

# Simona Paravani

## AI in Finance

On Friday, December 20, Simona Paravani joined Markus' Academy for a conversation on "AI in Finance: An Overview." Simona Paravani is the Global CIO of Solutions within BlackRock's Multi-Asset Strategies and Solutions group as well as a Supernumerary Fellow; Distinguished Affiliated Professor, Faculty of Economics at the University of Cambridge.

A few highlights from the discussion.

- **A summary in four bullets**
  - AI has progressed rapidly due to advances in computational power and data availability, growing from 2 to over 100 zettabytes in 15 years. It is here to stay, driven by the continued growth of data, favorable attitudes among younger generations, and its demonstrated productivity gains
  - AI will improve the ability of the asset management industry to deliver investment insights by processing unstructured and real-time data, enriching the pool of data beyond official statistics or broad surveys
  - While the focus on how to best use AI has remained on prompt engineering, the long-term productivity gains will depend on its users' critical thinking, interdisciplinary collaboration, and teamwork. This skills challenge does not receive enough attention in the public debate
  - AI regulation should remain technology-neutral, ensure inclusivity, and address biases in training data. These biases arise from challenges like the digital divide and the failure to ensure technologies are evaluated with input from a representative sample of end users
- **[0:00] Markus' introduction**
  - AI can be useful in finance in many dimensions: from processing unstructured data to predict returns, to robo-advising, to executing algorithmic trades, to detecting fraud or money laundering
  - AI agents will increasingly operate in markets on behalf of humans. This may stabilize markets if it allows for more individualized trades, reducing herding and improving liquidity. However, AI agents trading against each other may lead to algorithmic collusion (Dou et al. [2024](#)) or flash crashes
  - AI may amplify informational gaps between sophisticated and unsophisticated investors, reducing market liquidity (Grossman and Stiglitz, [1980](#)). Nevertheless, regulation could be needed to mitigate retail investor's overdependence on AI, for example by preventing AI firms from profiting from retail's emotional or behaviorally-biased trading
  - Unlike the standard model of the insurance market, where customers having the informational advantage leads to adverse selection (Rothschild and Stiglitz, [1976](#)), with AI insurance companies may gain the informational upper

hand by analyzing the cross section of data, leading to inverse selection (Brunnermeier et al., [2023](#))

- **[08:37] AI's macro and microeconomic impact**
  - AI has been around since the 1950s (e.g., Shannon's electric [mouse](#)). In recent years its advancement has been enabled by the rapid growth in computational power and data availability. The total stock of data has gone from 2 to over 100 zettabytes in 15 years
  - The AI transformation is here to stay because (1) data will continue to grow, especially with the internet of things, (2) younger generations have more favorable attitudes towards AI adoption (Zhang and Dafoe, [2019](#))
  - Macroeconomically AI is likely to be productivity enhancing. Noy and Zhang ([2023](#)) found that for mid-level professional writing tasks, AI access reduced completion time by 40% and improved quality by 18%, with the greatest gains seen among less experienced workers. The largest productivity boosts have come when the AI is used for tasks that it has been pre-trained for
  - Nevertheless, the magnitude and speed of adoption remains uncertain. It is hard to get comprehensive quality data, but it seems adoption is still muted and in the single digits among corporates (US Census Bureau, [2024](#))
  - The AI adoption marathon will be driven by three key factors: first is access to data, with access to clean and domain-specific data remaining a challenge
  - Second, while the focus on how to best use AI has remained on prompt engineering, the long-term productivity gains will depend on its users' critical thinking, interdisciplinary collaboration, and teamwork, as seen in projects like AlphaFold. This skills challenge does not receive enough attention in the public debate
  - Third is the interplay with other technologies. History shows that no innovation exists in isolation (Neufeld, [2021](#)). For example, the integration of AI with 3D printing and robotics could be transformative
  - Both computer power and data availability are critical. The nature of data access and availability may differentiate further in the ability to leverage AI.
- **[25:09] Asset management and AI**
  - AI will improve the asset management industry in two ways: improving its operational efficiency and enabling it to generate better investment insights for clients
  - In terms of efficiency, while tasks like translation are not specific to asset management, AI will also enhance tasks such as automating compliance processes and detecting anomalies in risk management
  - The potential for AI to improve investment insights is more interesting. AI's ability to process unstructured data, for example from satellite images or social media, will improve our ability to nowcast using real-time information, enriching the pool of data beyond official statistics or broad consumer sentiment surveys

- Another example is Hansen and Kazinnik ([2023](#)), which showed one can use LLMs to decipher Fedspeak. Similar work can be done to parse through earnings calls to do sentiment analysis
  - By tailoring communication strategies, AI can refine how investing is presented, potentially making it more appealing for diverse audiences, For example, on the client-facing side, AI may help better engage female clients, who are typically more risk-averse, which can often adversely impact their long-term returns
  - Regardless of the task, AI will mostly augment human capabilities, not replace them. Human expertise is essential not just in using and interpreting AI outputs but also in upstream roles, such as selecting the data used to train models
- **[32:15] AI biases and regulation**
    - The importance of data cannot be emphasized enough. We must work to ensure its integrity, transparency and inclusiveness
    - Biases in training data remain a challenge. As highlighted by Bender et al. ([2021](#)), only 9–15% of Wikipedia contributors are women. There are also challenges from the digital divide, where 2.7bn people lack internet access (Signe, [2023](#)).
    - The key tradeoff is balancing the representativeness of training data with privacy protection, a problem already well exemplified by medical research initiatives
    - We must evaluate the usefulness of synthetic data on a case-by-case basis. It may be helpful for training physical robots, but creating it based on social media may amplify biases
    - We do not talk enough about the importance of technologies being evaluated by a representative sample of end users. Marçal ([2023](#)) illustrates this with the 1900s, when a third of cars were electric and marketed to women. As electric cars became associated with women, negative perceptions led men—who dominated investment decisions—to favor petrol cars, shaping the industry's trajectory
    - Recognizing the rapid pace of innovation, it's important for regulation to remain technology-neutral, focusing on industry activities rather than specific technologies. This will foster resilience and better alignment with policy objectives. Overlapping regulations should be minimized to avoid confusion and stifling innovation
    - AI adoption is a marathon, not a sprint. Collaboration is key: “If you want to go fast, go alone; if you want to go far, go together.” Effective regulation should ensure continued and open information exchanges among market participants, academia, policymakers, and other stakeholders

#### **Timestamps:**

**[0:00] Markus' introduction**

**[08:37] AI's macro and microeconomic impact**

**[25:09] Asset management and AI**

**[32:15] AI biases and regulation**