30 September 2024

OECD – FSB Roundtable on Artificial Intelligence (AI) in Finance[1]

Summary of key findings

Executive summary

The OECD-FSB Roundtable on Artificial Intelligence in Finance discussed current trends in the adoption of AI in finance, existing and potential use cases for financial institutions and supervisors, opportunities and risks, and emerging good practices in terms of policy frameworks.

The roundtable highlighted the rapid adoption of predictive AI systems, including Machine Learning (ML) and Generative AI (GenAI), particularly in banking and insurance. These technologies have increased efficiency in operations, risk modelling, fraud detection, and financial crime prevention, among other areas. The industry is also exploring the potential of GenAI for internal applications such as summarisation, translation, and information retrieval.

In banking, the use of AI in Anti-Money Laundering (AML) and fraud detection has transformed financial crime checks, leading to more targeted identification of financial crimes and a reduction in false positives. Initial use cases of GenAI deployed in banking were reported to be internal-facing, and include summarisation, translation, information retrieval as well as code generation. Customer service was noted as an important area for future application.

In insurance, AI has been deployed in underwriting, risk assessment, and claims management. GenAI has further enhanced language-driven information processing, particularly in handling policies and claims.

In asset management and securities markets, the roundtable discussed the role of AI, in areas such as portfolio management, trading, and risk management. These tools are being used to optimise asset allocation decisions by facilitating fundamental analysis through quantitative and textual data, generate trading signals, automate trades, and validate and backtest risk models.

Despite its benefits, the use of AI raises concerns around model risk, data protection, and governance. Participants highlighted the importance of data quality, governance, privacy, and ethics. They also highlighted potential financial stability risks posed by AI deployment in the

[1] In person, closed door meeting held on 22 May 2024 in Paris, France, under the Chatham House Rule (Agenda can be found in Annex).

financial sector. Industry representatives advocated for a risk-aligned step-by-step implementation of GenAI models with a comprehensive understanding and management of AI tools across all levels of organisations.

In terms of financial consumer protection, AI has provided benefits such as convenience, accessibility, timely information, cost-efficient services, and enhanced user experience. However, deepfakes and deceptive AI-based outcomes, data protection, privacy and confidentiality issues, and bias and discrimination pose significant challenges. The deployment of GenAI systems introduces additional risks related to the quality and reliability of the model output. The limited trustworthiness of these models is aggravated by the potential lack of awareness of their limitations by users and the recipients of their outputs.

The roundtable concluded with a call for policy makers to promote the safe use of AI in financial services. Participants emphasised the need for a risk-based approach for model risk management and the importance of international co-operation to develop standards and share good practices. They also highlighted the need for national financial regulators to constantly assess their regulatory capabilities.

The OECD and FSB will continue to support international efforts to monitor AI developments, emerging risks, and potential regulatory impacts in financial services. This includes providing policy makers with the necessary tools and skills for effective AI use and oversight in finance.

1. AI in Banking and Insurance

The adoption of predictive AI systems by banks, including ML models, was reported to have rapidly increased in 2022-23, primarily in areas such as operations, risk modelling, pattern recognition for fraud and financial crime prevention. The advent of Generative AI (GenAI), particularly over the last 16-18 months, has attracted the sector's interest in applications and use cases focussing on harnessing the capabilities of Large Language Models (LLMs) and other GenAI models.

Reports of ML-based use cases in banking include AML, fraud detection, identity verification (Know Your Customer), and are covered by traditional model risk management, governance and data protection frameworks in place. Particularly when it comes to applications related to financial crime, dynamic risk analytics tools have changed the way AML and financial crime checks are conducted. These tools leverage the power of data analytics for more targeted identification of instances of financial crime, while reducing the number of false positives at the same time.

Initial use cases of GenAI deployed in banking were reported to be internal-facing, and include summarisation, translation, information retrieval (particularly where context is important). Code generation was noted as an important area of current experimentation in the use of GenAI tools in banking, considering the sheer volume of existing apps in place to serve customers. Customer service was noted as an important area for the future application of GenAI tools. Banks reported a risk-aligned approach to the deployment of GenAI models, enhancing existing AI governance frameworks and using models that are aligned with these frameworks (e.g. use of small language models, training of these models with proprietary data). Although today direct client interaction

with such models remains limited, participants expect expansion of the use of GenAI models in the future as these will be increasingly expected by their customers.

In insurance, predictive AI models were reported to be extensively used in underwriting, risk assessment, risk modelling, as well as claims management and handling across insurance lines. The introduction of GenAI enables insurance companies to process better language-driven information, primarily in handling policies and claims. The translation capabilities of AI models allow for efficient cross-country comparison of claims and policies. LLMs also facilitate information retrieval for advice by agents from better informed systems and offer efficient and simplified communication for complex products (e.g. life insurance, pensions). Nevertheless, human involvement remains essential in the process especially when interacting with clients.

In terms of materialised benefits, the use of AI tools in insurance was reported to offer operational efficiencies and better customer experience (e.g. faster claims processing). AI offers a deeper understanding of insurance losses, allowing for better coverage of client needs including better pricing. GenAI's cross-language capabilities allow for analysis of information at a deeper level and at a cross-country level.

Both in banking and insurance, culture, education and literacy were highlighted as important areas that remain to be addressed in terms of AI governance frameworks including GenAI. Understanding and managing AI tools is a responsibility that extends to all levels of organisations as these tools are widely accessible and not just limited to experts, unlike ML models. Understanding what questions to ask, the level of reliability of their outputs and even ethical considerations that relate to the use of such models were noted as important considerations for users. Industry considered the recruitment of external diverse talent and the upskilling of existing staff to be of utmost importance.

The importance of data was highlighted, in particular aspects such as data accessibility, training, data flows, and the integration of financial and non-financial data in new AI tools. The frameworks that regulate data flow and data treatment across various industries are believed to significantly influence the outcomes and value generated by these new tools.

The reliance on third-party service providers was highlighted as a critical issue in the wider use of AI in finance. Financial services firms have already established processes for third-party services such as cloud services, but these have to be expanded to AI model and data providers. Participants noted the need for transparency, especially in contracts with third-party service providers, to ensure visibility of AI's integration and impact, as the ultimate accountability for AI outputs remains with the financial service provider. The risk of trust erosion was also discussed in this context.

Participants noted that current regulations sufficiently cover AI use in banking and insurance, and regulation was not considered an impediment to the materialisation of AI-derived benefits. However, they expressed concerns that less stringent regulations in some sectors could potentially attract regulated activities, posing a risk of regulatory arbitrage. The need for a risk-based approach for model risk management was emphasised, raising concerns about broad AI definitions by some policy makers. An example included some regulations classifying models like Generalised Linear Models (GLM) as AI, increasing compliance requirements. Suggestions relating to regulation included metric-linked regulations and machine-readable formats for easier compliance.

Academic research in AI, particularly GenAI, is growing but requires a more interdisciplinary approach. In terms of AI model performance, some academic research highlights the superior performance of ML and sometimes GenAI in specific fields such as credit; financial predictions; portfolio allocation; and insurance consumer pricing. However, there are potential disadvantages, notably in explainability; model output robustness; and computational costs. The absence of simple metrics to measure these factors complicates understanding potential trade-offs like explainability versus accuracy. Ultimately, wider deployment of advanced GenAI tools depends on the financial institution's risk appetite.

2. AI in Asset Management and Securities Markets

Asset managers reported the use of AI in asset allocation error reduction, alpha maximisation, and process efficiency. AI enhances trade analysis and execution by improving information discoverability based on user intent, democratising data access with LLMs that cater to different language needs. Participants also noted productivity gains (e.g. co-pilot, summarisation) and benefits from handling unstructured information.

On the sell-side, AI tools have been used for enhancing risk and control processes, product range, and decision-making for over a decade, including for use cases like fraud detection and sanctions screening. GenAI use, primarily involving internal LLM experimentation, is in its early stages. Participants highlighted potential regulatory arbitrage risk by less-regulated market participants, advocating for uniform rules and clarity for smaller participants.

Participants also highlighted the gradual, step-by-step implementation of GenAI models in a trusted manner, acknowledging that the finance sector cannot fully exploit AI capabilities within critical processes due to the associated risks.

Participants emphasised the human-centric approach, especially with GenAI models. This involves maintaining independent risk controls and safeguards, such as auditing and backstops such as kill switches, even amid automation, to manage risks. The 'human in the loop' approach aims for accountability, auditability and record sharing. Domain knowledge was highlighted as crucial to ensure accurate model outcomes, differentiating it from earlier AI techniques that relied solely on ML engineers.

Participants pointed out the overenthusiasm regarding the types of problems that AI can solve in finance due to the complexity of services and processes, and highlighted that many AI use cases explored in finance are often discarded as inappropriate solutions to a problem.

Participants emphasised the critical importance of data quality, governance, privacy, and ethics due to data's central role in AI. As data commoditisation increases, understanding user rights, such as intellectual property, and data source traceability become crucial for model output trustworthiness. Financial firms often face governance and cultural challenges, in addition to technological ones. Extending responsible AI frameworks can promote user trust. Upskilling across hierarchical levels of seniority was also highlighted, given the democratised nature of LLMs and GenAI tools.

Participants highlighted that many AI-related risks originate from older types of AI tools like ML. To identify future potential sources of financial stability risk, a combined approach incorporating perspectives from both economic and AI research was deemed essential.

It was noted that AI use involves balancing short-term efficiencies and stability against the possibility of unknown stress. Concerns include algorithmic interactions possibly leading to market manipulation and AI models inadvertently engaging in insider trading due to profit maximisation objectives, despite instructions not to use private information. This highlights the complexity of the financial system and the difficulty in pre-specifying every single objective.

Another risk highlighted is the oligopolistic market structure due to the increasing scale of returns in third-party AI services like models, cloud services or data analytics. This was noted to be particularly problematic, especially for authorities, as increasing reliance on private sector analytics could lead to an increasingly one-sided view, ultimately risking losing sight of instability channels.

Participants emphasised the need for faster decision-making responses by authorities in this new era of AI in finance. It was suggested that authorities use AI-driven stress scenarios to understand how they can deal with them and how to react and respond, by having AI provide answers. The risk of dependency on an AI system for vital functions, particularly when its decision-making process is not fully understood, was also identified as an increasingly important concern for the future.

3. Financial Stability implications of the growing use of AI in Finance

Participants discussed potential financial stability risks caused by the deployment of AI in the financial sector, considering its potential to amplify interconnections among financial firms as well as complexity and opacity concerns around models and data.

Participants noted that concentration, third-party reliance, and model risks take on a new dimension with recent AI developments. The increasing reliance on data, cloud services and third parties could enhance existing vulnerabilities in the financial sector, potentially magnified by vertical integration. However, the impact may be balanced by differing AI implementation strategies. This reinforces the need to monitor both concentration and application diversity.

GenAI could potentially expedite transformation in the financial system. New entrants, particularly financial technology firms and other non-bank financial institutions, can leverage the economies of information processing and rebalance the competitive landscape. Early adoption could offer transformative competitive advantages in less liquid markets according to participants.

Though financial stability implications from conduct related developments are not new GenAI, due to its potential widespread use in the future, raises heightened concerns about potential manipulation and the false perception of tool autonomy, which could lead to large cascading effects.

The impact on financial stability from disruptive effects of GenAI on the macroeconomy, such as those in the labour market, is an issue that may require further investigation.

Participants noted that the use of AI in finance does not seem transformational at present. The focus is on improving the efficiency of specific tasks, and it is largely exploratory. The technology is not being adopted wholesale, and automation efforts still involve human oversight. This early stage of the transition is characterised by unknowns, and authorities face challenges in collecting relevant data to properly monitor developments and assess potential vulnerabilities.

The discussion also identified efficiency gains from GenAI for financial authorities, including combating fraud, countering cyber risks and enhancing financial sector supervision by embedding AI in their business processes. With new tools, supervisors can handle large data volumes more effectively.

4. Financial consumer protection, market conduct considerations and policy approaches to AI in finance

Participants highlighted the benefits of AI in consumer-facing financial services, including robo-advisors, chatbots, customer onboarding, authentication, credit assessment and retirement planning. Benefits include convenience, accessibility, timely information, cost-efficient services, faster complaint resolution, enhanced user experience, and customised products. AI's role in financial inclusion was noted, particularly in digital lending based on AI sentiment analysis and alternative data for credit assessment – the latter crucial for underserved small and medium-sized companies. AI also improves security, reduces identity theft, enhances customer value and facilitates better consumer choice. However, the deployment of GenAI systems is focussed on internal use cases.

One of the key risks to financial consumers is the potential for deepfakes and deceptive AI-based outcomes, considering the evolving nature of consumer protection risks raised by GenAI. Concerns include data protection, privacy and confidentiality, data quality, intellectual property, security, bias, and discrimination. Models are more susceptible to input attacks such as data poisoning. Novel risks are associated with GenAI's learning and dynamic adjustment abilities, leading to avoidance of AI tools in sensitive financial areas.

Attendees emphasised the importance of adapting a balanced approach between the potential of appropriate use of AI technology that allows for benefits to materialise, and limits to such use, including for users that are not digitally literate. They also noted that financial education and a better understanding of the risks inherent in AI in finance by consumers was crucial in this regard.

Participants highlighted the need for policy and regulatory responses to address potential hazards from AI use in financial services, balancing innovation with consumer protection. They cited deepfakes and hallucinations as an example of critical emerging risks. Disclosures to consumers that the advice or other output received is generated by an AI model were suggested as a risk mitigant. Importance was also placed on data governance and clear accountability.

In terms of policy and regulatory response, the importance of adhering to existing principles to mitigate risks was emphasised. Global standards such as the G20/OECD Financial Consumer Protection Principles were highlighted to address emerging financial consumer risks. AI's

potential in combating misconduct was noted. Given AI's global nature, international co-operation was considered crucial to develop standards and share practices.

Participants called for public authorities and regulators to promote safe AI use to realise its benefits, address consumer expectations, protect competition, ensure market integrity and promote financial inclusion. They highlighted the merits of a risk-based approach, and suggested innovation hubs and sandboxes as methods to foster safe AI adoption in finance.

Participants noted that financial policy makers monitor AI use cases and associated risks in finance, especially regarding future trends in GenAI customer-facing applications. They emphasised the continued application of existing regulatory frameworks and tools on governance, data, risk management, and operational resilience (e.g. FSB toolkit on third-party party risk and outsourcing). Others mentioned new legislative frameworks being implemented to address high-risk AI use cases, protect democratic values and human rights across sectors, while fostering innovation.

Participants emphasised the need to equip policy makers, especially financial supervisors, with the right tools and skills for effective AI oversight in finance. They noted that international coordination is essential given the global nature of AI, and that financial regulators at the national level should constantly assess their regulatory capabilities domestically. Many of the issues go beyond the financial sector, so the involvement of other authorities (e.g. competition, data privacy) may also be needed.

FSB Roundtable on Artificial Intelligence in Finance

22 May 2024, OECD Headquarters, CC4 (in-person event), 2 rue Andre Pascal, 75116, Paris, France

Annotated Agenda

09:30 – 13:00 CET: Open session (with private sector participants)[2]

1. Registration (8:30 – 09:00)

2. Opening Remarks (09:00 – 9:45)

Introductory remarks:

- **Yoshiki Takeuchi**, OECD Deputy Secretary-General

Keynote speech:

- **Nellie Liang**, Under Secretary for Domestic Finance, US Treasury, and Chair of FSB Standing Committee on Assessment of Vulnerabilities (SCAV)

3. Session 1: AI in the banking and insurance sectors (9:45 – 11:15)

Moderator:

- **Carmine Di Noia**, Director for Financial and Enterprise Affairs, OECD

Background:

Recent technological advances in AI have extended the adoption of AI-based tools, including in banking and insurance sectors. Generative AI in particular represents a step change in potential use cases enabled by the generation of text, image, audio, video, and code. Examples include applications in fraud detection, credit decisioning, risk management, textual analysis, coding, customer service, compliance, capital optimisation, and portfolio management, among others, often improving accuracy, speed, and efficiency in processing.

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2 Chatham House Rule

This session will explore from the industry perspective the current and forthcoming AI use cases in banking and insurance, and the challenges and emerging risks from the increased use of AI. Issues for discussion in this session include:

- What are existing, new and emerging AI use cases by banking and insurance firms? How have they evolved in recent years? Are firms using foundation models, other type of models, curated products and/or building tailored applications?
- What are the main benefits of the use of AI in lines of business (incl. examples of innovative financial products and new revenue growth enabled through AI)? Do regulatory expectations pose barriers to experimentation?
- What are the main challenges/risks that banks and insurers face with the increased use of AI? How are these institutions modifying their internal operations and governance structures to deal with them?
- What are the key policy considerations emerging from the use of AI in the banking and insurance sectors?

4. Session 2: AI in asset management and securities markets

Keynote Speech:

- **Jean-Paul Servais**, Chair of the International Organization of Securities Commissions (IOSCO); Chair of the Belgium Financial Services and Markets Authority (FSMA)

Moderator:

- **Lim Tuang Lee**, Assistant Managing Director, Capital Markets Group, Monetary Authority of Singapore

Background

AI tools are increasingly being adopted by the asset management industry, particularly in areas such as portfolio management, trading, and risk management. These tools are being used to optimise asset allocation decisions by facilitating fundamental analysis through quantitative and textual data, to generate trading signals, to automate trades and to validate and backtest risk models.

This session will delve into both the current applications and the future potential of AI within the industry, examining the challenges and emerging risks associated with its expanded use. Issues for discussion in this session include:

- What are existing, new and emerging AI applications being utilised by asset managers, other buy/sell side market participants and their service providers? How have these applications evolved in recent years?
- How is AI applied in pre-trade analysis, trade execution, and post-trade analysis? Has GenAI in particular been used for these purposes?

- In what ways is AI used for portfolio construction? How does it integrate with or enhance traditional portfolio management strategies?
- What are the main benefits and challenges/risks that asset managers and other buy/sell side market participants face with the increased use of AI? How are these institutions revamping their internal operations and governance structures to deal with them?

14:30 – 18:00: Closed session

About the OECD

The OECD is a forum in which governments compare and exchange policy experiences, identify good practices in light of emerging challenges, and promote decisions and recommendations to produce better policies for better lives. The OECD's mission is to promote policies that improve the economic and social well-being of people around the world. The OECD Directorate for Financial and Enterprise Affairs assists policy makers to foster fair and efficient markets which deliver inclusive economic growth and, in turn, better lives. OECD work on financial markets promotes efficient, open, stable and sound market-oriented financial systems, based on high levels of transparency, confidence, and integrity.

About the Financial Stability Board (FSB)

The FSB coordinates at the international level the work of national financial authorities and international standard-setting bodies and develops and promotes the implementation of effective regulatory, supervisory, and other financial sector policies in the interest of financial stability. It brings together national authorities responsible for financial stability in 24 countries and jurisdictions, international financial institutions, sector-specific international groupings of regulators and supervisors, and committees of central bank experts. The FSB also conducts outreach with approximately 70 other jurisdictions through its six Regional Consultative Groups.

Background to the Roundtable

The use of AI presents significant opportunities for efficiencies and value creation across vectors of financial market activity but comes with important risks that warrant the attention, and possible action, of policy makers. Wider deployment of AI in finance could amplify risks already present in the global financial system, while also giving rise to new challenges and risks, including possible systemic implications. The role of policy makers is important in supporting AI innovation in the financial system while ensuring that financial markets, institutions and their customers are duly protected and the markets around such products and services remain stable, fair, orderly and transparent.

Building on earlier work of the OECD and the FSB, this Roundtable aims to identify current trends in the adoption of AI in finance, discuss existing and potential use cases of AI for financial system participants (including financial supervisors), analyse opportunities and emerging risks from the deployment of AI mechanisms in finance and share emerging good practices in terms of policy frameworks. The objective of the Roundtable is to form a better understanding of the extent of actual and potential benefits and risks of AI deployment in finance, as well as to share knowledge around applicable policy frameworks and policy initiatives associated with the use of AI-based mechanisms in finance. The outcomes of the Roundtable shall inform forthcoming work on AI in Finance by the OECD and the FSB.

The Roundtable brings together senior public sector officials from finance ministries/treasuries, central banks and financial regulators from OECD and FSB member jurisdictions, as well as executives from the private sector, academia, think tanks, and senior experts from international organisations and standard-setting bodies.

Contacts

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