



# AI and financial stability

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Session: AI as a Double-Edged Sword for Financial Stability -MNB Financial Stability Conference, 24 September 2026

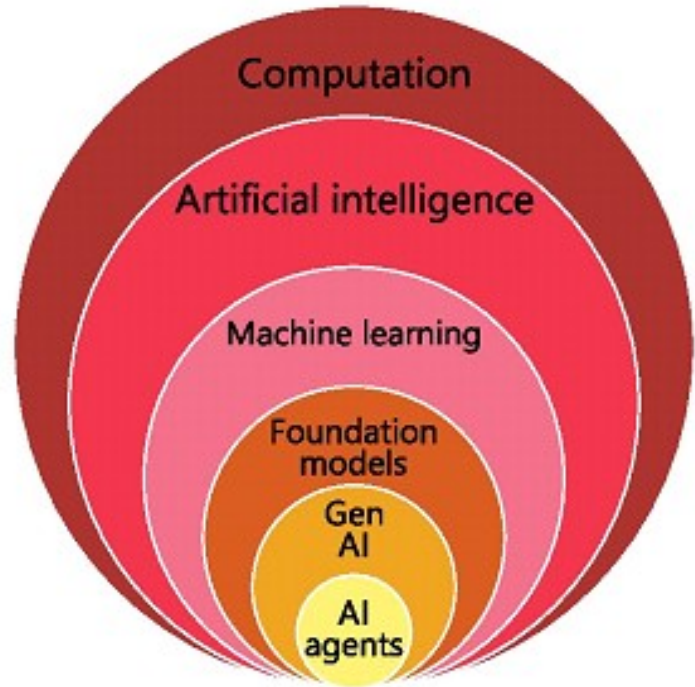
\* The views expressed here are those of the presenter and not necessarily the Bank for International Settlements

# Overview

- ❖ Challenges of AI in finance
  - ❖ What's new for the financial sector?
  - ❖ AI boom
- ❖ Spillovers from the real economy
  - ❖ Impact of AI on the labour market
- ❖ Frontier AI and cyber risk
  - ❖ Performance of frontier AI models on cybersecurity tasks
  - ❖ Incentives of attackers and defenders
  - ❖ Public policy responses
- ❖ Conclusions

# Challenges of AI in finance

# Decoding AI: what's new for the financial sector?



Foucault T, L Gambacorta, W Jiang, and X Vives (2025):  
“[Artificial intelligence in finance](#)”, CEPR IESE Report 7.

- ❖ Gen AI is changing our lives
- ❖ Financial sector is among the most-exposed to AI, reflecting the high share of cognitive tasks and abundant data
- ❖ With Gen AI, what is new?
  - ✓ Automaticity: no human intervention
  - ✓ Speed: rapid data processing and diffusion
  - ✓ Ubiquity: across sectors and the economy
- ❖ What are the emerging challenges of using Gen AI in banking and finance?
- ❖ Compare traditional analytics, with ML and Gen AI

# Challenges arising from AI use in finance

|                              | Financial intermediation                                                                                                                               | Insurance | Asset management                                                              | Payments                                    |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------------|---------------------------------------------|
| <b>Traditional analytics</b> | Rigid, requires extensive human supervision, small number of parameters                                                                                |           | Zero-sum arms race for private gains, flash crashes                           | Technical vulnerabilities                   |
| <b>Machine learning</b>      | Black box mechanisms, algorithmic discrimination, threats to consumer privacy, emergence of data silos                                                 |           | Zero-sum arms race for private gains, model herding, algorithmic coordination | New liquidity crises, increased cyber risks |
| <b>Generative AI</b>         | Hallucinations in customer facing applications, garbage-in-garbage-out, increased market concentration, increased consumer privacy concerns, collusion |           |                                                                               |                                             |

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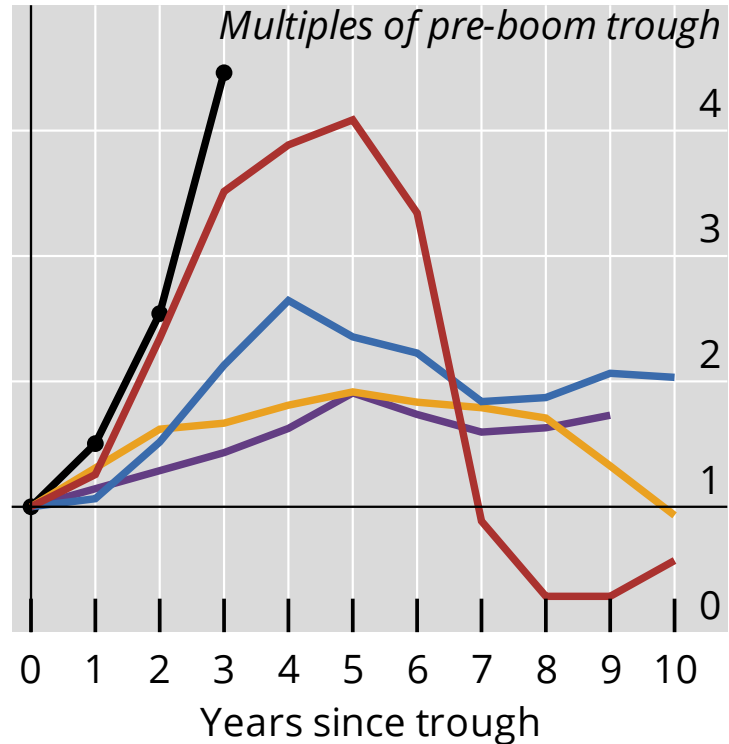
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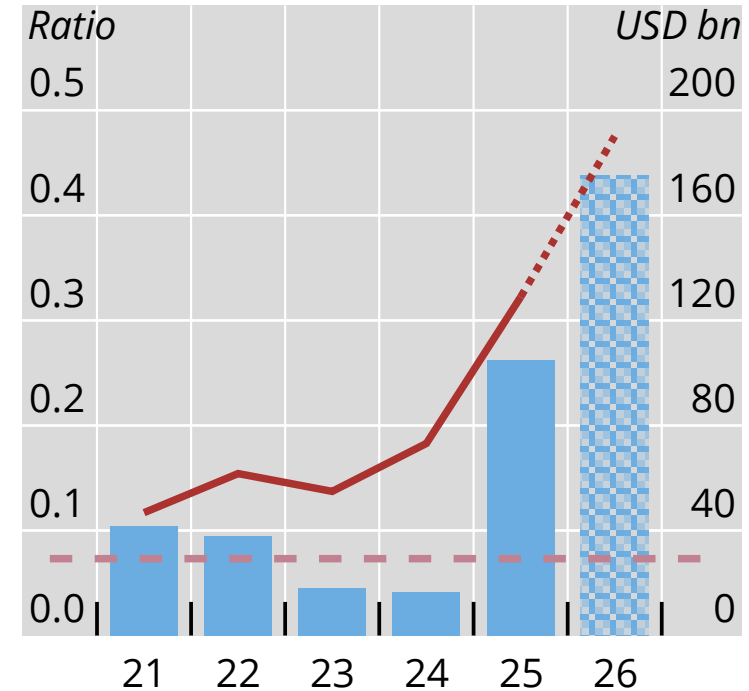
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# Large AI investment boom raises questions about its sustainability



Investment during:

- Canal mania
- Railway mania
- Roaring 20s
- Dotcom boom
- AI boom



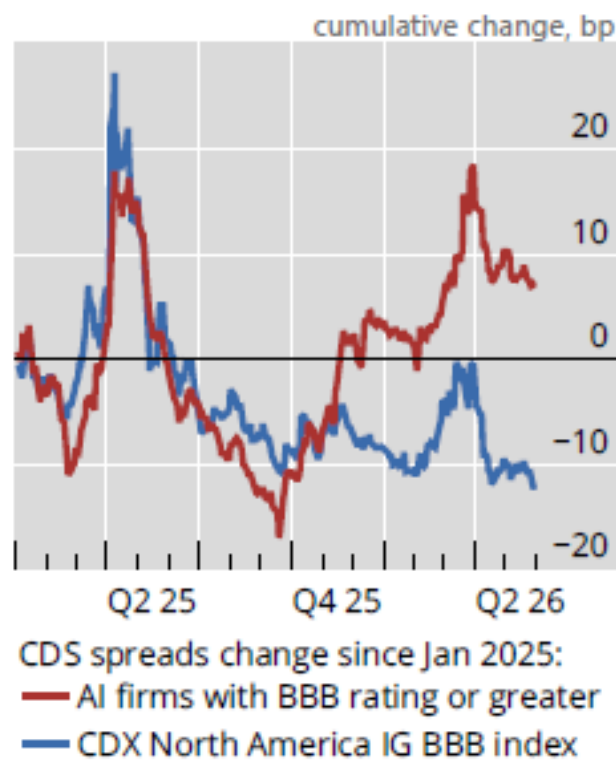
Capex to revenue  
(lhs):

Debt issuance  
(rhs):

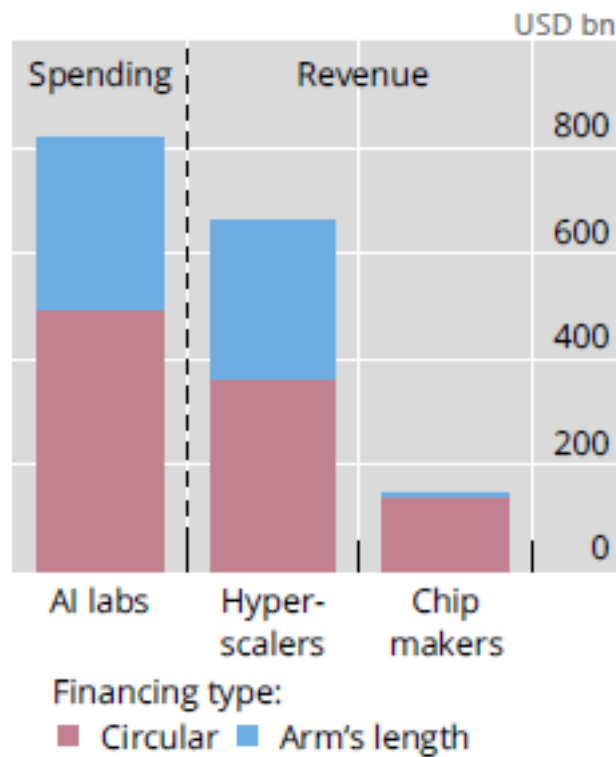
- Actual
- .... Forecast
- - All firm benchmark

# AI booms also entails financial stability risks

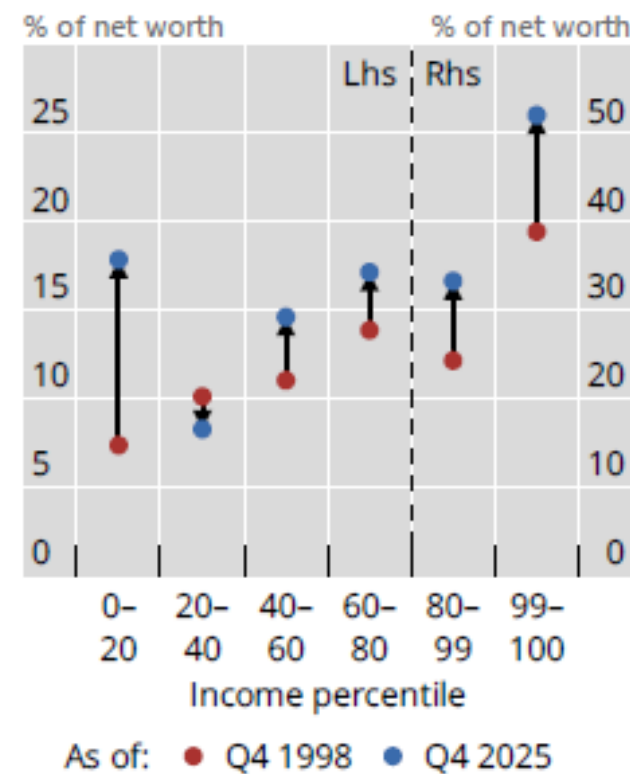
AI firms' credit risk is rising



Circular AI financing is widespread



Households' increased stock exposure amplifies wealth effects

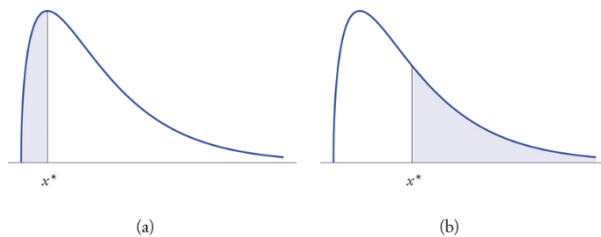
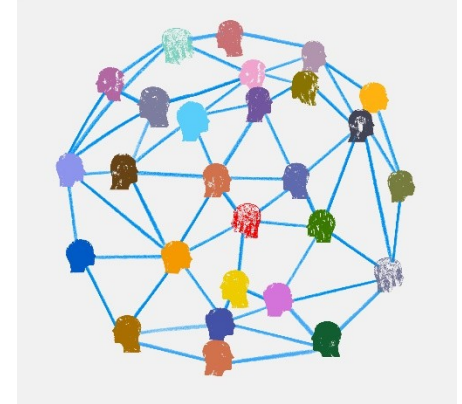


# Financial stability and AI



**Early rule-based systems** were already important for financial stability: 1987 US stock market crash

**Machine learning** increases network interconnectedness, data uniformity, model herding

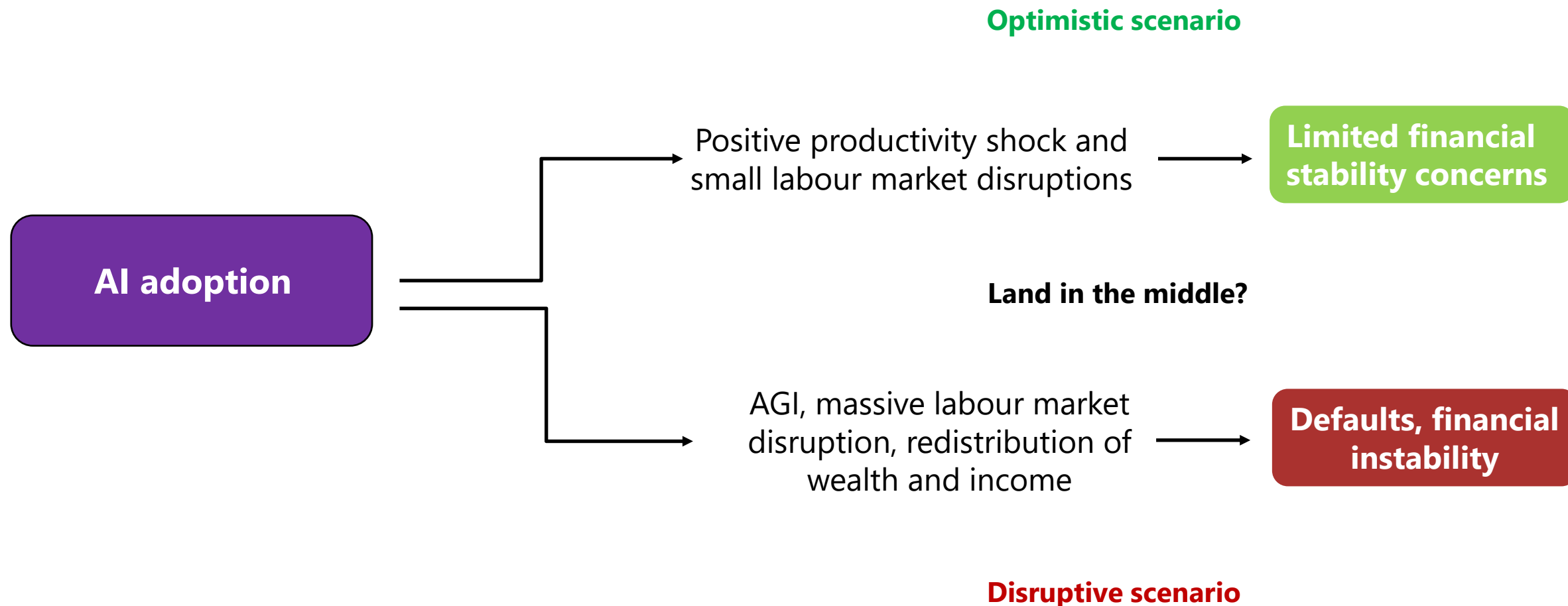


**Gen AI** leads to the fat tail problem and viral events. AI supply chain concentration creates third party dependencies (model, data and algorithmic herding) resulting in more uniform behaviour

Source: Aldasoro, I, L Gambacorta, A Korinek, V Shreeti and M Stein (2024): "[Intelligent financial system: how AI is transforming finance](#)", BIS Working Papers, no 1193.

# Spillovers from the real economy

# Effects of AI adoption on the labour market: two scenarios



Source: Aldasoro, I, S Doerr, L Gambacorta, G Gelos and D Rees (2024): "[Artificial intelligence, labour markets and inflation](#)", SUERF, Policy Brief, no. 923.

# Frontier AI and cyber risk

# Frontier AI is rapidly improving cyber capabilities

## ❖ Frontier AI can now:

- ❖ Solve expert-level cybersecurity tasks
- ❖ Execute multi-step attack chains
- ❖ Take over entire simulated networks
- ❖ Lower the cost of sophisticated attacks

## ❖ AI strengthens both attackers and defenders

- ❖ Expert tasks → Multi-step reasoning → Autonomous actions → Lower costs

# AI changes the economics of cyber conflict

## ❖ **Attackers:**

- ❖ Need **one successful breach**
- ❖ AI lowers the cost of attacks
- ❖ Falling AI costs broaden access

## ❖ **Defenders:**

- ❖ Must protect **every vulnerability**
- ❖ Continuous monitoring and patching
- ❖ Higher compute and security spending

AI improves both offence and defence, but incentives remain asymmetric.

# Public policy responses

## ❖ **Act together**

- ❖ Information sharing
- ❖ Coordinated vulnerability scanning
- ❖ Public–private cooperation

## ❖ **Build resilience**

- ❖ AI-enabled cyber exercises
- ❖ Supply-chain oversight
- ❖ Faster patching

## ❖ **Strengthen international cooperation**

- ❖ Common standards
- ❖ Cross-border incident response
- ❖ Capacity building

# Conclusions

# Main takeaways

## ❖ Challenges of AI in finance

- ❖ Generative AI enhances financial services through automation and data utilization, but introduces new risks like model hallucination and market concentration
- ❖ Systemic risk effects via model herding and viral events

## ❖ Frontier AI is rapidly enhancing cyber capabilities, enabling increasingly autonomous and sophisticated attacks while also strengthening defensive tools

- ❖ Although AI benefits both attackers and defenders, the underlying economics of cybersecurity remain asymmetric: attackers need only one successful breach, whereas defenders must protect every vulnerability

## ❖ Technology has no border: need of international cooperation

- ❖ Cyber resilience is a public good. Strengthening it requires coordinated action across the public and private sectors, supported by timely information sharing and international cooperation

# References

- Aldasoro, I, O Armantier, S Doerr, L Gambacorta and T Oliviero (2024a): "[Survey evidence on gen AI and households: job prospects amid trust concerns](#)", *BIS Bulletin*, no 86, April.
- Aldasoro, I, S Doerr, L Gambacorta, and D Rees (2024): "[The impact of artificial intelligence on output and inflation](#)", *BIS Working Papers*, no 1179.
- Aldasoro, I, S Doerr, L Gambacorta, G Gelos and D Rees (2024): "[Artificial intelligence, labour markets and inflation](#)", SUERF, Policy Brief, no. 923.
- Aldasoro, I, S Doerr, L Gambacorta, S Notra, T Oliviero and D Whyte (2024): "[Generative artificial intelligence and cybersecurity in central banking](#)", *BIS Papers*, no 145, May.
- Aldasoro, I, L Gambacorta, A Korinek, V Shreeti and M Stein (2024): "[Intelligent financial system: how AI is transforming finance](#)", *BIS Working Papers*, no 1193.
- Aldasoro I, R Auer, J Frost, F Perez-Cruz (2026): "[A Mythos moment? Frontier AI and cyber risk](#)", *BIS Bulletin*, 129.
- Araujo, D, S Doerr, L Gambacorta and B Tissot (2024): "[Artificial intelligence in central banking](#)", *BIS Bulletin*, no 84, January.
- Bell, S, B Gadanez, L Gambacorta, F Perez-Cruz and V Shreeti (2025): "[Artificial intelligence and human capital: challenges for central banks](#)", *BIS Bulletin*, no 100.
- BIS (2024): "[Artificial intelligence and the economy: implications for central banks](#)", Annual Economic Report, Ch III, June.
- Foucault T, L Gambacorta, W Jiang, and X Vives (2025): "[Artificial intelligence in finance](#)", CEPR IESE Report 7.
- Gambacorta, L, B Kwon, T Park, P Patelli and S Zhu (2024): "[CB-LMs: language models for central banking](#)", *BIS Working Papers*, 1215.
- Gambacorta, L, H Qiu, D Rees and S Shan (2024): "[Generative AI and labour productivity: a field experiment on coding](#)", *BIS Working Papers*, no 1208.
- Gambacorta, L and V Shreeti (2025): "[The AI supply chain](#)", *BIS Papers*. no. 154, March.