10 million. The scheme provides factsheets for companies below A\$50 million in market capitalisation, retail research reports for companies in the A\$50 million to A\$200

million market-capitalisation range and full institutional research for companies with market capitalisation greater than A\$200 million.

- **Deutsche Börse:** Deutsche Börse has for the last decade hosted the *Deutsches Eigenkapitalforum*, a three-day conference for small and mid-cap companies attracting over 180 companies, which present to investors and sell-side analysts.
- **LSE:** The London Stock Exchange initially launched PSQ Analytics to provide listed companies with an independent research service. It has since started to promote the wider issuer-paid-for research service available from a variety of providers to issuers coming to their market.
- **NYSE Euronext:** Partnering with Virtua Research, a technology firm that provides modelling tools, the exchange makes available interactive financial models on NYSE and NYSE-Amex listed companies for all investors.
- **NZX:** The New Zealand stock exchange has entered into an agreement with Edison to provide research on companies listing on their newly formed junior market, the NXT.
- **NASDAQ OMX:** NASDAQ OMX offer basic profile reports through Morningstar on 3,600 NASDAQ- and Nordic-listed companies. From January 2010, qualifying companies could also contract with NASDAQ OMX for the provision of a more detailed Morningstar Institutional Equity report.
- **SGX:** The Singapore Stock Exchange through the SGX Research Insights (SERI) programme funds the production of detailed research on a number of companies via Standard & Poor's and also funds the production of sector research using DnB Nor Markets. The SGX has since stopped the scheme and is considering alternatives.
- **Bursa Malaysia:** Bursa Malaysia, in partnership with the Capital Markets Development Fund, has a co-funded research scheme for companies listed in Malaysia. Regulated research providers are chosen by the exchange to provide research for a two-year period to

companies that elect to pay a RM15,000 fee, matched by the Capital Markets Development Fund.

- **BSE and NSE:** The respective Indian stock exchanges both have schemes funded through their investor protection funds to provide research. The NSE's research is provided by CRISIL, a subsidiary of Standard & Poor's.
- **TASE:** The Tel Aviv Stock Exchange has announced the start of a research scheme focusing on their growth segment (technology and biotech). The exchange has picked Edison and Frost & Sullivan to provide research and the scheme is currently being marketed to issuers listed on the exchange.

Change 6: Issuer-sponsored research

As sell-side coverage diminishes, there has been growth in the number of firms or issuers commissioning a research provider to produce equity research. While many sell-side firms were retrenching between 2007 and 2012 as a result of the financial crisis, Edison Investment Research, one of the largest issuer-sponsored research houses, saw its coverage grow at a 22% CAGR.

The primary criticism of this model has been one that has been voiced for over a decade: conflicts of interest. The concern was that paid-for analysts would be overly optimistic to encourage clients to renew or continue with their coverage. Beyond the funding conflict, the question also being asked was whether paid-for analysts have the ability or experience to bring forward any new insight or experience to the market.

The proponents of the model cite that the conflict is no greater than an issuer paying a bond ratings agency to rate its paper or an auditor to sign off on its accounts. Both ratings agencies and auditors have their own reputations to think of and being credible matters. The impact of Enron on Arthur Anderson is perhaps the best example of what can go wrong. Furthermore, as long as the relationship was made transparent, it was far less opaque than the traditional sell-side model where there may

be a hidden and a larger monetary incentive to facilitate a fund-raise, complete an M&A deal or facilitate a block trade.

In his paper “Research for sale: Determinants and consequences of paid-for analyst research” in the *Journal of Finance Economics*, April 2011, Assistant Professor Mark Kirk of the University of Florida examined whether an issuer procuring research services had any benefit. His data set examined more than 500 firms in the US who paid for analyst coverage between 1999 and 2006. His findings can be summarised as:

- **Paid-for research does provide information content for investors**, evidenced by two days of abnormal returns after research reports were issued.
- **After initiation companies experience increased institutional ownership**, additional analyst coverage and improved liquidity.
- **Results were much stronger for credible issuer-sponsored research firms**. Firms with stronger policies in dealing with conflicts of interest were found to have a greater impact on the stock.

Edison provided data to a US fund manager for their contract start dates and publication dates. The fund manager conducted an impact analysis investing a notional dollar in every stock Edison initiated and compared this to a notional dollar invested in the local index. The findings supported the impact on volumes and pricing found in Professor Kirk’s study.

What is being evidenced is that as traditional sell-side research retrenches due to the regulatory and structural changes being imposed in the market, the issuer-sponsored research model is starting to fill the void.

What is also apparent is that compared to the traditional sell side there appear to be competitive structural advantages for the issuer paid-for research houses:

- **Independence**. As the issuer paid-for research industry has matured, asset managers, once sceptical, are starting to understand

the business and appreciate the independence from trading flow and corporate finance work.

- **Highly visible, contracted and recurring revenue.** The big difference between a sell-side research desk and the issuer-sponsored research desk is that at the start of a financial year, one has no commitments in terms of commission spend, the other has annual contracted revenues with a history of repeatability.
- **No single customer dependency.** As issuer-sponsored research houses have grown their coverage, they are less and less dependent on any single customer. Not only does this make them less susceptible to economic shocks, they also can be firm in protecting their credibility and independence.
- **Clear focus and a transparent revenue model attracting talent.** Issuer-sponsored research houses have started to grow large analytical teams. One of the principal attractions for analysts is that revenue attribution is very transparent. Within the sell side a single commission dollar can be fought over by analysts in different sectors, a salesperson, a sales trader and a trader. Within an issuer-paid-for research model, if 10 issuers are paying an analyst to cover their stock, the revenue is easily attributable. Analysts have also cited that there are no conflicting demands on their time between investment banking and cash equities.
- **Lower cost base.** Issuer-sponsored houses do not incur the significant overhead costs that come with building M&A and trading departments. Earlier we noted that the cost of producing research from the sell side can be as high as US\$60k per stock. Currently, a house such as Edison charges US\$55k for annual coverage.

We cannot help draw a parallel from the bond market, where there are three dominant information providers on bond ratings: Standard & Poor's, Moody's and Fitch. Their information, paid for by issuers, is relied on as a base case by investment banks and asset managers. These market participants are free to take a different view from the ratings

agencies (and profit from it if they are right). However, a lot of the groundwork in providing that information has already been done by the ratings agencies.

As the cash equities business becomes increasingly commoditised, and asset managers remain reluctant to take on the cost of research onto their own P&Ls, there is a possible market solution in the provision of information from a number of issuer-sponsored houses. Instead of regulators facilitating this push, increasingly it seems that the world's stock exchanges are providing the impetus for this.

As with the bond world, these houses will sit alongside the inputs from the teams at global investment banks and from niche research providers (the long tail). If the industry has the appetite for change, far from losing research inputs, the asset manager faces a world with a greater degree of choice, which is provided at a more transparent and lower cost. This is likely better for the asset manager and better for the consumer. The alternative, of course, is that no action is taken and nothing changes.

The importance of equity research

While the relative merits of the various research payment alternatives are likely to be debated, it is worth remembering the benefits that research brings to capital markets and why it is important an enduring solution is found. Equity research does play a vital role in capital markets through influencing and enhancing:

- Price formation and evaluation of the cost of capital;
- New issuance and capital formation; and
- Public/political awareness of the capital-market function globally.

Price formation

Equity research allows investors of all types to make more informed investment choices by increasing their understanding of the absolute and relative attractiveness of investment alternatives, based upon asset classes, geographies, sectors, industries and individual companies.

While research produced by a wide variety of sources may be useful in making investment decisions, research produced by investment banks and other investment-oriented research firms is particularly relevant to institutional asset managers. This is because it fuses industry analysis with company analysis, and ultimately the analysis of the securities of that company with a view to an investment conclusion. Industry journals, for example, may inform on industry fundamentals, but are not designed to analyse the investment merits of particular companies operating in that industry on either an absolute or relative basis.

The table below is a schematic of the research universe used by many institutional investors. By combining the analysis of research providers at multiple levels and from multiple angles, a more nuanced understanding of the risk/reward relationship of a given security may be derived.

Exhibit 28: Use of research by asset managers

Research Producers	Category	Type of Analysis	Level of Analysis	Selection
Investment Banks Independent Analysts Independent Strategists	Macro/Strategy	Economic Top-Down Quantitative Risk/Return by Asset Class	Asset Class	Equities
Investment Banks Independent Analysts Industry Consultants Sponsored Research	Macro/Strategy	Region/Country Risk/Reward - Political - Economic - Other	Geography	United States
Investment Banks Independent Analysts Industry Consultants Sponsored Research	Industry Analysis	Industry Dynamics/ Competition Cyclicality/Risk Earnings/Valuation Outlook/Valuation/Projected Return	Industry	Energy
Investment Banks Independent Analysts Industry Consultants Sponsored Research	Sector Analysis	Industry Dynamics/ Competition Cyclicality/Risk Earnings/Valuation Outlook/Valuation/Projected Return	Sector	Oil & Gas
Investment Banks Independent Analysts Industry Consultants Sponsored Research	Sub-Sector Analysis	Industry Dynamics/ Competition Cyclicality/Risk Earnings/Valuation Outlook/Valuation/Projected Return	Sub-Sector	Oil & Gas-Integrated
Investment Banks Independent Analysts Industry Consultants Sponsored Research	Company Analysis	Competitive Positioning Corporate Strategy/Management Operating/Financial Leverage Outlook/Valuation/Projected Return	Company	Exxon-Mobil

TOP
DOWN

BOTTOM
UP

Source: Frost Consulting

These types of investment research play several vital roles in price formation:

- **Establishing market context**, by creating consensus for industry and company earnings and valuation expectations. They consider current and future conditions in light of historical ranges of valuation and earnings volatility.
- **Context allows relative valuation**, by comparing sectors/industries/companies to one another and to their joint and individual respective histories.
- **Capturing operating leverage**, at the individual company level and analysing changes over time.

Ultimately, to the degree this research informs investors, it creates more efficient (and liquid) markets by disseminating (1) information and (2) expectations. In the absence of those two factors more events would be a surprise thus increasing equity volatility, and likely lowering both equity valuation and confidence in the equity markets. Equity valuation determines the cost of equity capital, with significant implications for the operation of the economy as a whole.

New issuance and capital formation

New issuance of equity, and the cost thereof, is critically dependent on the market context described above. More efficient equity markets are likely to have higher levels of valuation and liquidity, thereby lowering the cost of equity capital and easing the task of capital formation.

This is most readily illustrated by comparing the valuation and market characteristics of open, liquid, developed markets with frontier markets (examples might include countries such as Nigeria and Iran) where valuations, liquidity and new issue activity is low. This explains why many Russian companies, despite a high level of investor interest in their industries, have chosen to list in London rather than in Moscow.

Obviously, the transparency of the legal system and protection for minority investors is also an important consideration.

Efficient markets are central to funding growth industries. Of all the asset classes, equities are by far the best suited to funding new (and sometimes) speculative ventures. Fixed income, given its necessity for regular and recurring payouts, is very unsuited to the needs of capital-consumptive growth companies, whose prospects may be open-ended, but whose immediate cash flow does not lend itself to bond payments, particularly when the alternative is to reinvest in their rapidly growing businesses.

This tendency remains even after (historically) growth companies are effectively self-financing, which explains why companies such as Microsoft, Google and Apple, despite ample (apparently unneeded) cash on their balance sheets, pay *de minimis* dividends.

Equity markets, in which there is a historic context for growth stocks and valuation techniques to balance short-term losses with long-term company valuation, can lower the cost of capital for growth companies.

Research plays a vital role for growth companies, particularly in new industries whose characteristics and future potential may not be well understood by all investors. For investors to take the risk of investing in loss-making growth companies, research provides critical perspectives on the ultimate reward (market size/profitability) that may balance the short-term risk.

Even in developed markets, long-term attitudes to the "price of growth" can have a significant impact on the cost of capital. Historically, German companies (even publically quoted ones) have been heavily reliant on bank rather than equity financing. In the French CAC40 Index only three companies are less than 50 years old, with the average age 117 years and the eldest 355. By contrast, three of the largest 10 US (and global) companies are considerably younger: Apple and Microsoft are less than 40 years old, and Google was founded in 1998.

Public awareness of capital markets' function

Efficient, transparent and regulated equity markets increase wealth by lowering the cost of capital and funding growth in both corporate profitability and the economy as a whole, and ultimately, employment. The role of research in this process cannot be understated.

The transformation of the world economy since 1979 has been staggering. At that time major components of today's global economy (China, Brazil and Russia) were essentially outside the world economic system. Capital markets have been a key mechanism by which these economies have been integrated into the global system. Policymakers in these countries ultimately recognised the central role of liberalised financial markets in fostering the growth necessary to transform their economies.

The capital required to fund this growth, at least in the early stages, had to come from abroad. Again research played a vital role. Forty years ago the bulk of equity investments were benchmarked against a series of domestic equity indices whose constituent companies were well known to local analysts and portfolio managers. The move to global and emerging market indices was a quantum leap in terms of the amount and complexity of information and investment factors that asset managers had to digest. Not even the largest asset managers can economically provide continuous internal coverage of more than 10,000 companies in over 100 countries. External research from a multitude of providers (global/regional/local) created an investment context that allowed asset managers to make investment decisions in a far more complex global investment environment.

Conclusion

In summary, the new MiFID II rules are likely to lead to a contraction in sell-side coverage and support, and a more concentrated buy side.

IROs and corporate management teams may seek to:

- **Review budgets allocated to investment research activities.** What was once perceived to be free is now moving into a priced model. Activity will need to be either supported by more in-house resource or using third-party service providers.
- **Make it easier for both the sell side and the buy side to follow your company.** This includes a review of websites, presentation materials, producing regular KPIs and (following the lead of Microsoft) introducing a downloadable model.
- **Allocate more of their time to the strategic targeting of investors.** A concentrated buy side presents a greater challenge for IROs in developing a diversified shareholder register. There are large pools of capital available outside the traditional institutional fund manager route, particularly in private wealth assets. Additionally, IROs need to establish how they, or a third party, can provide the valuable feedback, both good and bad, for investors that can help management teams evaluate their own businesses.

Resources

Autorité des Marchés Financiers

[Public consultation on the new rules for the funding of research by investment firms under MiFID II](#) (2016)

Boston Consulting Group

Global Asset Management 2013: Capitalising on the Recovery, 9 July 2013

CFA Society of the UK

CFA Society of the United Kingdom Response to CP13/17, 24 February 2014

Chris Anderson

The Long Tail, Hyperion (2006)

European Commission

[AIFMD: Directive 2011/61/EU](#)

[MiFID II Delegated Act, C\(2016\) 2031](#)

[MiFID II: Directive 2014/65/EU](#)

[MiFIR: Regulation 600/2014](#)

[MiFID: Directive 2004/39/EC](#)

[UCITS Directive \(UCITS V\): Directive 2014/91/EU](#)

European Securities and Markets Authority

Final Report: Technical Advice to the Commission on MiFID II and MiFIR (2014), ESMA/2014/1569

Consultation Paper on MiFID II/MiFIR (2014), ESMA/2014/549

Financial Conduct Authority (pre-2013, the Financial Services Authority)

Conduct of Business Sourcebook (COBS)

CP16/29 Markets in Financial Instruments Directive II Implementation – Consultation Paper III (2016)

FS15/1 Feedback statement on DP14/3 – Discussion on the use of dealing commission regime (2015)

PS14/7 Changes to the use of dealing commission rules (2014)

DP14/3 Discussion on the use of dealing commission regime (2014)

CP13/17 Consultation on the use of dealing commission rules (2013)

Conflicts of Interest (2012)

CP-176 Bundled Brokerage and Soft Commission Arrangements (2003)

Financial Times

Financial Times, *Deadline looms for banks to get their research arms in order*, 17 November 2015

Paul Myners

Review of Institutional Investment in the United Kingdom (2001)

Professor Mark Kirk

Research for sale: Determinants and consequences of paid-for analyst research, Journal of Finance Economics (2011)

Securities and Exchange Commission

Commission Guidance Regarding Client Commission Practices (2006)

Regulation NMS (2005)

Tabb Forum

Saving the Investment Research Business Model, 25 February 2015

UK Investment Association

The Use of Dealing Commission for the Purchase of Investment Research, February 2014

World Federation of Exchanges

Rebuilding IPOs in Europe – creating jobs and growth in European capital markets European IPO Task Force, 23 March 2015

Definitions

AIFMD	Alternative Investment Fund Managers Directive
AUM	Assets Under Management
CCA	Client Commission Agreement
COBS	Conduct of Business Sourcebook
CSA	Commission Sharing Agreement
ESMA	European Securities and Markets Authority
FCA	Financial Conduct Authority
FSA	Financial Services Authority
IPO	Initial Public Offering
IRO	Investor Relations Officer
MiFID II	Recast Markets in Financial Instruments Directive
NYAG	New York Attorney General
P&L	Profit and Loss Account
RPA	Research Payment Account
SWF	Sovereign Wealth Fund
TCA	Transaction Cost Analysis
UCITS	Undertakings for Collective Investment in Transferable Securities Directive

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