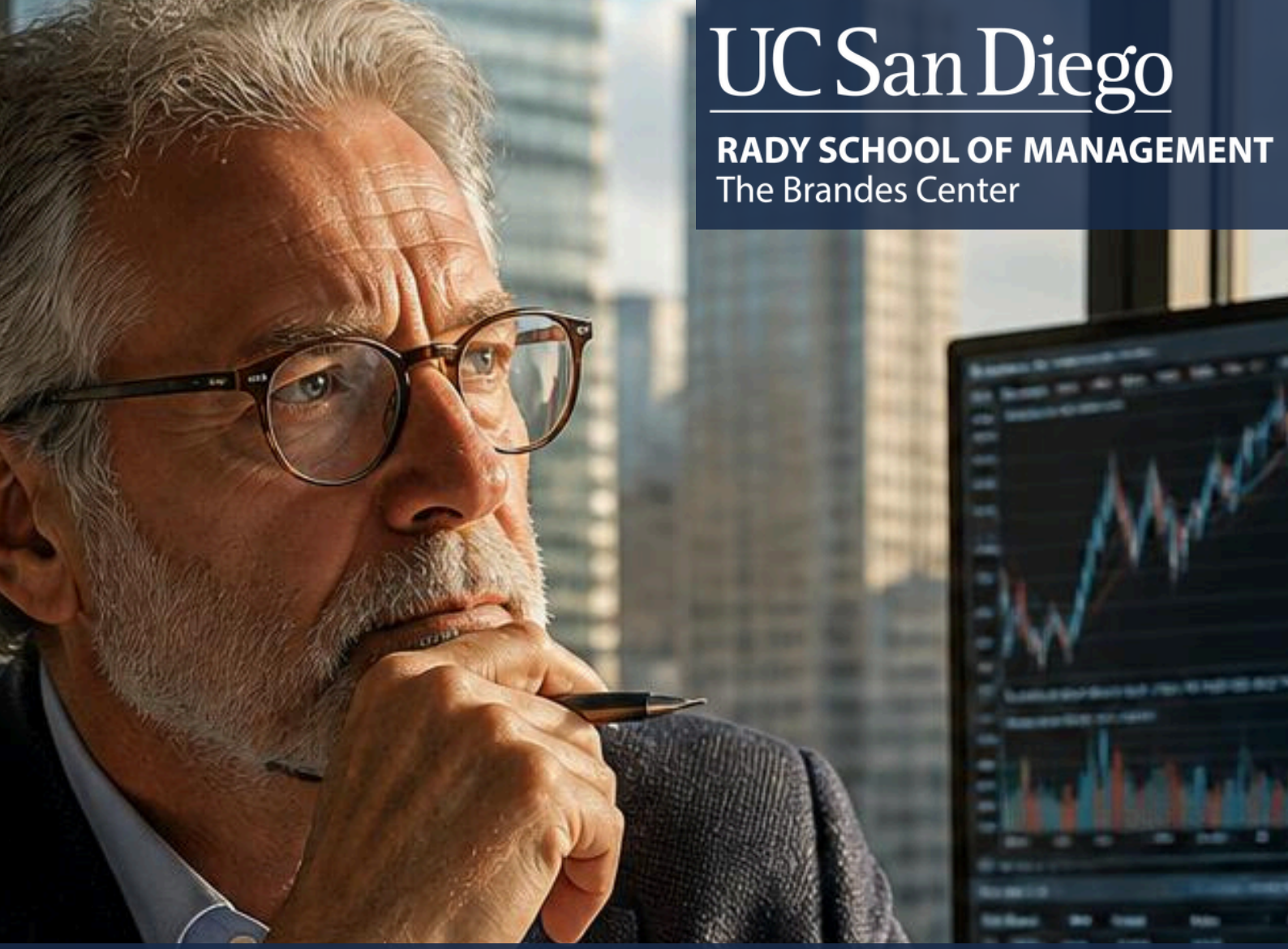

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The Brandes Center

MENTAL MODELS

How Do Analysts Actually Think When Evaluating Stocks?

ROUNDTABLE SUMMARY

by Dylan Schuman

In early 2026, The Brandes Center hosted a webinar featuring the winners of its Call for Papers contest. The $25,000 prize, sponsored by Brandes Investment Partners, was split between two categories: professors and graduate students. The three winners in the professors category discussed their research, which offers a rare window into how professional investors actually think—not just what they forecast, but why.

Their paper, Mental Models and Financial Forecasts, draws on an unusually large dataset of sell-side equity analyst reports to examine how analysts form expectations in practice. Rather than processing all available information, analysts tend to rely on simplified, narrative-driven frameworks—what the authors define as "mental models"—to make sense of complex firms. These models reflect how analysts allocate attention, which factors they prioritize, and how they connect those factors to valuation outcomes.

The webinar extended these findings beyond the paper, bringing together both the researchers and experienced practitioners who validated, challenged, and expanded on the results in practical investing contexts. While the research provides a structured view of analyst behavior, the discussion revealed how these mental models actually show up in decision-making—shaping forecasts and also how investors interpret risk, macro conditions, and valuation itself.

At its core, the conversation addressed a deceptively simple question:

"There seems to be this underreaction to macro news... even at an aggregate level." --Guenzel

Dr. Francesca Bastianello

- Associate Professor of Finance and Fama Faculty Fellow at the University of Chicago Booth School of Business.

Dr. Paul Décaire

- Assistant Professor of Finance at the WP Carey School of Business at Arizona State University.

Dr. Marius Guenzel

- Assistant Professor of Finance at The Wharton School at the University of Pennsylvania.

How do analysts actually think when valuing stocks? As Bastianello framed it, the challenge is just that valuation is difficult and inherently incomplete—requiring forecasts of long-term cash flows and discount rates that no analyst can fully model. As a result, analysts rely on simplifying assumptions, and those assumptions systematically influence the beliefs they form and the valuations they ascribe to companies they cover.

On Analyst Mental Models

- Bastianello: "The starting point of this project was a fairly simple question: how do market participants reason when valuing stocks in practice?"
- On model persistence: "Your choice of model is highly influenced by your training, your boss, and your experiences... there's a huge amount of persistence there."
- On sparsity: "If you take any given analyst, on average, in a given report, they're only talking about 16 out of 139 possible topics — and there's only a 30% overlap across analysts covering a given firm at a given point in time."

On Implications for Investors

- Shannon: "Being a multiples-based analyst in a world of discounted cash flow analysts — it's an advantage."
- Décaire on the macro blind spot: "Analysts are very good at adjusting their discount rate for inflation. But they are terrible at adjusting their long-term growth expectation for inflation. Almost no adjustment passed through whatsoever."

Guenzel on return predictability: "There seems to be this underreaction to macro news... even at an aggregate level."

A Summary of the Conversation

The Central Question: How Do Analysts Actually Think?

Bastianello framed the core question to the webinar audience:

“The starting point of this project was a fairly simple question—how do market participants reason when valuing stocks in practice?”

To answer this question, the team described its data collection approach in the paper. They “…analyzed the written text from the near-universe of 2.1 million equity reports from analysts at 43 brokerage houses over a 26-year period (2000 to 2025). We then prompt large language models (LLMs) to extract valuation methods and price targets from all reports, and an additional 11.8 million separate lines of reasoning from the text portions of a subset of over 300,000 reports.”

The research reveals that analysts do not attempt to process all available information. Instead, they construct simplified representations of firms by focusing on a limited number of key drivers. These “mental models” reflect deliberate choices about what matters most, whether that’s revenue growth, competitive positioning, or macro conditions.

In practice, this means analysts are telling structured stories over making forecasts. In the dataset the authors construct, each story links a specific topic, such as customer

demand or inflation, to a valuation outcome through a particular channel, like revenue, costs, or discount rates. These narratives are typically forward-looking and often carry an implicit tone or bias, especially when tied to growth expectations.

Importantly, different analysts looking at the same company often build very different models of that business. Even when evaluating identical information, they may focus on entirely different sets of topics or interpret the same factors in different ways. This leads to meaningful disagreement—not because of random error, but because of differences in how analysts simplify reality.

The result may alter how we think about analysts' forecasts: they are reflections of underlying mental frameworks intertwined with data-driven outputs. What an analyst chooses to pay attention to—and how they connect those inputs to valuation—plays a central role in shaping their expectations and perhaps market outcomes.

As Bastianello explains, the interest lies in "understanding not only how reasoning shapes beliefs, but also how reasoning then translates into market outcomes,' including how these choices 'contribute to biases in beliefs and to return predictability.'"

DCF vs. Multiples: Same Formula, Different World

One of the paper's most striking findings is that the choice of valuation model—whether an analyst uses a discounted cash flow (DCF) approach or a multiples-based method—is a technical decision, and more importantly, the method fundamentally shapes how the analyst thinks about the business.

As Bastianello explained, "Analysts who are using a DCF model are going to be focusing on very different topics than analysts who are using a multiple-based valuation." (In the paper, the authors write "…43% of reports use DCF methods, 32% use PE multiples and 62% use at least one multiples-based approach." They also note that analysts "often use a blend of methods," so the sum of the various models exceeds 100%.)

In theory, both approaches (DCF and multiples-based) are simply different ways of implementing the same underlying valuation framework. But in practice, they lead analysts to focus on different inputs. DCF-based analysts tend to concentrate on long-term drivers such as discount rates, interest rates, and macroeconomic conditions, while multiples-based analysts focus more on near-term factors like customer demand, competitive positioning, and earnings comparisons.

Their research shows these differences in focus influence forecasts. Analysts using similar models tend to agree more with each other, while those using different models diverge significantly in their expectations. This suggests that disagreement in the market is a function of how analysts structure their thinking beyond just "noise".

More broadly, the distinction highlights a key feature of mental models: they guide attention. Because analysts simplify complex data sets by focusing on a limited set of variables, the model they choose determines

which parts of the business they emphasize and which they effectively ignore.

The discussion also challenged the assumption that more theoretically complete models produce better outcomes. As Bastianello noted, “Pretty much across all types of cuts, multiples do seem to outperform DCF—unless you take a very experienced analyst trying to value a very hard-to-value firm.”

This finding reflects a deeper tension between complexity and usability. While DCF models are more comprehensive in theory, they require long-term assumptions that are difficult to estimate in practice. Multiples, by contrast, rely on more observable and comparable inputs, which may make them more robust in practical forecasting.

Brandes Center Advisory Board member Kim Shannon, CFA reinforced this from a practitioner perspective: “Being a multiples-based analyst in a world of discounted cash flow analysts… it’s an advantage.”

Her reasoning pointed to a structural issue. DCF models are highly sensitive to macro assumptions—particularly interest rates and inflation—yet many analysts were trained during a long period of stable, declining rates. As a result, their models may be poorly calibrated for a changing macro environment.

Taken together, this section highlights a central insight of the paper: valuation models are not neutral tools. They shape how analysts interpret information, what they choose to focus on, and ultimately, how they arrive at their conclusions.

The Macro Blind Spot

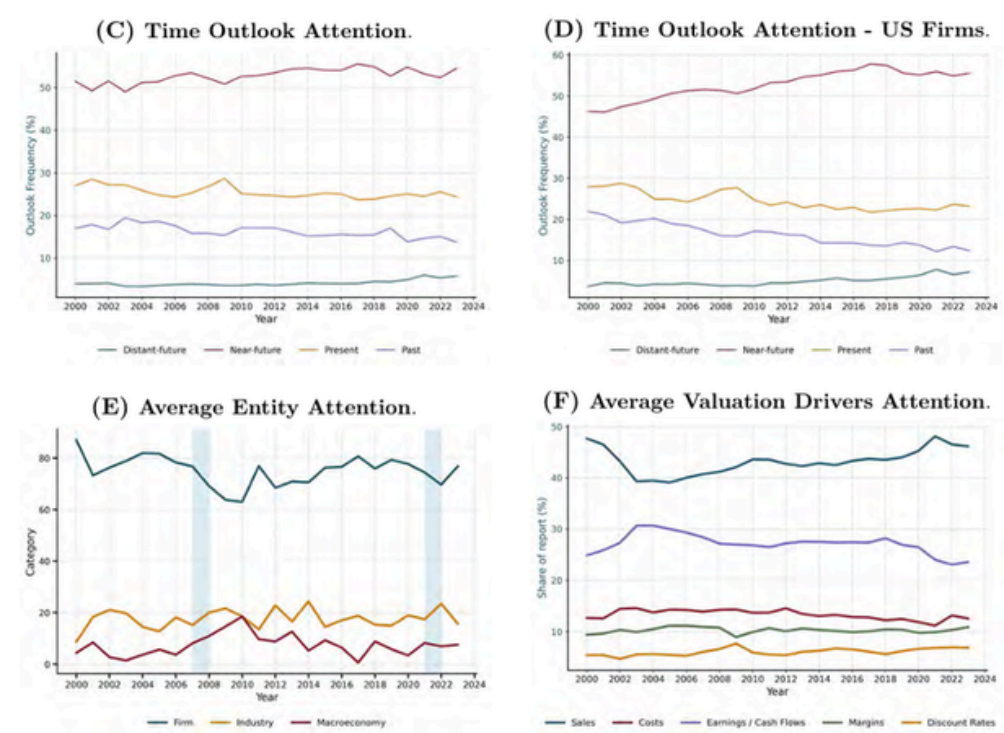
Perhaps the most actionable finding for investors is the asymmetry in how analysts respond to different types of information. The research shows that analysts tend to underreact to macroeconomic developments —such as interest rates, inflation, and monetary policy—while overreacting to firm-specific news, especially when it is framed as a forward-looking growth story.

Guenzel summarized the implication: “There seems to be this underreaction to macro news… even at an aggregate level. And if market participants do that as a whole, as a group, that would lead to return predictability —and that’s what we end up finding.”

In the paper, the team writes how after good news “…the features that analysts overreact to are associated with lower realized returns, while features that analysts underreact to are associated with higher realized returns.” (The opposite pattern holds following bad news.)

Analysts’ attention is not evenly distributed across valuation inputs, with a disproportionate focus on top-line factors such as sales and relatively limited emphasis on macro-driven variables like discount rates. As shown in Exhibit 1, this imbalance reflects a broader tendency to prioritize firm-specific narratives over macroeconomic conditions (Panel E) when forming expectations. This skew in attention helps explain why analysts may systematically underreact to macro developments while overemphasizing more immediate, story-driven drivers of valuation.

Exhibit 1: Analyst Narrative Sentiment and Attention Allocation



Source: Bastianello, Décaire, and Guenzel, Mental Models and Financial Forecasts

At a high level, this pattern reflects how analysts allocate attention. Because mental models are built around a limited number of key drivers, analysts tend to focus heavily on firm-specific narratives—revenue growth, product expansion, competitive positioning—while giving relatively less weight to broader macro forces. This creates an imbalance where highly visible, story-driven developments receive disproportionate emphasis, while slower-moving macro factors are underweighted.

The Advisory Board practitioners in the discussion added an important layer to this finding. Rather than viewing it purely as a behavioral mistake, they suggested it may be partly driven by incentives and institutional structure. In many portfolios, macro exposure is managed at the portfolio level, while analysts are expected to generate differentiated views within a sector. In that context, focusing on firm-specific factors is not necessarily irrational—it is aligned with how their research is used.

Board member Peter Branner, CIO at abrdn, explained that buy-side analysts and portfolio managers who have a sector allocation are using sell-side reports, “For them, the most important thing is to get the stock-specific bets within that sector right.”

However, this does not eliminate the consequences. Even when analysts incorporate macro inputs, they may do so inconsistently. As Décaire pointed out, “Analysts are very good at adjusting their discount rate for inflation. But they are terrible at adjusting their long-term

growth expectation for inflation."

This creates a structural imbalance within valuation models. If inflation is reflected in discount rates but not in long-term growth assumptions, the two sides of the valuation equation fail to offset each other properly. Over time, this can lead to systematic mispricing, particularly in environments where macro conditions are shifting.

The broader takeaway is that attention is unevenly distributed and limited. Analysts tend to overweight what is immediate, narrative-driven, and firm-specific, while underweighting macro forces that are harder to model and less directly tied to individual companies. For investors who are willing to incorporate those overlooked factors, this may create an edge.

Mental Models Are Sticky

One of the most striking findings from the research is how persistent these mental models are over time. Once analysts adopt a particular way of thinking—whether it's a valuation approach or a set of key drivers—they tend to stick with it, even in the face of new information or poor forecasting outcomes.

Bastianello described this in terms of a "boss effect": "Your choice of model is highly influenced by your training, your boss… there's a huge amount of persistence there."

Early career exposure plays a significant role in shaping how analysts approach valuation.

The frameworks they learn from senior analysts often become the default lens through which they interpret companies, and those frameworks can persist long after they move into more senior roles themselves.

This persistence extends beyond model choice. Analysts also tend to stick to the same topics and narratives when evaluating firms, even when those narratives fail to produce accurate forecasts. As Bastianello noted, "At the aggregate level… we don't see that people adjust their models all that much, even when their forecasts are followed by larger forecast errors."

At a deeper level, this reflects how mental models function. They are tools for ways of organizing information and conducting analysis. Changing them requires more than updating a single assumption; it requires rethinking how a business is understood in the first place. That kind of shift is both cognitively difficult and professionally risky.

Shannon connected this idea to what separates great investors from average ones: "Some people are really driven to be really good at what they do… and that's primary over all the ego limitations that are in place."

In her view, the best investors are those who can adapt—who are willing to revise their mental models when the evidence demands it. But that level of flexibility is rare. Most individuals, like most systems, default to consistency.

Guenzel added a note of caution about experience itself: "People can mislearn. You look at your past, and you try to make sense of it—the good things that happened to me, they happened because I did something good; all the bad things happened for some

random reason."

This highlights a critical risk. Experience does not automatically lead to better judgment. In some cases, it can reinforce flawed mental models, as individuals selectively interpret outcomes in ways that confirm their existing beliefs.

The broader takeaway? These mental models are deeply entrenched. They are shaped early, reinforced over time, and rarely updated in a meaningful way. For markets, this persistence means that the biases embedded in these models are likely to endure, creating patterns in pricing that are not quickly arbitraged away.

What This Means for Value Investors

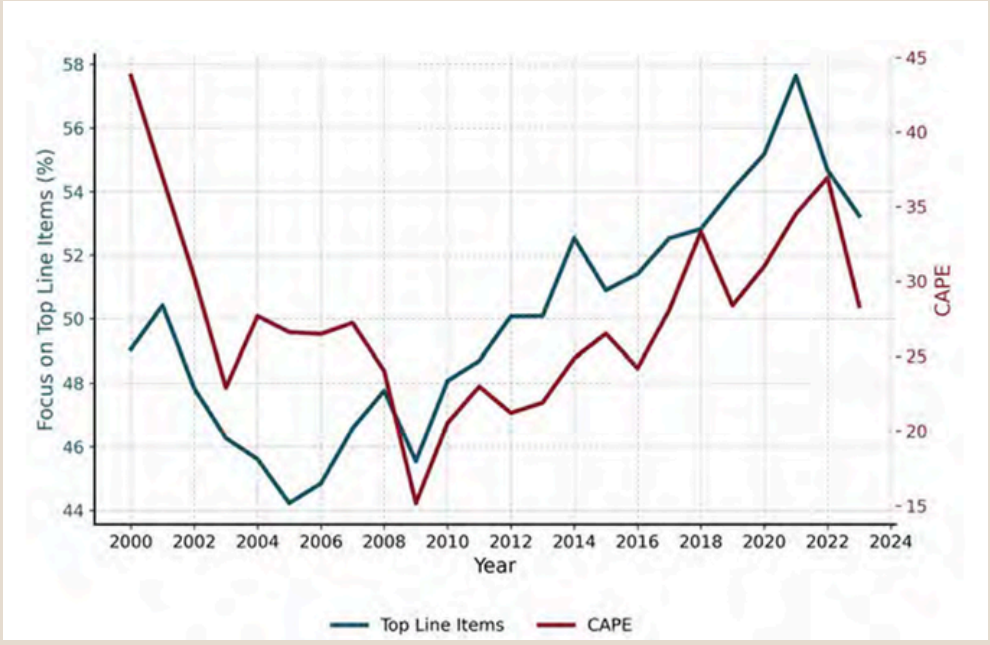
The paper's findings connect directly to the core principles of value investing. If analyst mental models are systematically simplified, uneven in their attention, and resistant to change, then market prices may reflect those distortions.

When analysts underreact to macroeconomic developments, prices may adjust slowly to broader economic shifts. When they overreact to firm-specific, forward-looking narratives—especially around growth—they can push valuations beyond what fundamentals justify.

Brandes Center Executive Director Bob Schmidt captured the practical implication: "If somebody is underestimating the effects of inflation… and we get this spike in inflation—then I want to short that stock."

Analysts' focus on top-line drivers such as sales tends to increase during periods of elevated market valuations, moving closely alongside broader valuation metrics like the Shiller Cyclically Adjusted PE Ratio (CAPE). As

Exhibit 2: Analyst Focus on Top-Line Drivers and Market Valuations Has Mirrored the CAPE Ratio



Source: Bastianello, Décaire, and Guenzel, Mental Models and Financial Forecasts

shown in Exhibit 2, this growing emphasis on revenue and growth-oriented narratives coincides with periods of market optimism, suggesting that analysts increasingly anchor on expansion rather than underlying cash flow fundamentals. This dynamic reinforces the idea that narrative-driven attention reflects a force that contributes directly to periods of overvaluation with a behavioral tendency.

The idea is that analyst mistakes follow consistent patterns. When certain risks are underweighted or ignored, they are not fully incorporated into prices. When certain narratives are overemphasized, they can lead to overly optimistic expectations being priced in.

Guenzel reinforced this dynamic: "If you are not paying attention to something, and it's moving in a bad direction, you're not discounting the prices sufficiently based on the negative news."

At a broader level, this reflects the role of attention in markets. Prices are just a function of available information and of what market participants choose to focus on. When attention is systematically skewed—toward growth stories and away from macro risks—mispricings can emerge in predictable ways.

For value investors, this creates opportunity. Situations where narratives are overly optimistic, or where key risks are being overlooked, can present attractive entry points. Conversely, areas where negative macro developments are not fully reflected in valuations may offer opportunities on the short side.

However, the discussion also emphasized an important constraint. These mispricings are not fleeting. Because the underlying behaviors are reinforced by training, incentives, and industry structure, they can persist for extended periods.

This introduces a key challenge for value-oriented strategies: timing. Even if an investor correctly identifies a mispricing, the market may take time to recognize and correct it. As a result, periods of underperformance are often inherent to the strategy.

The implication is that exploiting these opportunities requires more than analytical skill. It requires patience and a willingness to act against prevailing narratives. In a market shaped by persistent and widely shared mental models, the edge comes from seeing what others are systematically overlooking—and being willing to wait for that gap between stock price and business value to close.

Looking Ahead: AI and the Future of Analyst Reasoning

The webinar concluded with a forward-looking question: how will artificial intelligence shape the way analysts think, and will it reduce or amplify the patterns identified in the research?

One concern raised was that widespread adoption of AI tools could lead to greater uniformity in how analysts approach valuation. If many analysts rely on similar models trained on the same underlying data, their outputs may begin to converge—producing more standardized narratives and reinforcing existing ways of thinking.

At the same time, there is a more optimistic view. As Décaire noted, “There might be ways AI is going to increase our ability to surface important channels… rather than us all getting homogeneous and generating the same stories.”

From this perspective, AI could expand the range of factors analysts consider. By processing larger volumes of information and identifying relationships that might otherwise be overlooked, it has the potential to reduce the limitations imposed by sparse mental models.

However, this outcome depends heavily on how the technology is used. Guenzel raised a more fundamental concern: “The model is only as good as the training data—and if the training data is biased, it’s going to be picked up by the model as well.”

If AI systems are trained on historical analyst reports, they may inherit the same biases identified in the research—overweighting firm-specific narratives, underweighting macro factors, and favoring optimistic, forward-looking stories. In that case, rather than correcting these patterns, AI could scale them.

The broader implication is that AI does not automatically improve decision-making. It can either diversify thinking or reinforce existing biases, depending on its application. If used thoughtfully, it may help analysts move beyond narrow mental models. If used passively, it risks entrenching them even further.

In that sense, the introduction of AI reframes the central challenge identified in the paper. The question is no longer just how analysts think, but how the tools they use shape that thinking. And whether those tools will ultimately make markets more efficient, or simply more consistent in their biases, remains an open question.

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About the Participants

Dr. Francesca Bastianello is an Associate Professor of Finance and Fama Faculty Fellow at the University of Chicago Booth School of Business.

Dr. Paul Décaire is an Assistant Professor of Finance at the WP Carey School of Business at Arizona State University.

Dr. Marius Guenzel is an Assistant Professor of Finance at The Wharton School at the University of Pennsylvania.

Bob Schmidt is the Executive Director of The Brandes Center at the Rady School of Management, UC San Diego. The Brandes Center is dedicated to the study of value investing and behavioral finance, bridging the gap between academic research and practitioner application.

Dylan Schuman is a Research Intern Team Lead with The Brandes Center.

UC San Diego
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4Q26

THE BRANDES CENTER
9500 Gilman Dr. #0553
La Jolla CA 92093

CONNECT WITH US
rady.ucsd.edu/brandes
brandes@rady.ucsd.edu

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