

INSIGHTS FROM CFA SOCIETY SINGAPORE

AI in investment management: 5 lessons from the risk frontier

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ARTIFICIAL intelligence (AI) is transforming how investment decisions are made, and it is here to stay. Used wisely, the technology can sharpen professional judgment and improve investment outcomes. But it also carries risks: Today's reasoning models are still underdeveloped, regulatory guardrails are not yet in place, and overreliance on AI outputs could distort markets with false signals.

This column incorporates insights from a team of investment specialists, academics and regulators who are collaborating on a bi-monthly newsletter for finance professionals, *Augmented Intelligence in Investment Management*.

Practical applications

Lesson 1: Human + Machine: A stronger formula for decision quality

The fusion of human and machine intelligence strengthens consistency, which is a key marker of decision quality. As Karim Lakhani of Harvard Business School summarised: "It's not about AI replacing analysts – it's about analysts who use AI replacing those who don't."

Practical implication: Investment teams should design workflows where human intuition is complemented, not replaced, by AI-driven reasoning aids, ensuring more stable decision outcomes.

Lesson 2: Humans still own the uncertainty frontier

Current limitations of large rea-

soning models (LRM), which can think through a problem and create calculated solutions, mean it is up to investment managers to decipher the impact of less structured, imperfect markets.

Frontier reasoning models collapse under high complexity, reinforcing that AI in its current form remains a pattern-recognition tool.

While the new generation of reasoning models promise marginal performance improvements such as better data processing or forecasting, the results do not live up to the promises. In fact, the less structured a market phenomenon, the more failure-prone the models' outcomes.

Practical implication: Transparency around benchmark sensitivity and prompt design is vital for consistent use in investment research.

Lesson 3: Regulators enter the AI arena

Supervisory authorities are piloting generative AI (GenAI) for process automation and risk monitoring, offering case studies for industry adoption. Regulators are quickly identifying a bevy of vulnerabilities pertaining to AI that could negatively impact financial stability.

A report issued by the Financial Stability Board (FSB), which was established after the 2008 global financial crisis to promote transparency in financial markets, pointed out a number of potential negative implications. GenAI can be used to spread disinformation in financial markets, the group said.

Other possible issues include third-party dependencies and service provider concentration, in-

creased market correlation due to the widespread use of common AI models, and model risks, including opaque data quality. Cybersecurity risks and AI governance were also on the FSB's list.

To wit, regulators are on alert, working on their own integration of AI applications to address the systemic risks explored.

Practical implication: Adaptive regulatory frameworks will shape AI's role in financial stability and fiduciary accountability.

Lesson 4: GenAI as a crutch: guarding against skill atrophy

GenAI can boost efficiency, particularly for less experienced workers, but it also raises concerns about metacognitive laziness, or the tendency to offload critical thinking to a machine/AI, and skill atrophy.

Structured AI human workflows and learning interventions are critical to preserving deep industry engagement and expertise.

GenAI firm Anthropic's analysis of student AI use shows a growing trend of outsourcing high-order thinking, such as analysis and creation, to GenAI.

For investment professionals, this is a double-edged sword. While it can boost productivity, it also risks atrophy of core cognitive skills critical for contrarian thinking, probabilistic reasoning and variant perception.

Practical implication: Investors must ensure AI tools do not become a crutch. Instead, they should be embedded in structured decision-making and workflows that preserve and even sharpen human judgment. In this new environment, developing metacogni-



Investment teams should design workflows where AI-driven reasoning aids complement, not replace, human intuition.

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tive awareness and fostering intellectual humility may be just as valuable as mastering a financial model.

Investing in AI literacy and piloting AI human workflows that preserve critical human judgment will serve to foster, and perhaps amplify, cognitive engagement.

Lesson 5: AI herd effect is real

Being contrarian in seeking alpha means understanding the models everyone else is using. Widespread use of similar AI models introduces systemic risk: increased market correlation, third-party concentration and model opacity.

Practical Implication: Investment professionals should:

■ Diversify model sources and maintain independent analytic

capabilities;

■ Build AI governance frameworks to monitor data quality, model assumptions and alignment with fiduciary principles;

■ Stay alert to information distortion risks, especially through AI-generated content in public financial discourse;

■ Use AI as a thinking partner, not a shortcut; build prompts, frameworks and tools that stimulate reflection and hypothesis testing;

■ Train teams to challenge AI outputs through scenario analysis and domain-specific judgment; and

■ Design workflows that combine machine efficiency with human intent, especially in investment research and portfolio construction.

Navigating the AI risk frontier

Investment professionals cannot

rely on the overly confident promises made by AI firms, whether they come from large language model providers or related AI agents.

As use cases grow, navigating emerging risk frontiers with mindfulness of what they can and cannot add to improving investment decision quality are of paramount importance.

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