Transparent Alignment in Investment Research: From Unbundling to Relational Contracting

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Abstract: Unbundling fees for financial services – e.g., separating payments for third-party research from commissions for trade execution – is in the long-term best interests of institutional asset owners: it can increase both transparency and alignment with intermediaries, such as external asset managers. Yet *how* unbundling takes place can be a major determinant of *when* its benefits for asset owners are realized. That is, for asset owners, long-term gains from unbundling can come at a cost of short-term pain – as recent experiences under MiFID II demonstrate. In this paper, we explore paths for increasing transparent alignment between asset owners and their external asset managers over both short and long horizons. We argue that 'research budgets' are a crucial tool to this end, because they could support deeper relational contracts between asset owners and managers. We discuss how emerging lessons from MiFID II show a need for institutional asset owners to take a proactive role in understanding not only their asset managers' spending on third-party research, but also how that research generates value-for-money in terms of alignment with those managers' intended investment strategies and processes. More participatory research budgeting could also help asset owners' relationships with their external asset managers in areas beyond research spending, e.g., in better controlling style drift, monitoring ESG efforts, and doing more rigorous performance attribution.

Keywords: asset management, governance, institutional investing, investment research, MiFID II, relational contracting, style drift, unbundling, value-for-money

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1. Introduction

Financial systems are often described in ecological and evolutionary terms (see, e.g., Lo [2017]). If one accepts such metaphors, then institutional asset owners – including public pension funds, endowments, and sovereign wealth funds – are a (if not *the*) keystone species.[1] As stewards of over $USD 70 trillion, they supply a significant share of the capital that allows global financial markets to function.[2] Despite their importance, these asset owners (hereafter, *Investors*) are not a thriving species. Their success is hindered by excessive fees charged to them by intermediaries – e.g., investment banks and external asset managers (hereafter, *Managers*) – as well as a dearth of transparency on whether those fees are spent in ways that truly serve Investors' long-term best interests [Clark and Monk 2017; Monk et al. 2017]. It can thus be said that, until recently, financial systems had settled into an 'exploitative equilibrium', as far as Investors were concerned.[3]

Financial systems are, however, characterized by *punctuated equilibria*: changes tend to be gradual for long stretches of time, until they are dramatically accelerated by disruptive events, such as market crashes or sudden regulatory shifts (see, for instance, discussion in Sornette [2003] and Mandelbrot and Hudson [2004]).[4] Unbundling of various financial services under MiFID II is one such punctuating event that will likely lead to a more advantageous equilibrium for Investors.[5] Unfortunately, that equilibrium now looks as if it might take a long time to reach, and the journey to it could be a painful one for both Managers and Investors.

This paper explores how that journey, and the equilibrium at which it aims, can be made more beneficial for Investors. We focus on how unbundling of one particular financial service – the provision of third-party investment research – could be improved to create more transparent alignment between Investors and their Managers.[6] Our core observation is that the path currently

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[1] A keystone species is one upon which the viability of an entire ecosystem (or majority of it) depends. A decline in that species' success can therefore cause the system in which it resides to malfunction. On these grounds, Investors are, collectively, a keystone species for not only financial systems, but also socioeconomic systems more broadly, as they enable a wide array of core services, including (but certainly not limited to): endowing the arts and sciences, contributing to macroeconomic and fiscal stability, providing later-life incomes, and financing critical infrastructure.

[2] 2016 estimate by the Global Projects Center at Stanford University (see Monk, et al. [2016]).

[3] The appropriate concept of equilibrium here is not a situation of zero change, but instead a relatively balanced and slow-paced change to the status quo (i.e., a dynamic and stable, rather than static, equilibrium).

[4] Punctuated equilibria were presented by Eldridge and Gould [1972] as an alternative to more linear theories of evolutionary progression.

[5] MiFID II constitutes an update to the original Markets in Financial Instruments Directive 2004/39/EC ("MiFID"). See: https://www.esma.europa.eu/policy-rules/mifid-ii-and-mifir.

[6] In this paper, "investment research" primarily concerns research in public equities markets (although many of the same arguments apply equally to markets for other publicly listed securities, such as bonds). Moreover, in referring

being followed is not ideal for Investors and may be unnecessarily costly to them. To be clear, it is undoubtedly in Investors' best interests that payments for investment research be unbundled from commissions for other services. But not all approaches to unbundling are 'created equal', and the present trajectory under MiFID II seems to merely be trading one form of misalignment of interests (Managers overspending on third-party research) for others (changes in the levels and types of risks to which Managers expose Investors), without materially improving transparency.

Our core assertion in this paper is that switching to a more optimal path – and its eventual equilibrium – is feasible by reprioritizing tools that already exist under MiFID II. In specific, we urge expanded use of the research-budget construct created by MiFID II.[7] Rather than functioning merely as a disclosure document, a research budget could be part of a participatory communication *process* between an Investor and its Manager. In doing so, research budgets could drive aligned transparency between Investors and Managers on payments for, and use of, third-party research. Such a process-oriented role for research budgets could also significantly improve Investors' understanding of their Managers' overall investment approaches.

We see this role for research budgets as supporting deeper *relational contracts* between Investors and Managers, which could prove pivotal for improving how Investors monitor their Managers in areas beyond research spending, e.g.: attributing performance, analyzing Managers' sustainability efforts, and controlling style drift without overly onerous investment mandates.[8] Rather than explicitly and exhaustively specifying rights and obligations of parties in a principal-agent arrangement (as standard contracts try to do), a relational contract emphasizes the shared understanding of how both parties should act in the relationship. In essence, relational contracts try to expose the 'spirit' (rather than the letter) of how principal-agent interactions are governed. Compared with standard contracts, relational contracts can provide substantial flexibility while keeping parties' interests aligned. In the context of actively managed investment strategies, this flexibility can be vital for Managers to operate under fluctuating market conditions; without it, many valuable opportunities could be foregone. Meaningfully specifying flexibility in a standard

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to "research", we collectively mean the total of (but not only) analyst reports and notes, analyst-facilitated meetings with corporate executives, and dialogue between third-party research analysts and other entities (e.g., Managers).

[7] For readers unfamiliar with rules on research spending under MiFID II, we provide a more detailed explanation of research budgets below. For now, understand that research budgets are (ex-ante) documents that stipulate how much money a Manager intends to spend (overall, in a given year) upon investment research on each of its Investor clients.

[8] For earlier work on the concept of relational contracts applied outside the domain of investment management, see, e.g.: Goetz and Scott [1981], Baker et al. [2002], and Hohn [2010].

contract in ways that preserve alignment of parties' interests can be prohibitively difficult, which thus makes relational contracts well suited in governing Investor-Manager interactions: they give flexibility to the Manager, so long as its Investor's expressed or implied intentions are respected.

A participatory research-budgeting process is also suited to underpin relational contracts between Investors and Managers because it fits with the *trust-but-verify* ethos of such contracts. Research budgets – and active interaction between Investors and Managers in producing them – offer a single platform for both cultivating trust and verifying it. This capability is crucial, since totally transparent research budgets would be inefficient. An Investor does not need to see every item of research used (or planned for use) by a Manager to know if they are aligned on research. Still, some transparency is necessary to test for alignment. Treating research budgets as relational contracts could help set – and preserve – this balance for both Investors' and Managers' benefits.

Pointedly, this proposed approach departs from the path that has been popularly adopted by Managers in response to MiFID II (see, e.g., Mooney [2017]). MiFID II's requirement that third-party research must be unbundled and explicitly priced is forcing Managers to evolve (if they have European clients or operations). Previously, most enjoyed access to a vast supply of third-party research – provided primarily by sell-side entities (namely, investment banks) – for which they paid nothing directly (see Mahmud et al. [2016]). Instead, Investors footed the bill for such research by paying fees that were tied to commissions for trade executions. Under MiFID II, Managers' abilities to spend on research have been greatly curtailed, so they are incentivized to alter the risks to which they expose their Investor clients: by either deviating from their intended investment strategies (in reaction to loss of research), or else pursuing their original strategies with less information than they previously had. When a Manager pays for third-party research from its own operations, these alterations – which can create clear misalignment with Investors' interests – may easily go undetected; MiFID II does not require Managers to report their research spending to Investors when Managers pay for third-party research themselves. Most Managers subject to MiFID II are choosing this path, rather than the alternative, which is to formulate a research budget that they share with their Investors, who can then decide whether they wish to fund that planned research spending. We believe that preference of the former path over the latter hurts the short-term interests of both Investors and Managers. It may also dilute some long-term benefits of unbundling for Investors.

As a catalytic event, MiFID II has potential to drive evolution in the financial ecosystem in ways that could empower Investors. But at present that potential remains under-utilized, both in Europe and other regulatory jurisdictions. Importantly, with MiFID II, Europe has become a first-mover in dismantling the longstanding regime in which third-party investment research is bundled with other sell-side services. That regime persists within other jurisdictions, such as the United States. But, following the announcement of MiFID II, some prominent US-based Investors have advocated for required unbundling of third-party investment research.[9] MiFID II could thus prove a watershed in global financial regulation that favors Investors.[10] It is, however, less likely to do so if perceived as a harmful (or, at least, unhelpful) source of disruption; indeed, negative experiences in Europe thus far seem to be giving US regulators (i.e., the Securities and Exchange Commission) pause in their pursuit of unbundling.[11] Finding ways to force transparency, as well as reduce misalignment, should thus be a priority for European regulators in influencing worldwide standards (which should be a goal, as few Investors or Managers operate in just one jurisdiction). Encouraging (or requiring) broader use of research budgets may be a useful step toward that end.

The setup for the rest of this paper is as follows. Section 2 gives further background on MiFID II and the emerging lessons from it. Section 3 details how the research-budget construct that is defined under MiFID II may be improved if treated as a relational contract. That section also describes how research budgeting, when viewed through the prism of relational contracts, can benefit Investor-Manager relations in other areas – such as performance attribution, tracking of environmental, social, and governance (ESG) activities, and efficiently controlling style drift. Section 4 sketches a framework useful for exploring what value-for-money an Investor receives from purchasing third-party investment research for its Manager (as such assessment should be a vital part of any participatory research-budgeting process). Section 5 recaps our key observations and arguments. We conclude the paper by raising open questions on investment research's future.

This paper is synoptic. It reflects our collective experiences from active interaction with Investors, Managers, sell-side providers of investment research, and regulators (about research

[9] See, e.g., Murphy and Walker [2017].
[10] Importantly, many non-European jurisdictions may enjoy a 'second-mover advantage', whereby they are motivated (or pressured) to follow the EU's lead in unbundling – yet can avoid some of its missteps in its policies on reforming research spending.
[11] Consider, e.g., the SEC's October 2017 no-action relief letters related to MiFID II.

pricing and problems of transparency in Investor-Manager relationships in general). Findings in this paper are based on dozens of close-dialogue exchanges with these entities over many years.[12]

2. Unbundling: Emerging Lessons from MiFID II

MiFID II came into force across the European Union in early January 2018. Through enacting it, regulators sought to increase fairness and transparency across financial markets. While MiFID II is a multifaceted directive, one of its chief objectives is to protect Investors from exploitation by intermediaries, including Managers. Specifically, MiFID II seeks to address misuse of Investors' capital in purchases of third-party investment research by their Managers. Such research – which is largely produced by investment banks and other sell-side entities – ostensibly helps Managers in their decision-making. Yet, from historical lack of transparency, Investors have not been readily able to verify the extent to which specific sell-side research supports Managers' performance.

Nonetheless, in the past, Managers have been able to access enormous volumes of such research with no upfront costs. Thus, they have had little incentive to track what research was truly valuable to their investment strategies in a disciplined way.[13] This absence of discipline when evaluating the relative (or absolute) importance of sell-side research has been accompanied – and reinforced – by (at best) weak discipline when tracking research spending. The system by which Managers paid for third-party research bolstered this undisciplined treatment of resources (see, e.g.: CFA Society UK [2014a]; Haig and Scarth [2016]). MiFID II directly sought to dismantle that system and instill more discipline around research spending.

2.1 Opacity in Research Payments

Before MiFID II, Managers would 'pay' sell-side providers for research primarily by executing trades through them. Payments for research would be bundled with commissions for execution. As such, research produced by the sell side was never explicitly priced, and the amounts Managers effectively spent on subsidizing its production were closely dependent on their trading activities.

This 'bundled regime' still operates in the US. And, although unbundling is preferable for Investors, it must be noted that bundling is not without merits. First, it expands the availability of investment research: bundling enables most Managers to access more research than they would

[12] See Clark [1998] on close-dialogue methods in social-science research.

[13] Notably, under the previous system, asset managers would receive investment research from sell-side providers without any upfront agreement about payment, which eliminated Managers' need for any ex-ante appraisal of what research, or research providers, were delivering the best value-for-money.

otherwise be able to purchase.[14] To the extent that availability of research raises market efficiency and disincentivizes sustained pursuit of arbitrages, this increased availability may push Managers to focus less intensely on short-term opportunism than would otherwise be expected. Second, it seems to enlarge Investors' choice sets – by allowing more Managers to participate in markets (which should hypothetically increase liquidity).[15] Third, extensive availability of market research to Managers from common sources should generally tend to facilitate faster attainment of market consensus, and therefore may help moderate volatility. Reasonably, less short-termism, greater choice among Managers, higher liquidity, and lower volatility may all be beneficial for Investors.

Nevertheless, broader availability of sell-side research *on its own* cannot support all these benefits; and its contribution to each of them is modest (at best). Moreover, the bundling regime also fosters perverse incentives and inefficiencies that, on balance, make it harmful for Investors.

Firstly, this regime weakens the feedback link between Managers and research providers on research quality and relevance. Under it, sell-side research providers' main signal on whether they are delivering appropriate research is noisy. They are rewarded for high-quality, relevant research via more trades placed with them by Managers. But there is no foolproof way of telling whether trades are placed due to Managers' approval of the provider's research, or the provider's efficiency in executing orders. Misfit research, meanwhile, might be signaled by reduced orders. Yet reductions in order volume may also occur due to poor trading conditions. Plainly, such weak signals have the potential for misguiding sell-side providers on what research Managers desire.[16]

Secondly, bundling encourages cross-subsidizations that might not be advantageous to Managers. That is, research commissions from a Manager's trades can fund research it will never use (i.e., it may be irrelevant for its strategies/products); so bundling can waste Investors' money.

Thirdly, tying research payments to trading makes spending on research unduly volatile and unpredictable. Unpredictability of investment-research spending has negative implications for Investors. For example, it can make net investment returns harder to forecast – because costs can become meaningfully decoupled from gross returns. Relatedly, in markets like the US, where

[14] This system tends to provide an implicit subsidy for smaller Managers.
[15] As we note below, however, a larger universe of Managers is not strictly better for Investors. Specifically, the difficulty for Investors of parsing luck from skill in Managers' performance is likely to compound when Managers are more numerous (as then the probability of some managers experiencing long runs of strong performance mainly by chance – rather than superior ability – increases).
[16] While sell-side providers do have contact with a large number of Managers (and other research consumers), the extensive availability of their research outputs makes contact with all consumers – or even a representative sample thereof – practically impossible (and so introduces uncertainty on how well that research is meeting users' needs).

research commissions are linked to overall trade values, research becomes more expensive when security prices increase, which is often when investment research can be most helpful for making advantageous choices.

Fourthly (albeit not lastly), bundling discourages purchasing research from providers that lack execution services (doing so raises Managers' explicit costs). This bias against independent providers can narrow Managers' perspectives and therefore allow vital risks and opportunities to go unnoticed. It also tends to reinforce the hegemony of dominant market players (which usually reduces how competitive such large players must be) along with the capacity for either Investors or Managers to collectively influence them (to address detrimental power imbalances with them).

2.2 Additional Dimensions of Overspending

Alongside the above-noted problems induced by bundling research payments with commissions for other services, *overspending* by Managers is consistently cited in arguments for unbundling. If Managers need not pay for third-party investment research upfront – and it is their Investors that directly foot the bill for such research – then there is clear incentive for Managers to 'spend' too much on it. Yet most of the discussion on such overspending omits a key consideration: Investors might bear at least two forms of significant opportunity cost due to bundled third-party research.

The first form relates to underperforming Managers. Some Managers are unable to either efficiently use third-party research or deliver consistently adequate returns on Investors' capital. Any spending by such Managers on investment research, therefore, is a waste of Investors' money – and is overspending, since that money could be more productively invested with other Managers (or even run in-house by the Investor itself; see, e.g. Clark and Monk [2013]). The likelihood that Investors must endure this type of opportunity cost is higher under a bundled regime because underperforming Managers will tend to persist longer when they do not need to absorb the cost of research. That is, explicit pricing for research will generally force underperformers out of the market earlier, and so can reduce the odds of Investors wasting their money on unmerited purchases of third-party research on their behalf.[17]

[17] It should also be noted that ready availability of research may contribute to excessive risk-taking by Managers. Numerous studies in the behavioral-finance literature furnish evidence that Managers are overconfident in their investment decision-making and tend to seek confirmatory evidence rather than that which refutes their hypotheses (see, e.g., Daniel and Hirshleifer [2015] and Odean [1999]). Wide availability of investment research may therefore give many Managers false comfort and artificially inflate the overall appetite in markets for bearing risk.

The second breed of opportunity cost stems from foregoing the advantages of long-term investing. Availability of external investment research for 'free' generally biases Managers away from conducting more in-house research, yet biases them towards basing their strategies (at least in part) around what third-part research is readily accessible to them. The former bias means that many Managers will deliver less 'differentiated' alpha than they otherwise might, by focusing on generating returns through advantages in, e.g., speed of execution, or other capabilities that focus on exploiting short-term opportunities. Similarly, when Managers (partly) design their strategies around what sell-side research is easily available, then such strategies will naturally slant towards short-termism: sell-side research providers are incentivized to do research that 'pays off' quickly for its consumers; they thus have little reason to focus on issues relevant for truly long horizons. As is widely known, overemphasis of the short term has sizable opportunity costs for Investors.

2.3. MiFID II's Intentions and Requirements

In the aim of alleviating these concerns (along with the more fundamental problem that Investors lacked clarity regarding what value-for-money they were receiving from spending on third-party research for Managers), European regulators included several sharp requirements in MiFID II. The most pivotal of these requirements prohibits unpriced research. MiFID II instead requires all "substantive" third-party research be paid for at prices unrelated to purchasers' trading activities.[18]

To guide this more explicit spending, MiFID II mandates that Managers who operate in the EU, and who do not fund spending on research from their own operations – that is, use 'client money' to pay for research – must:

1) Provide in advance to each client a research budget based on the particular products in which the client invests;

2) Prove no client subsidizes research for products/strategies in which it does not directly invest; and

3) Codify and use valuation policies to ensure research creates value-for-money for their clients (moreover, these written policies for valuing research must be made publicly available).[19]

[18] Under MiFID II, the only investment research that can be received for 'free' are so-called "Minor Non-Monetary Benefits", which predominantly consists of research that is made freely available to all parties (i.e., is fully public).
[19] Payments with client money are executed via designated accounts (research-payment accounts) that are funded by Investors directly.

In total, these requirements compel Managers to allocate spending in a manner that prioritizes the best interests of all their Investor clients. And requiring client-specific research budgets improves transparency by giving Investors more visibility on how their money is spent on research, and by creating audit trails on spending.

As an alternative to using client money for third-party investment research, Managers can elect to pay for research directly from their own operations. As this mechanism leads to research spending appearing on the profit-and-loss statements of a Manager, it is frequently referred to as the "P&L" approach. It also forces Managers to generate ex-ante research budgets and written valuation policies for research. Yet MiFID II does not require that these be shown to Investors.

Since the P&L mechanism imposes lighter disclosure requirements on Managers, it tends to give less transparency on research payments than when research is paid for with client money. Regulators, however, widely believed that this lessened transparency might be counteracted by an increase in alignment. Their supposition was that, when Managers fund research from their own operations, they should tend not to overspend on it.[20] So far, that logic seemingly is true under MiFID II. In actuality, widespread adoption of the P&L approach may be so effective at limiting spending that it is resulting in *underspending*.

2.4. Misalignment from Transition

Both of the main methods of paying for investment research permitted by MiFID II put pressure on Managers to be more disciplined in their spending on research – and largely encourage them to reduce spending overall. Assuming that many Managers previously were both overspending on sell-side investment research and overpaying for it, reduced spending and increased discipline are positive outcomes for Investors. Nevertheless, excessive reductions to research spending by Managers could threaten their ability to execute on their stated or mandated investment strategies. When spending changes are visible to Investors, such alterations are not necessarily problematic; an Investor might simply reallocate portfolio risk (or manage it differently) to account for them. But when they are not visible, the Investor can become unknowingly exposed to unwanted risks. Put differently, when client money is used to fund research purchases, Managers and Investors can discuss the degree to which research spending should be reduced, and whether the Manager will likely need to adjust its investment strategy (in terms of, say, riskiness or style) to better fit an

[20] Regulators also widely believed that most Managers would continue to pay for research with their clients' money.

agreed research budget. Under the P&L approach, such changes are not visible to the Investor and are essentially controlled solely by the Manager, which elevates the potential for misalignment.

At an abstract level, there are three 'reasonable' responses that a Manager might have for dealing with the transition to explicit research pricing when it elects to fund sell-side investment research from its own operations (i.e., via the P&L approach).[21] For the sake of discussing these responses it is helpful to think about a hypothetical quantity: the *ideal research level* for a given investment strategy (i.e., the suite of investment-research resources that a Manager requires to responsibly execute that investment strategy, without paying for research that is superfluous or irrelevant to it). The first response would be for the Manager to maintain its intended investment strategies (i.e., target style and level of risk) and increase its research spending to obtain the ideal research level for those strategies.[22] Whenever these strategies are agreeable to its Investors, this response creates no misalignment between the Manager and its Investors. But it does lower the Manager's profitability, which many Managers will accept only reluctantly – if they do so at all. This aversion by Managers to lower profitability thus makes the other two responses more likely.

And these other two reasonable responses that may be expected of Managers do promote misalignment with Investors. One of these misaligned responses involves preserving the original investment strategies, but doing so with a level of research that is less than the ideal level (once again, this possibility becomes less severe if Investors can observe that it is taking place). While this response may induce the Manager to innovate more in the long term (e.g., by creating more internal research capability), in the short term it will generally increase the level of risk to which the Manager's Investors are exposed (perhaps substantially so).[23] Further, this rise in risk – due to pursuing the same strategy with less information – might not be communicated to Investors.

Another misaligned response involves Managers paying for the ideal level of research, but for different strategies than those originally stated to Investors. These deviations in strategy may not necessarily be visible to Investors, especially if they fall within the permissible activities stipulated in the Manager's mandates. The misalignment here stems from the fact that Investors select particular Managers to gain specific risk exposures. When a Manager undertakes exposure

[21] Note: these reactions are not mutually exclusive and are 'stylized'. Moreover, they are likely to be only transient, and lead to different long-term responses.

[22] This ideal level will, in many cases, differ from historical levels (including the fraction of trading-linked payments for research).

[23] Importantly, this altered risk exposure will not necessarily lead to immediate underperformance, and therefore may remain undetected by Investors for some time.

not *intended* by its Investors, it creates misalignment, which can be harmful even when known to its Investors. The primary difficulty with both of these misaligned responses is that they need not be clearly visible to Investors, as the P&L approach limits how transparent Managers need to be.

Problematically for Investors, these misaligned responses appear most likely as reactions by Managers to research pricing under MiFID II: a majority of Managers that operate in the EU have adopted the P&L payment approach to paying for research, and many have indicated their intention to drastically cut research spending, which is likely to require either riskier pursuit of their original strategies, or shift to strategies that are less research intensive.[24] How has it come to be that MiFID II's attempt to improve transparency and alignment is having the opposite effect?

2.5. Mis-Calibrated Assumptions: A Key Lesson

Perhaps the key lesson to have emerged from experiences thus far with MiFID II is the need for sounder communication and interaction among Managers, Investors, and regulators whenever a disruptive change is forced on financial markets – or related service markets that intersect with them, such as the marketplace for investment research. Managers' responses to research pricing under MiFID II seem (so far) to have been motivated by two sets of mis-calibrated assumptions.

First, regulators seem to have been overly optimistic about timelines Managers needed to comply with MiFID II. MiFID II forces multiple disruptive changes to Managers' operations and governance systems and imposes large additional overhead costs on most of them. While these disruptions promise to benefit Investors in the long term, in the near term they seem to be driving upheaval that may push back the dates at which Investors begin realizing significant value from them. Notably, a need to quickly adapt multiple aspects of their business may have forced many Managers to hurry decisions in preparing for MiFID II. In specific, MiFID II obligates Managers to spend money only on investment research that has demonstrable value – be it their own money or their clients'. This obligation is entirely appropriate. But as Managers have not previously had to prove the value of different bodies of research, this obligation may bias Managers to not spend on research that is valuable to their investment strategies, when such value is not easily provable (e.g., because the data or analysis to demonstrate such value may take some time to accumulate). This caution could lead to either of the misalignment problems we have identified earlier.

The second mis-calibrated assumption stems from miscommunication between Managers and Investors. As noted, many Managers subject to MiFID II have adopted the P&L approach to

[24] See, for example, Turner et al. [2017].

paying for third-party investment research. This approach reduces both compliance and reporting burdens on Managers; but it is not likely in their best interests. When paying with client money, Managers are allocated (roughly) fixed amounts of capital that can be spent on research, and the research services on which it can be spent is – at least at a general level – agreed by the Manager and its Investors together. There are thereby fewer decisions on research spending for which the Manager is unilaterally responsible when paying for research from RPAs, and so Managers can be less culpable when strategies underperform due to inappropriate levels of research spending. The obligation to deliver specific research budgets to their Investors also offers Managers the opportunity to communicate more extensively with them, for purposes of (e.g.) managing their expectations, showing the Manager's comparative advantages, and testing Investors' satisfaction. Such communications must take place in separate conversations when the P&L approach is used.

Despite the advantages to Managers of using client money to pay for investment research, many Managers sweepingly assumed their Investors would prefer the P&L approach. A rationale cited by many Managers for this outcome was that clients might feel uncomfortable having to be directly involved in the research-budgeting process, and that many Investors would instead enjoy the notion that their Managers were the ones paying for research. But our ex-post investigation of Investors' preferences and opinions indicates that there was little strong opposition among them to Managers paying for investment research with client money. The lack of greater transparency and possible increases in misalignment brought about in the short term by MiFID II may thereby have been avoided if more fluid communication had occurred between Managers, Investors, and regulators. The need for fluid communication among these parties may be MiFID II's key lesson.

2.6. Uncertainties in Transitioning to Research Pricing

There are other vital sources of learning from experiences to date with MiFID II. Notably, many uncertainties have been precipitated by the move to priced research, and markets that have yet to implement research pricing (e.g., the US) may benefit from taking note of them (to inform their own future policymaking). Below, we raise and discuss in brief these questions on uncertainty. (We observe that not all of these uncertainties are necessarily negative outcomes for Investors.)

- <u>How will Managers and Investors adapt to the extra overhead costs from priced research?</u> Moves to unbundled, priced research will create additional administrative costs for both Investors and Managers – from additional monitoring and reporting costs associated with the need to track research use, spending, and valuation. It is uncertain as to whether these

increased costs may compel Investors to conduct more portfolio management in-house. Moreover, to responsibly monitor their Managers, Investors should develop some internal capacity to analyze their Managers' research spending. How much that internalized ability will cost (in terms of not only money, but also time) is unclear for many Investors.

- How much will research pricing make past performance less indicative of future returns? Unbundled, priced research could reduce many Managers' access to research resources that they previously used in investment decision-making – which means that their future performance may be less well represented by their past performance. Investors may have to find new methods of diligence to understand Managers' performance potentials going forward (we discuss in the next section how research budgets may be useful for this end).
- How will Managers (and Investors) more efficiently use research they already possess? Need to explicitly pay upfront for new research will implicitly raise the value of research that Managers (and Investors that manage some portfolios themselves in-house) already possess. Improved knowledge-management systems and other processes to extract more information from existing research could be vital sources of efficiency and competitive advantage. Yet how well Managers (and Investors) can implement them stands uncertain.
- Will reduced access to investment research alter the informational efficiency of markets? With less widespread availability of many research resources it is possible that consensus among market participants could take longer to reach, with prices becoming more volatile as a result. Less efficiency in public markets may cause private-market assets to become relatively more attractive to both Managers and Investors. Within public markets, passive strategies with lower research costs may initially become more appealing – although the possibility of lower informational efficiency in public markets might eventually increase the expected returns for actively managed strategies. The impact of priced research upon market volatility and informational efficiency is an uncertainty with radical implications.
- What will happen to the market-shares of sell-side providers in the provision of research? Reduction to research spending from the move to unbundled, priced research will likely cause many sell-side providers (e.g., investment banks) to reduce provision of research, especially by paring back in-depth coverage of many smaller companies and markets. Their reduced presence in these (and potentially other) areas could open doors for other, specialized providers of research to gain market-share in the near or medium-term future.

- How long will the discovery process for research prices take, and could it be abbreviated? It is not only Managers that have been unaccustomed to assessing the value of research to determine fair prices for it: many sell-side research providers also lack deep clarity about how much they should charge for their research offerings. Both providers and Managers will thus have to learn what prices are fair and sustainable in a competitive marketplace for research. The iterative adjustment process for such prices may well take some time to stabilize. It is uncertain whether this process can effectively be expedited at a large scale.
- Will raw or processed alternative datasets increasingly become substitutes for research? Many Managers are taking an increasing interest in unconventional datasets as sources of insight and competitive advantage in their strategies.[25] Concurrent to this trend, advanced statistical tools (e.g., machine-learning algorithms) are becoming highly accessible across many analytical platforms. It is foreseeable that combinations of new data and analytical toolkits might increasingly become substitutes for various sources of investment research.

Many of these uncertainties could be resolved favorably for Investors – if they succeed at working closely with their Managers in the new paradigm of unbundled and priced investment research. As mentioned, an essential lesson to date from MiFID II is the need for direct and fluid interactions between Investors and Managers. We believe that research budgets, and the process of developing them, could become a mechanism for fostering this tighter communication, and so help foster more transparent alignment between Investors and Managers on investment research.

3. Transparent Alignment and Relational Contracting

Institutional investors enjoy the advantage of long horizons [Monk et al. 2018]. Typically, they have multi-decadal (if not perpetual) missions – e.g., ensuring sufficiency of intergenerational resources and wealth. Accordingly, both they and their external asset managers can reciprocally benefit from building long-term relationships based on trust and mutual understanding. Transparent alignment is vital to that end. It must be remembered that Investors should only outsource portfolio-management activities to Managers when Managers have comparatively more efficient processes for making or executing investment decisions, and when it can be trusted that

[25] See, recently: Monk et al. [2018].

those processes align with the Investors' interests and objectives. Still, there are generally limits to how transparent Managers' decision processes can be to Investors. Likewise, Managers often face incentives to behave in ways that may not align with Investors' best interests, especially if transparency is incomplete.

Conventional contracts can supply only a limited degree of transparent alignment when flexibility is needed. That is, for all but the simplest of active-investment strategies, Managers require some flexibility to navigate emerging possibilities and risks. This flexibility may entail permission to invest in various types of assets or acquire different resources to do so – including investment research. But excessive flexibility for the Manager may allow its activities to become misaligned with its Investors' reasons for hiring it in the first place: Investors hire Managers not only to deliver suitable investment returns, but to do so in ways that create specific risk exposures.

Strategic and tactical flexibility is therefore a delicate balancing act that usually requires compromises for both Investors and their Managers. Such flexibility is also a challenge to codify in standard contracts, which generally are comprised of extensive articulations of what Managers can and cannot do. Investment mandates are one such type of standard contract that specify how Managers should structure and execute their investment actions on behalf of Investors. But these mandates insufficiently promote transparent alignment – both in Managers' spending on research and in their general trading decisions. Below, we discuss how research-budgeting processes may augment standard mandates to improve transparent alignment between Investors and Managers.

3.1. The Flexibility Conundrum in Delegated Management

Most Managers serve more than one Investor, and each of these Investors may not have exactly the same reasons for choosing that Manager; nor need they have identical desire for the Manager to pursue a particular course of behavior (in terms of, e.g., buying or selling choices) in a specific market context. To cater to a broader base of Investors, Managers are therefore incentivized to negotiate permissive contracts (e.g., investment mandates) with their Investors to allow a variety of decisions that will be acceptable to diverse Investors. Permissive contracts are also helpful to Managers in allowing them to adjust their strategies as market conditions change. Flexibility is thereby highly valuable to Managers, and many of their mandates and other contracts reflect this.

Flexibility for Managers can also be valuable to their Investors: it allows Managers to be tactical and adaptable (in ways Investors frequently cannot be) and can generate scale efficiency (due to the Manager being able to pool funds from more Investors). But excessive flexibility in a

Manager's mandates can harm Investors by allowing the Manager to remain within the 'letter' of the contract, while engaging in activities that deviate from its Investors' intentions (i.e., the spirit of the mandate). It is tempting to think that Investors might solve this problem via more detailed specification of the types of flexibility Managers can pursue. In reality, articulating flexibility in contracts through extensively prescribing what can and cannot be done is often a failing mission: there are simply too many eventualities to be foreseen and too many opportunities to account for (apart from in the least complex, i.e., most passive, strategies). Notably, the more complicated or advanced a strategy is, the more flexibility that it tends to require – and so the higher potential it has to become misaligned with Investors' interests. Yet such complicated strategies are often the most suitable ones for an Investor to delegate to Managers (rather than running them in-house).

But even if a conventional contract can be designed that succeeds in perfectly specifying an ideal degree of flexibility in what investment actions a Manager can take (from the Investor's perspective), it is unlikely to achieve sufficiently transparent alignment, unless the strategy that it governs is particularly simple. Pointedly, as contracts, mandates tend not to expose enough of the *processes* that Managers are permitted to undertake in investment decision-making. And process matters because – for purposes of risk management – not only are Managers' choices important; the steps they follow and information they use in arriving at those choices are also consequential.

Investors should be concerned with the amount of flexibility that they provide Managers in their investment decision-making processes. Too little flexibility may be overly restrictive and have high opportunity costs. Too much flexibility can sacrifice both transparency and alignment. Moreover, procedural flexibility can also be difficult to articulate explicitly (and some Managers may be uncomfortable having specific aspects of their processes appearing in distributable form).

Clearly, tackling this flexibility conundrum, while still promoting transparent alignment, requires mechanisms beyond standard contracts. We assert that research budgets can have a role to play here, as they can usefully support relational contracts that better accommodate flexibility.

3.2. Enhancing the Research-Budget Construct

The research-budget construct as defined by MiFID II is, in several ways, an ideal instrument for supporting relational contracts between Investors and Managers – on investment research as well as other investment resources and activities. Relational contracts are vaunted within management science as practical tools for overcoming native deficiencies of conventional contracts (e.g., their

need for compromise between specificity and flexibility). But, surprisingly, management-science literature provides relatively few examples of mechanisms that help support relational contracts.

Research budgets could fruitfully serve as such mechanisms, in the case of Investors and their Managers. MiFID II does not stipulate detailed requirements for the structure of research budgets. This may be advantageous for Investors in repurposing research budgets as enforcement devices for relational contracts with Managers. Under MiFID II, Managers that pay for research with client money need not state exactly in their research budgets what investment research they intend to purchase on any Investor's behalf in the coming year. This means that granularity on research spending can be negotiated by Investors and Managers as their specific contexts dictate.[26]

As noted earlier, Investors need not know every item of research that a Manager acquires (or intends to acquire) to determine whether the Manager is conducting the investment strategy as intended; but Investors do need some level of clarity on what third-party investment research their Managers intend to purchase in service of their strategies (and indication of how appropriate that research is in relation to those strategies). This visibility is important to not only establish whether the level of spending is suitable, but also to confirm whether Managers appear to be matching their investment processes with the correct inputs. Apart from talent, the most important of these inputs is *new information*, which any research worth paying for contains. Investors cannot typically witness Managers' processes, but – with the help of research budgets – they can investigate some of the informational inputs to them and, crucially, use them to restrict Managers' flexibility. While more advanced strategies usually require more flexibility, they also tend to demand more specific research (relative to simpler strategies). Hence, it seems reasonable that more advanced strategies should motivate greater specificity in Managers' research budgets. Thus, for strategies that have a higher risk of misalignment with Investors' objectives, specificity in research budgets could be used to restrict how flexible Managers' decision processes can be.

This specificity need not be written down in the budget itself (although it might well be). Indeed, we see the primary value of research budgets for relational contracting as stemming from their being used as focusing devices for regular conversations between Managers and Investors – although we do believe it should be recognized as best practice to document such conversations. Using research budgets to structure conversations in this way may help Investors to more deeply

[26] In present research-budget requirements, Managers only need to state their intended level of overall spending per Investor client on investment research.

probe the rigor of their Managers' investment theses and processes. Asking questions about how particular items of research will be used and what role they play in decision-making has potential for being significantly clarifying to Investors in better revealing their Managers' inner-workings.

The regularity at which research budgets must be delivered to Investors also makes them ideally fit for supporting relational contracts. As Gibbons and Henderson [2012] observe, the two key ingredients needed for a successful relational contract are *credibility* and *clarity*. These two necessary conditions for relational contracts mesh neatly with the trust-but-verify nature of best-practice relational contracting: the agreement should endow the agent in the relationship with an appropriate level of flexibility in its delegated duties, but give the principal adequate clarity (i.e., transparency) to verify that its trust in the agent's proper use of that flexibility is truly warranted. By being able to compare ex-ante research budgets (coupled with documented conversations on how planned research spending by Managers was intended to serve particular strategies) with ex-post spending, Investors can verify that their Managers deserve what flexibility they are granted.

This capacity for Investors being able to both trust their Managers and verify that doing so is merited can become the foundation for a transparently aligned relationship in the long term. It can also serve as the basis for Investors to more constructively control style drift by Managers. All we have said thus far regarding the potential contribution of research budgets for regulating Managers' decisions and decision processes can be seen as helpful for monitoring and curtailing unwanted style drift by Managers. Style drift is not, however, universally undesired by Investors. The dynamism of financial markets means that sometimes unforeseen opportunities surface and present Managers with special situations to apply their resources for significant and unexpected gains – but may require Managers to depart from the specific letter or spirit of a normal mandate.

An Investor may wish for its Manager to pursue such special opportunities, but the time required for Investors to verify that the Manager is appropriately resourced to act responsibly in departing from its intended strategy may take too long – unless the Investor already has a clear understanding of those resources, or what incremental resources may be needed for the strategic pivot. Research budgets thus offer the possibility of Managers engaging in 'permissioned drifts', whereby they seek Investors' approval to depart from mandated (or otherwise agreed) strategies when unique circumstances arise. In such situations, the Investor could then refer to the research budget, along with recent conversations with the Manager, to determine whether it possesses the correct resources, or whether further research or other information may be needed for a decision.

This sort of rapid diligence – based on communicating through the research budget – could be a valuable part of fluid, trust-based relationships between Managers and Investors in the future.[27]

More fluid communication between Managers and Investors, mediated by the research budget, might also equip Investors with a new tool for performance attribution. A focal goal of attribution is to separate Manager skill from luck (i.e., randomness; see de Bever et al. [2014]). A signature of a Manager's skill is its ability to provide a (reasonably) accurate explanation of its expected performance, and the drivers of it, *before the fact*. Ex-ante conversations between Managers and Investors about how research resources are expected to contribute to performance, coupled with ability to assess what research was purchased and decisions were made ex post, could help to better uncover the degree to which a Manager's utilization of research consistently correlates with realized returns.

A key consideration in this possibility is how well calibrated is the level of a Manager's spending on research to the strategies it pursues. Undoubtedly, a Manager should – all else equal – wish for as large a research budget as possible to provide it with maximal research resources. Yet, in an environment of priced research – especially one in which payment for research with client money is the norm – Managers will need to demonstrate that they are efficiently using the research that they acquire, in order to best compete with rival Managers. For their part, Investors should not wish to allocate too large a research budget to their Managers, so as to not allow them too much flexibility. But they should also desire to give them sufficient research funds to be able to properly execute their designated investment strategies. Thus, it seems that there exist motives for both to agree on well calibrated levels of research spending, which bodes well for supporting the enhanced attribution we have described above. As noted, this calibration should be helped if it becomes a norm that Managers' purchases of investment research are made with client money.

3.3. Other Benefits from Using Research Budgets in Relational Contracting

Improved performance attribution and control of style drift may not be the only benefits derived from more transparent alignment through using research budgets to support relational contracts. We briefly mention two others. First, using research budgets in the style of relational contracts could help Investors to verify that Managers are taking proper account of ESG considerations in

[27] Once again: one of the chief lessons thus far from MiFID II is the necessity of basing actions on communication, rather than on assumptions. This lesson coincides with the need for communication in relational contracts (to avoid one side's "shirking" its responsibilities), as discussed in Li et al. [2018].

their investment decision-making. Active interaction between Investors and their Managers in formulating annual research budgets gives Investors the opportunity to ask pointed questions on how Managers are sourcing and utilizing appropriate research on ESG factors in their intended investment strategies.[28] Investors with strong ESG convictions could make funding for research conditional on specified amounts being spent on ESG-related research, and proof being delivered that such ESG research is in fact being materially incorporated into investment decision-making.

Research budgets could also come to be used as an additional 'rudder' on Managers fees. Nowadays, most Manager fee structures have become commoditized and pegged to performance outcomes. They depend too little on processes (especially in decision-making). Not only do these commoditized fee arrangements encourage Managers to push for broad investment mandates (to expand the ways in which they can earn fees): they also encourage them to conceal more of their processes; they receive no reward from fees alone for exposing how they are earning those fees.

Ideally, fees would be, in part, linked Managers proving that they are using investment research in the most efficient and effective way possible. That ideal may currently be infeasible, but a simpler solution exists for the near term. Investors may be able to use research budgets as a further lever to motivate proper Manager behavior *indirectly*, without changing fee structures. That is, Investors may use negotiation over level and composition of the research budget to steer actions of their Managers: i.e., a lower research budget reduces a Manager's ability to earn high performance-related fees, and so is punitive; whereas a higher research budget can be rewarding.

3.4. Joint Production of Research Budgets

The foregoing discussion should obviate the benefits of Investors being actively involved in the creation of annual research budgets. Plainly, if Investors merely let their Managers deliver draft research budgets to them for signoff, then they will miss many (likely, most) of the key benefits to relational contracting that the process of working with Managers to jointly produce a budget can yield. The process of creating a budget presents an Investor with a crucial opportunity to ask revealing questions of Managers and is a chance to have conversations that give deep insight on how a Manager conducts its internal operations, decision-making, and other activities that are relevant to style drift, attribution, ESG performance, and other essential concerns for Investors.

[28] Many Managers do not currently undertake such research themselves; and even if they were to do so in the future, it would surely take some time for them to appropriately learn how it should be done. Third-party ESG research thus seems likely to be an important ingredient for enabling sustainable investment (at least through the mid-term future).

We believe it is, therefore, essential that Investors take time to be active participants in research budgeting. Doing so could be a valuable step in transparently aligning with Managers.

4. Assessing Value-for-Money

To this point, we have discussed the appropriateness of research for particular strategies, as well as the size of the overall research budget (i.e., the overall spending on third-party research). But we have yet to touch on how the two topics intersect – that is, how an Investor might determine how much value-for-money it should receive (or, after the fact, has received) from its Managers' purchases of research on its behalf. Assessing value-for-money is an essential step for Investors in ensuring that transparent alignment is realized from a transition to unbundled, priced research.

Analyzing value-for-money from research is an expansive and nuanced consideration that we cannot tackle in its entirety here (it could fill several lengthy papers). Instead, what we offer below is a basic framework for questioning that Investors can use during the process of building annual research budgets with their Managers.[29] We embed this questioning framework within what we understand as the 'fundamental equation' that dictates how research creates value-for-money.

4.1. Teasing Apart Objective and Subjective Net Value

Our framework for Investors to question Managers on the value-for-money reflected in research budgets centers on four key variables: *quality*, *cost*, *fitness*, and *substitutability*. These variables each represent a specific category of question that Investors should explore with their Managers. We understand these variables as interacting in the following way to generate value-for-money:

$$VfM = \frac{Quality}{Cost} \times \frac{Fitness}{Substitutability}$$

The left-hand term of the above equation (quality divided by cost) effectively amounts to 'objective net value', i.e., it concerns sets of questions about research that should have answers which can be derived (at least to some degree) from measurable properties of the research itself. Likewise, the right-hand term roughly encompasses questions about the 'subjective net value' of research. Questions related to fitness and substitutability will often (we expect) have answers that largely depend on the specific context of the Manager, its strategies, and the state of the market

[29] Parts of this framework draw and provide an integration of ideas in CFA Society UK [2014b].

for investment research more broadly.[30] We do not mean for the above equation to serve perfectly as a prescription for arriving at exact figures for value-for-money of different bodies of research. Instead, we view it as capturing how various factors that drive value-for-money tend to interact.

Specifically, we see objective and subjective questions as separable, but interdependent (thus the multiplicative, rather than additive, relation between them). In the following, we give a flavor of what the content of questions within each of the four categories may (or should) entail. In asking questions, it would seem appropriate that Investors focus on research at the level of the source of research (i.e., a providing entity), and all the pertinent research items (reports, access to analysts, etc.) that it delivers to the Manager of whom the questions are being asked. Of course, such a focus should also drill down into the separate research items supplied by each source of research; but we believe that centering discussion on sources is the most pragmatic place to start.

4.2. Objective Net Value

Of the four categories of questions about value-for-money that investment research is likely to deliver, questions relating to cost are perhaps the most straightforward – and therefore the most objectively answered. Questions on cost simply involve asking about how much money is being allocated to each source of research, and whether the Manager might negotiate for lower prices.

Quality and cost factors interact in the sense that higher quality can warrant higher prices, while lower quality should be discounted. In this regard 'objective net value' can be understood as 'quality efficiency'. Questions about quality may be somewhat less straightforward than those about cost, but they can – we posit – be made substantially objective. We feel that interrogating quality through objective questions is important for several reasons. First, it helps in more fairly comparing different providers of similar research. Second, it helps Investors to better understand where risks and vulnerabilities in Managers' strategies may emanate from flaws in research itself (i.e., due to it containing errors or being opaque) and what controls are used to lessen such risks.

Below, we give an indicative list of some dimensions of quality that may serve as bases for objective questions about research quality. All of these can be seen as 'positive' dimensions, i.e., the stronger each property is, the more value-for-money a research source will likely deliver.

[30] Regarding fitness and substitutability: the same body of research will tend to have different values for different Managers, because 1) Managers' strategies and abilities to utilize that research differ (oftentimes significantly so) and 2) different Managers can have unequal access to replacement (i.e., substitute) research.

- *Accuracy*: What is the research provider's track record in 'getting it right'?
- *Actionability*: Does the research suggest specific responses, or only vague ones?
- *Transparency*: Is evidence clearly presented and (accessible) sources openly cited?
- *Originality*: To what extent does it offer altogether new/novel insights and conclusions?
- *Consistency*: Are outputs regularly released? Has the source existed for a long time?
- *Coherence*: Are claims made by the research logically cogent and not self-contradicting?
- *Completeness*: Is it self-contained or digestible without external reference information?
- *Depth*: How penetratingly does it reveal mechanics or characteristics of an asset that are most relevant for informed investment decision-making?

Obviously, there are other dimensions of quality about which an Investor might wish to question its Managers. But the above dimensions should at least be covered before moving on to others. Moreover, it may be the case that some research provides high value-for-money on a few, but not all, relevant dimensions. For the most part, we expect this to occur when some research aligns very closely with a Manager's particular strategy and is not obtainable from other sources (this nexus with alignment and scarcity is the gist of subjective net value, which we cover next).

Because many aspects of quality and cost-related questions are objectively answerable, we suspect that there may be efficiencies in Investors and Managers occasionally relying on third parties to assess (or provide starting points for analysis on) the costliness and quality of various providers of investment research. For instance, creation of some type of clearinghouse or agency for rating research providers on quality and cost might not only be expedient for Investors; it also may clarify for research providers the factors of competition, and help to raise standards overall.

4.3. Subjective Net Value

To an extent, questions about cost and quality of research can be answered independent from the specific body or source of research being considered. Questions about fitness and substitutability, meanwhile, directly concern the relevance of specific bodies or sources of research as they relate to specific investment strategies or products, and cannot be properly answered abstractly. It is in this respect we mean fitness and substitutability are *subjective*: they do not reflect immeasurable properties of research, and questions about them should have concrete answers; but questions on them are only meaningfully answered when asked with respect to the specific strategies pursued by a Manager, and in light of that Manager's own specific organizational abilities and resources.

Questions about fitness should examine how well a provider or body of research answers questions that could surface in pursuit of a particular strategy by the Manager. That is, questions regarding fitness should concentrate on the degrees of precision and confidence with which the Manager might be able to answer questions specific to an investment strategy in the course of executing it. If the Manager is, e.g., pursuing a sector-specific strategy in an emerging market, then fitness questions should seek to expose facts such as: how well the research can address questions about sociopolitical stability in the geographies concerned; threats and opportunities in the supply chain for the relevant emerging-market sector; or how international trade policy may unsettle supply-demand dynamics for the sector's outputs. Of the four categories of questions appearing in our fundamental equation, questions on fitness should require Investors to have the deepest understanding of their Manager's strategy, and organizational resources for executing it. Moreover, we expect that much (if not a majority) of the time spent by Investors and Managers in jointly producing annual research budgets will be on asking and answering fitness questions.

Substitutability questions should aim to uncover how necessary a body of research is for the Manager. Substitutability can pragmatically be broken down into a further relationship: how replaceable is the research relative to (i.e., divided by) how essential it is. That is, research that is relatively commoditized and could easily be swapped for another body or source of research has high replaceability, whereas very unique or niche research will often be minimally replaceable. Since substitutability is a 'denominator' variable, high replaceability reduces value-for-money:

$$Substitutable = \frac{Replaceable}{Essential}$$

Notably, research may have low replaceability and still be widely available across market participants.[31] We do not believe that availability questions fall into the category of substitutability questions. Instead, we suggest that questions about the availability of research be subsumed by the fitness category – e.g., research that is ubiquitous would not be a good fit for a strategy which depended upon having access to research that was not widely possessed by other market players.

Questions on replaceability should be asked alongside questions on the extent to which research is essential for a strategy, i.e., how mission-critical is it for the strategy's success. Being highly essential should decrease how substitutable research is, owing to the fact that the strategy may be crippled without it (and so having high replaceability need not be seriously detrimental).

[31] Replaceable research will often be research with low uniqueness and minimal 'additionality'.

Questions on substitutability (whether about how replaceable or essential research is for a given strategy) should also be posed to Managers about not only present substitutability, but also the potential of future substitutability: will it be just as replaceable or essential in coming years?

Investors should also be diligent and persistent in asking Managers whether they would be better off producing any specific body of research themselves, and probing more deeply about what resources would be needed to internalize such production. In cases where the Investor and its Manager have cultivated a strong relational contract, it may sometimes make practical sense for the Investor to allow the Managers additional resources to bring some research capabilities in-house – when doing so proves cost effective and creates durable advantages for the long term.

5. Summary and Open Questions

Changes in financial systems are often punctuated: norms and status quos usually evolve only incrementally for long stretches of time, but then can change drastically in response to dramatic events. This nonlinear progression means that some entities can become trapped in sub-optimal 'equilibria' for considerable amounts of time. Institutional asset owners appear to have remained stuck in such a disadvantageous equilibrium with respect to many of their intermediaries – e.g., external asset managers and investment banks – as they generally lack enough transparency and alignment. Unbundling of financial services under MiFID II (and other policy that may follow it) could, however, be a punctuating event that pushes asset owners into a more ideal equilibrium.

But as experiences to date with MiFID II demonstrate, the path to an improved status quo for institutional asset owners may be neither short nor pain-free. Specifically, MiFID II reveals how attempts to create transparent alignment between asset owners and their external managers can underdeliver without active participation of, and communication between, both. Emerging lessons from MiFID II suggest that the use of disclosure mechanisms, such as research budgets, could more adequately foster transparent alignment than can be achieved by strictly forcing asset managers to internalize more of their costs. In this paper, we have taken this observation one step further, and described how such mechanisms may be used to support deeper relational contracts.

Rather than being just disclosure documents or instruments, relational contracts constitute a shared process by which institutional asset owners (Investors) and their external asset managers (Managers) can achieve more transparent alignment with one another – especially for the long-term benefit of Investors. Our treatment in this paper has centered on how participatory research-

budgeting processes – whereby Investors and Managers actively work together in planning for and communicating ideal spending on third-party investment research – could improve relational contracts. But the blueprint we describe could easily be transported to other areas of interaction between Investors and Managers, such as Managers' spending on technology or data services. Still, regardless of where this approach to transparent alignment is applied, we see bundling, and other forms of entrenched opacity (e.g., fee schedules for private-equity managers) as its enemy.

It is still early days in the movement from a dominant paradigm of bundled services to an unbundled environment. Many open questions remain. For example, will other geographies (in specific, the United States) follow Europe's lead in forcing unbundling and priced research on the market? Or will any changes be lead primarily through market and demand-based processes? In this paper we have not addressed these concerns, but hopefully have isolated some key lessons and uncertainties that have arisen as a result of experiences with and reactions to MiFID (so far).

There are many pressing questions that may be asked about the continued evolution of unbundling, and the forces and entities motivating it. Many (if not most) of these remain open. We raise three such questions here. First, our treatment has focused almost exclusively upon how unbundling may affect relationships between Investors and Managers. Yet we have left mostly untouched the questions of how Investors might come to more closely interact with producers of research (e.g., investment banks or more independent providers) as a consequence of unbundling. Likewise, Managers themselves will almost certainly change how they interact with third-party providers as a result of pressure to unbundle research from other services. Whether such changes work in the Investors' favor remains to be seen: Investors should be keen to ensure that they do.

Second, the move to priced research may (in at least some instances) dilute the value of Investors relying on Managers to obtain and use investment research. Although they may come to favor Managers with comparative advantages in producing their own research in-house, there also surfaces the question of how much net advantage some Investors may realize in developing improved in-house research capabilities for themselves (whether individually or collectively).

Third, the role of data as a substitute for research is becoming an increasingly pressing question in the financial-services industry. Novel sources and forms of data are fast becoming accessible at low cost, and in high volume, to large segments of market players. Alongside this, advanced analytic technologies (e.g., sophisticated, open-source statistical tools and machine-learning algorithms) are becoming more and more user-friendly and available to organizations.

These dual trends raise the question of not only whether more Managers and Investors will be conducting in-house research in the future, but whether the future form of research will be the same as it has been in the past. Recent advances in both model and data-sharing applications and platforms hint at a possibility that 'experimentation' could partly supplant conventional research.

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