IFC survey on central banks' use of AI and ML

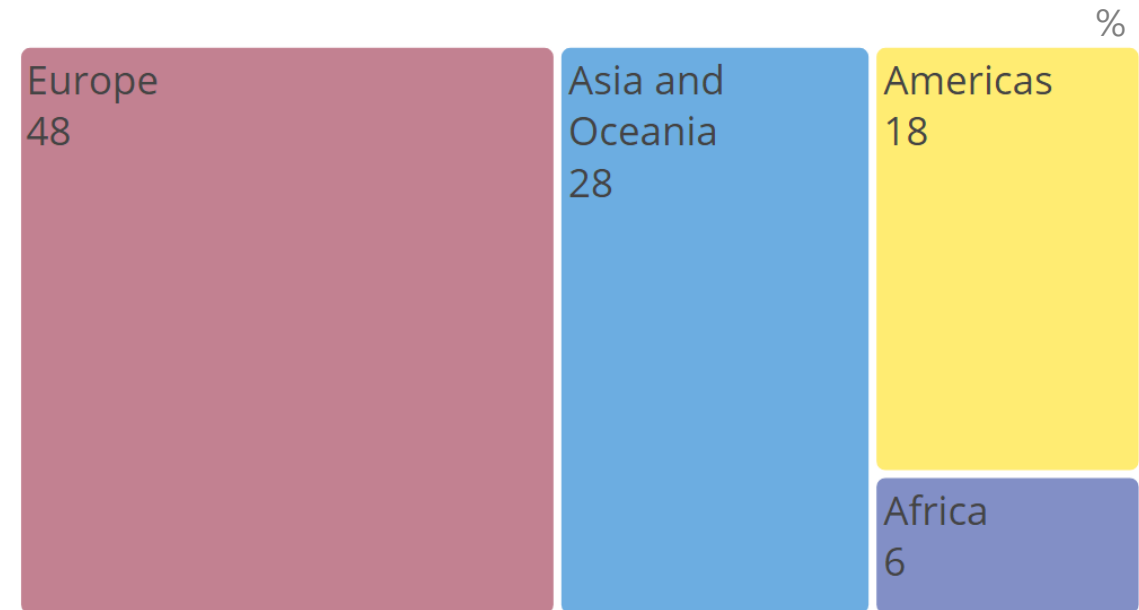**Alberto Naudon**, *IFC Chair and Central Bank of Chile*

4th IFC and Bank of Italy workshop on "Data Science in Central Banking"

18 February 2025, Rome (Italy)

IFC survey on central banks' use of AI and ML

- **Period**: September – October 2024

- **Coverage**: 60 jurisdictions

- **Six chapters**:
  - Scope and interest
  - Expectations
  - Applications
  - Organisational policies, governance and risks
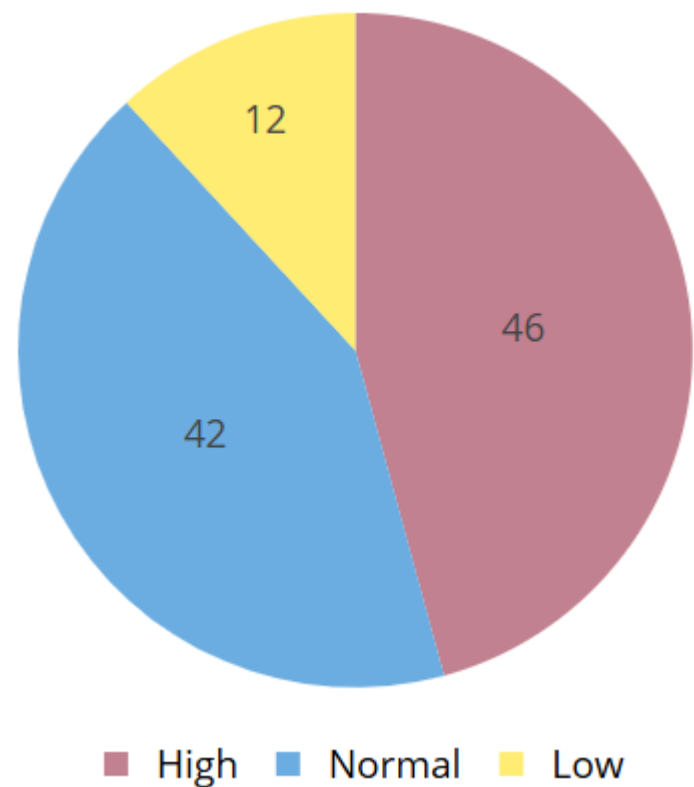 - IT stack
  - Collaborative strategies
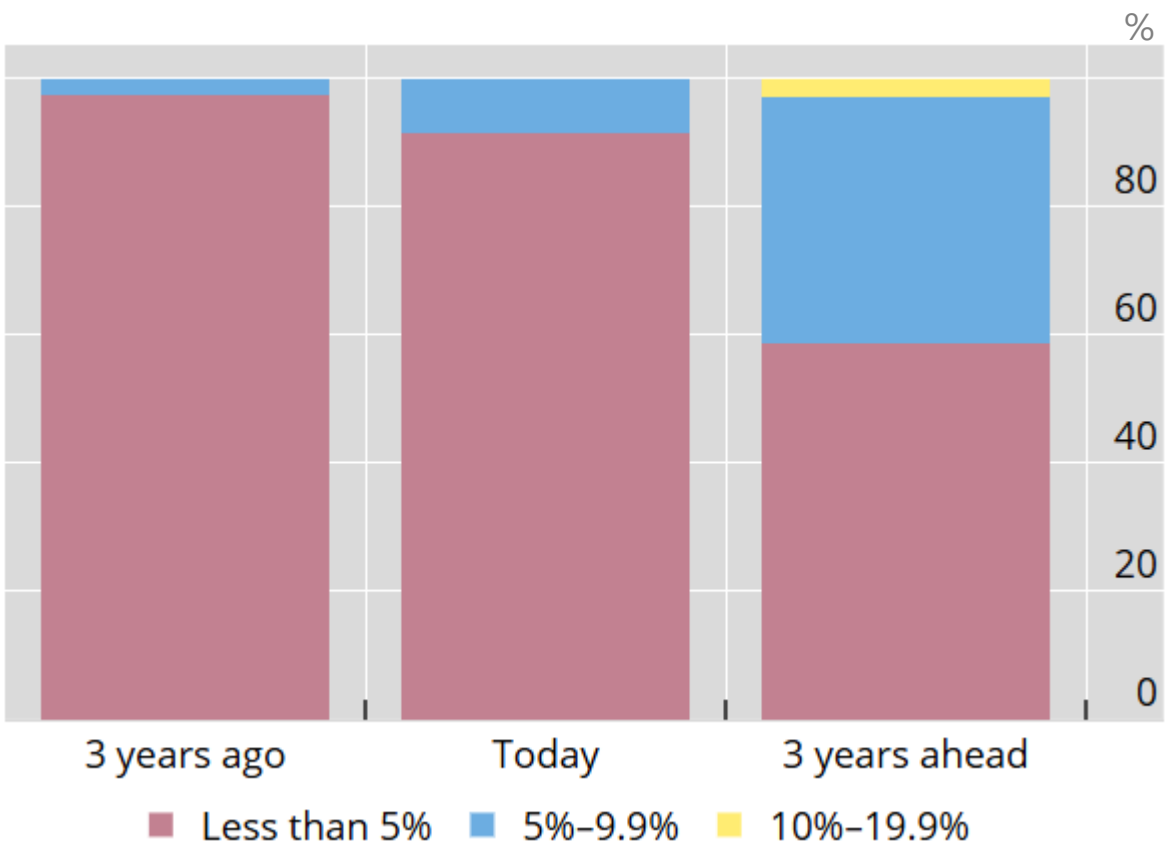
Share of respondents by geographical region

%

| Europe 48 | Asia and Oceania 28 | Americas 18 |
| | | Africa 6 |

1 Artificial intelligence is a **priority** for central banks

AI/ML importance in strategic planning

Pie chart values: 46, 42, 12

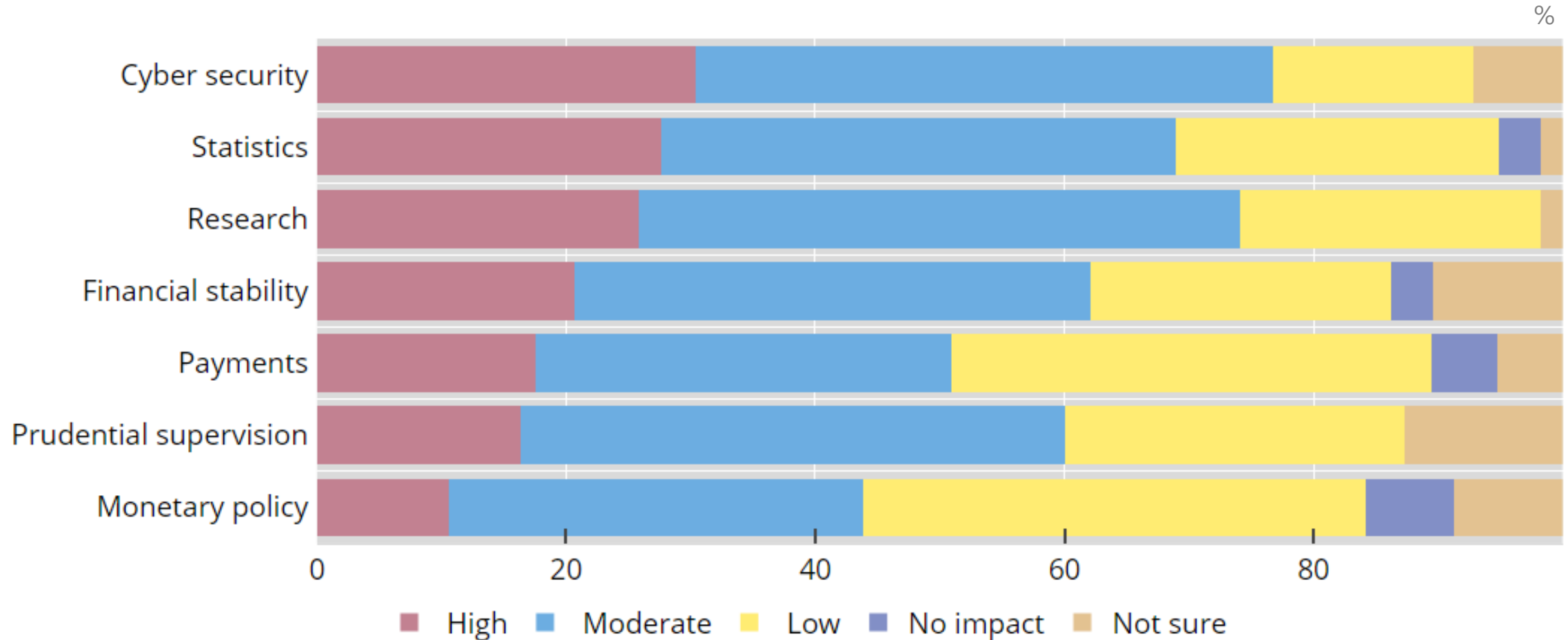Legend: ■ High ■ Normal ■ Low

Question: On a scale from 1 (low priority) to 3 (high priority), how important is AI/ML to your institution's strategic goals over the next two years?

Budget allocated to AI/ML projects

%

80
60
40
20
0

3 years ago   Today   3 years ahead

Legend: ■ Less than 5% ■ 5%–9.9% ■ 10%–19.9%

Question: What percentage of the total budget of your institution is intended to finance AI/ML projects?

AI is expected to have a **significant impact** on **cyber security**, **statistics** and **research**
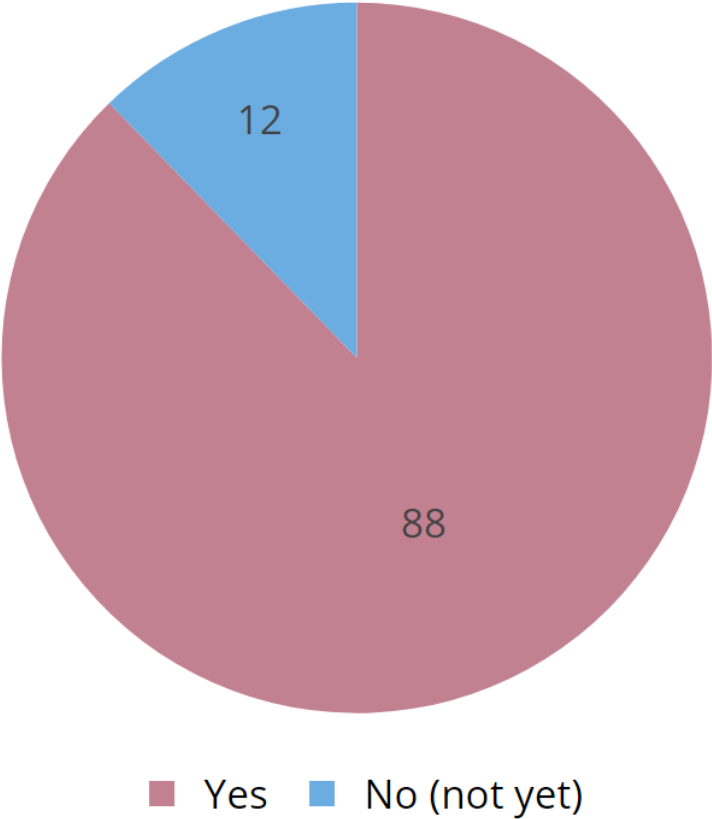

Question: Please rate the impact you expect from AI/ML in the following functional domains in the next two years.
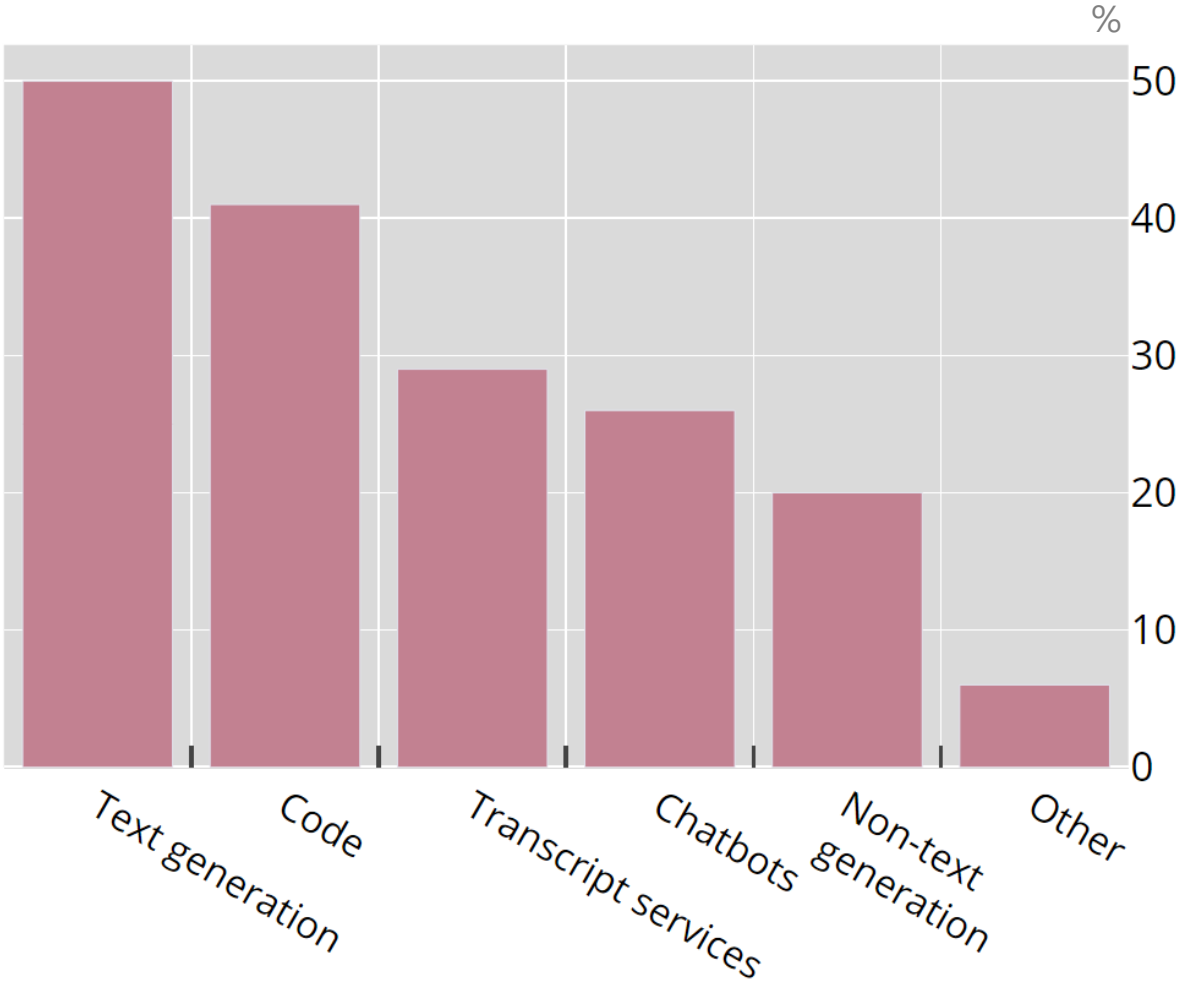
Central banks widely use **generative AI**

Share of central banks using generative AI

Pie chart:
- Yes: 88
- No (not yet): 12

Question: Are you currently using generative AI in your institution?

Use cases mostly involve text and code generation

%

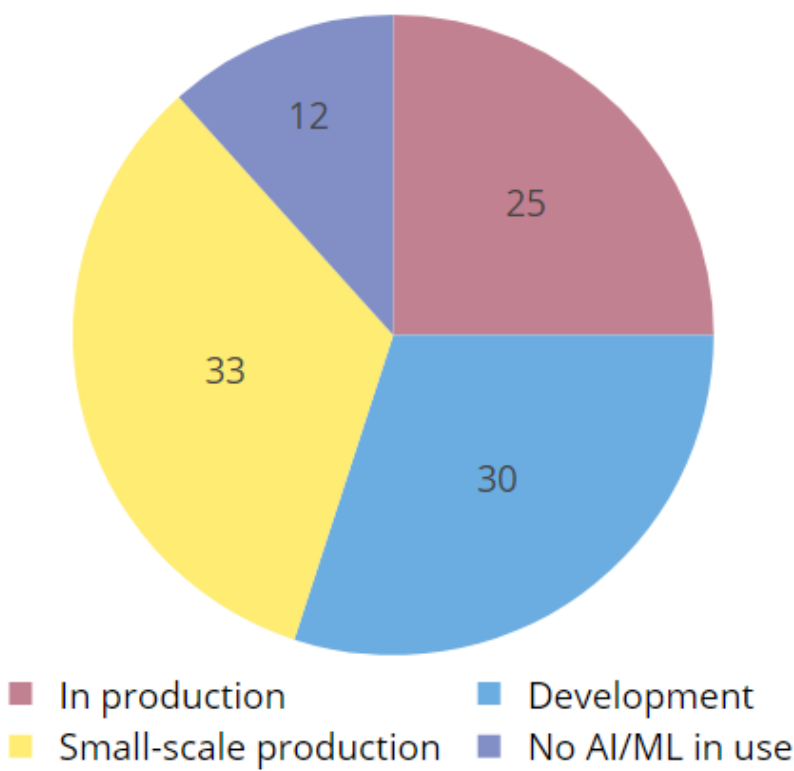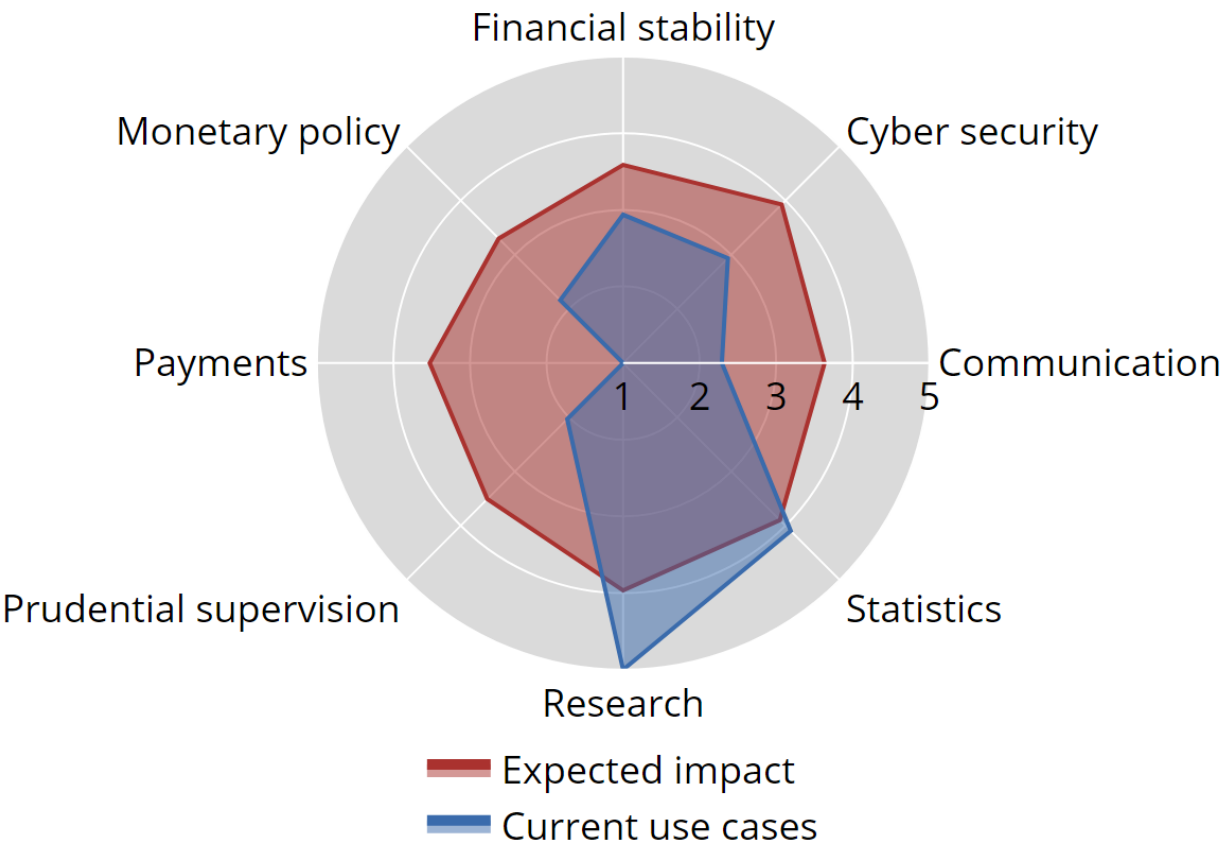Bar chart categories: Text generation, Code, Transcript services, Chatbots, Non-text generation, Other

Question: If yes, please select the applicable use cases.

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5

Yet **expectations** do not necessarily match **applications** which remain limited

Expected impact and current applications of AI/ML[1]

Radar chart axes: Financial stability, Cyber security, Communication, Statistics, Research, Prudential supervision, Payments, Monetary policy. Scale 1 2 3 4 5.

— Expected impact
— Current use cases

AI/ML use cases

Pie chart values: 25, 30, 33, 12.

- In production
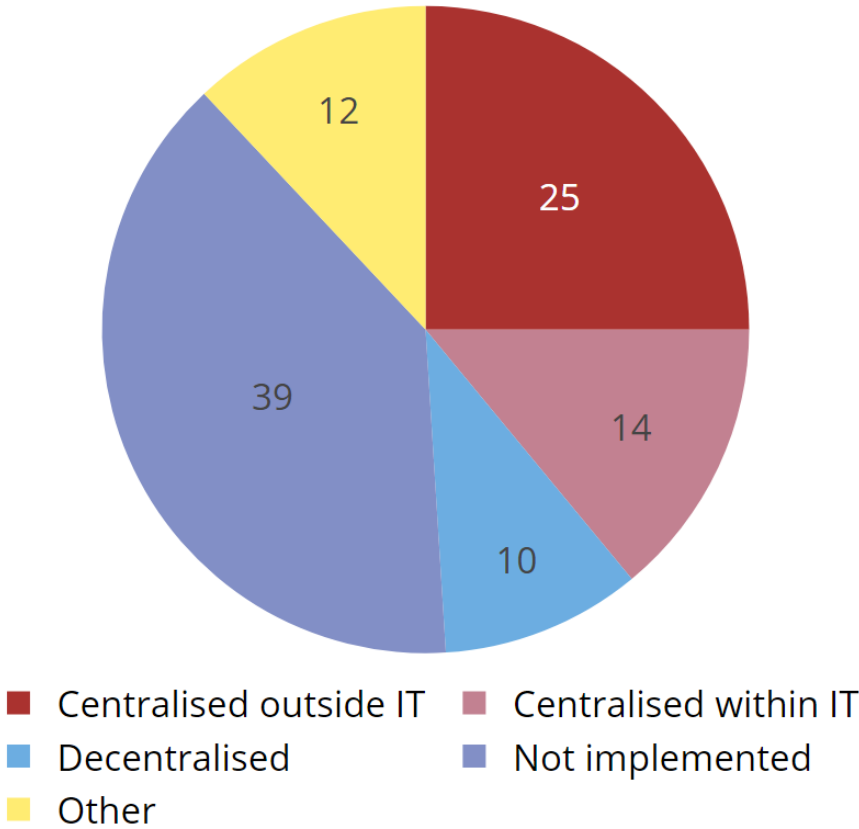- Small-scale production
- Development
- No AI/ML in use

[1] The expected impact is calculated as the average of the response rates on a scale from 1 to 5 (1: not sure; 2: not impactful at all; 3: slightly impactful; 4: moderately impactful; 5: highly impactful). Current use cases are derived as the total count normalised on a scale from 1 (minimum) to 5 (maximum).

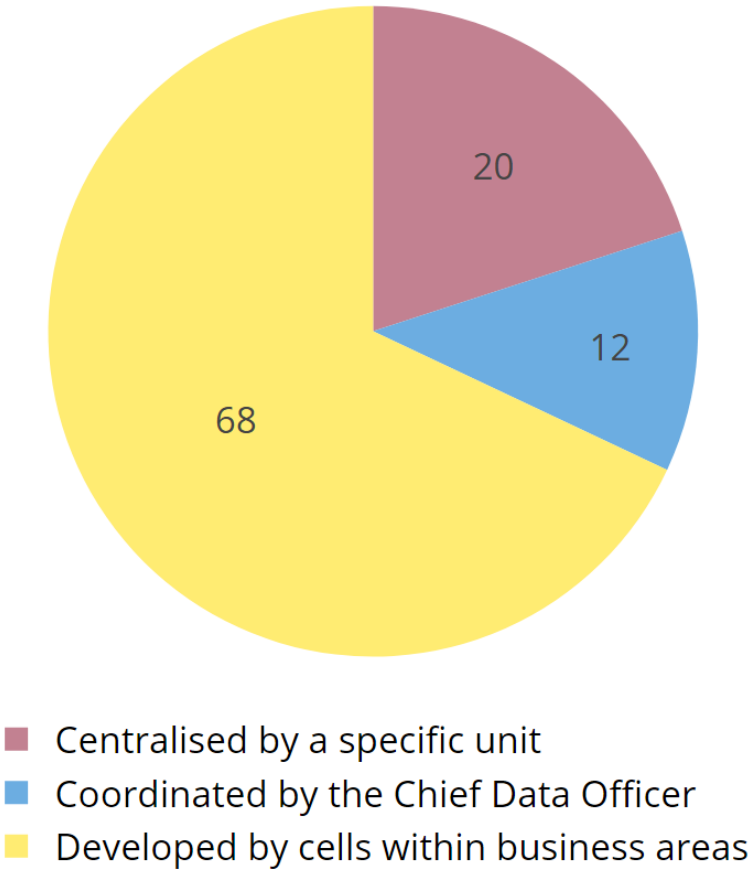Question: What is the state of AI/ML adoption in your institution?

Governance is still in its infancy and involves multiple stakeholders …

While AI governance is mostly not implemented or centralised…

- Centralised outside IT
- Centralised within IT
- Decentralised
- Not implemented
- Other

Question: How is the AI governance role implemented in your institution?

… AI/ML projects are mostly developed across business areas

- Centralised by a specific unit
- Coordinated by the Chief Data Officer
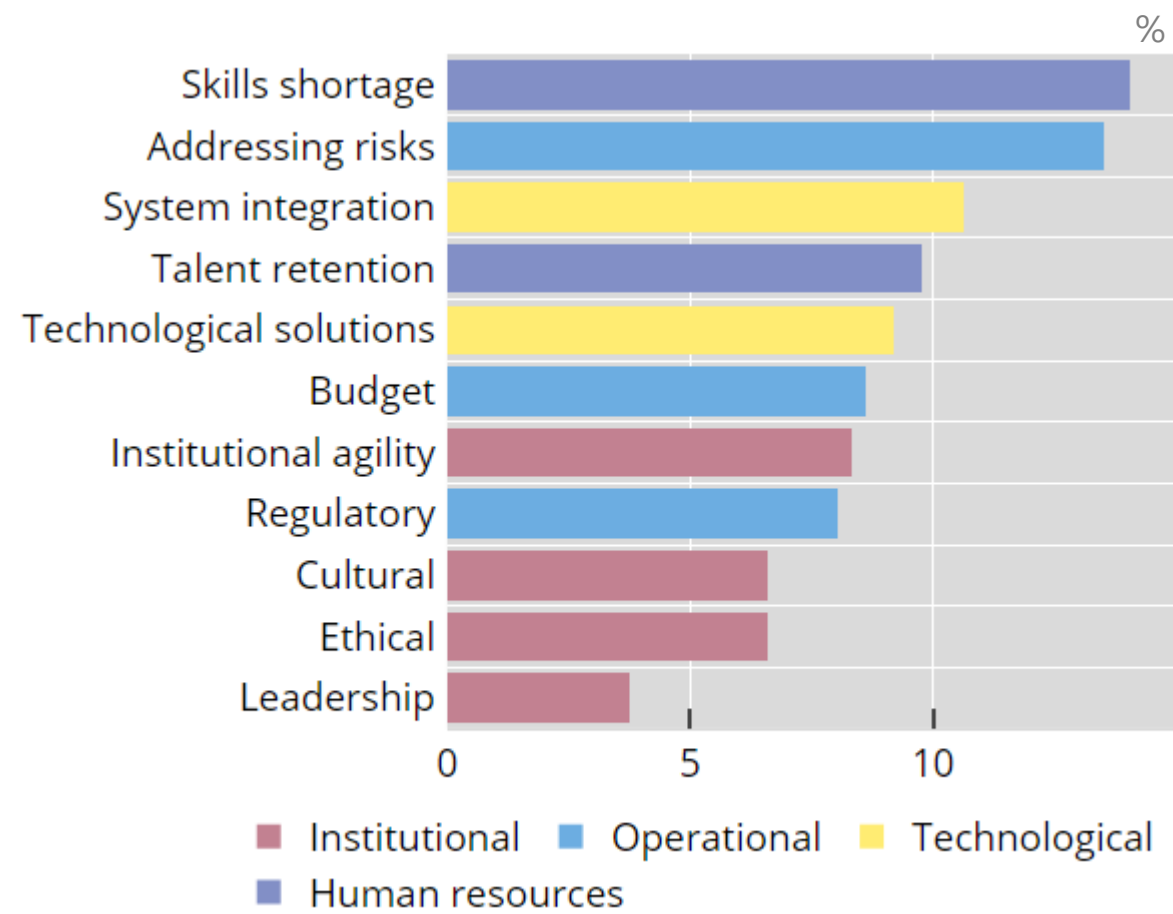- Developed by cells within business areas

Question: How is the work on AI/ML projects organized in your institution?

2 AI is also posing some key **challenges** and **risks**

Key barriers to AI/ML adoption

%

Skills shortage
Addressing risks
System integration
Talent retention
Technological solutions
Budget
Institutional agility
Regulatory
Cultural
Ethical
Leadership

0   5   10

■ Institutional ■ Operational ■ Technological
■ Human resources

Main risks

Privacy
IT costs
Cyber security
Reputation
Bias
1 2 3 4 5
Intellectual property
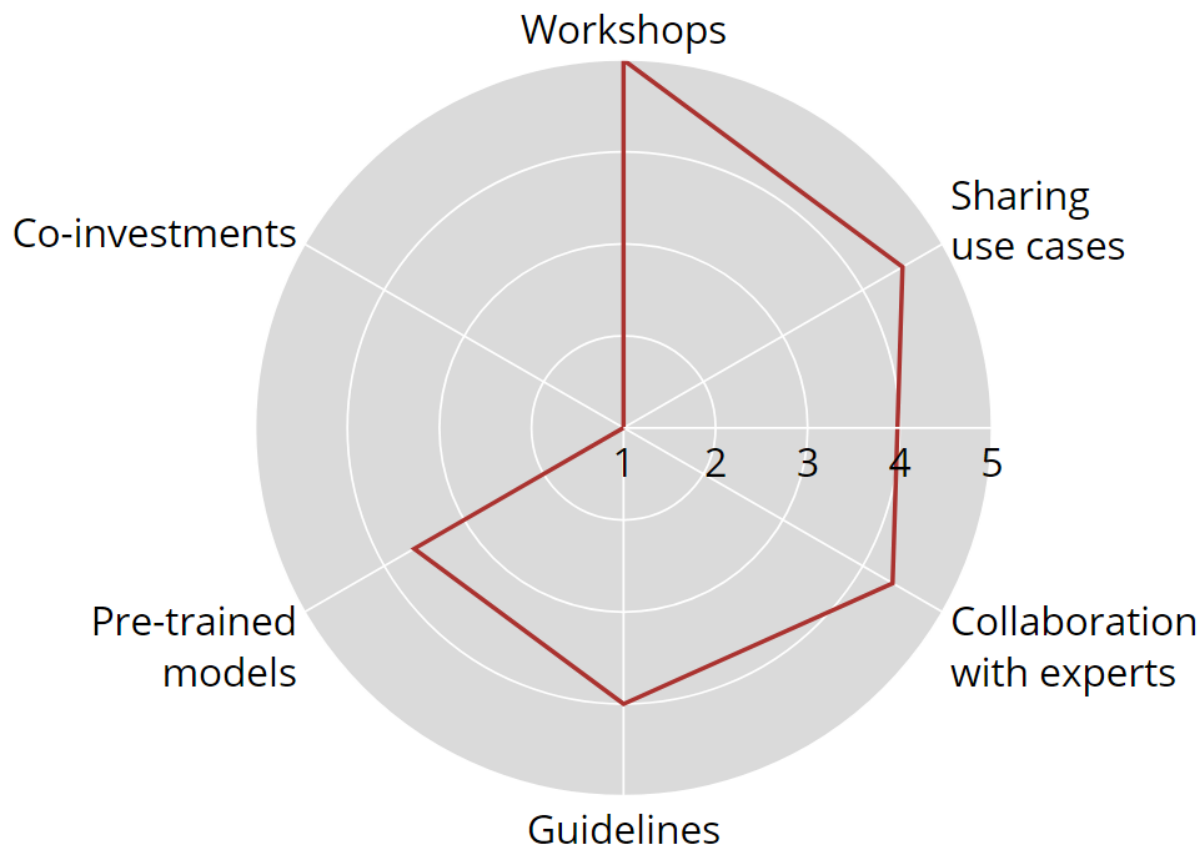Explainability
Regulatory
Expertise
Dependency

Question: What are the biggest challenges to business adoption of AI/ML?

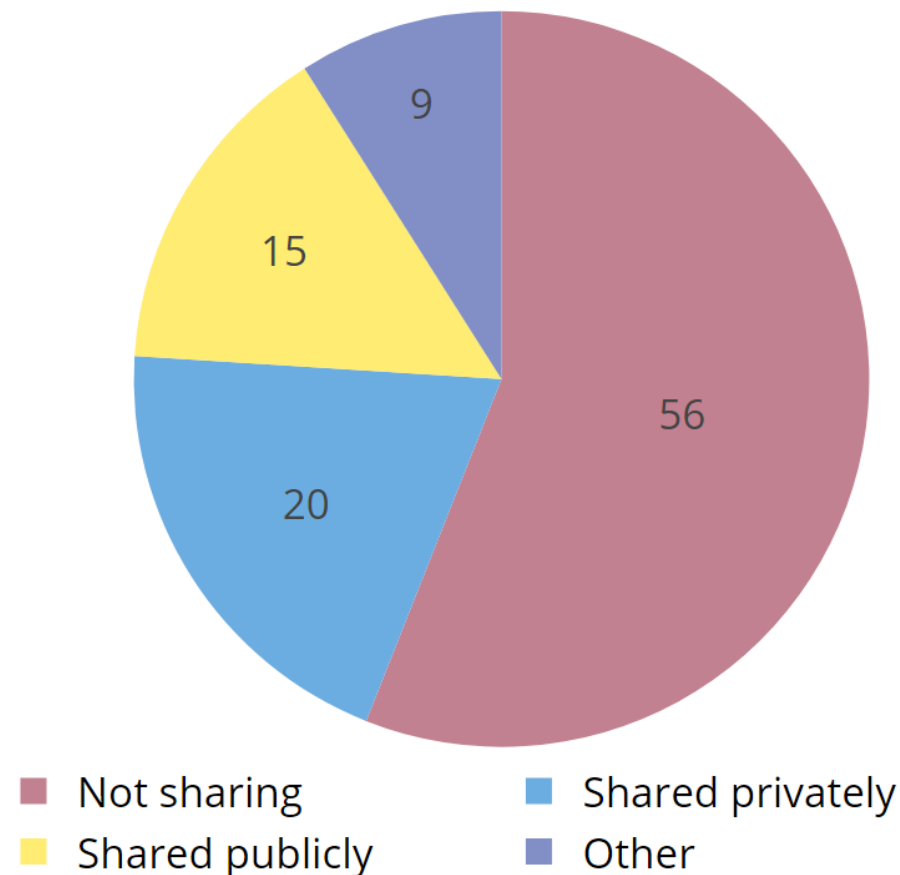Question: Which AI/ML risk does your institution consider relevant?

Looking forward, three priorities: **sharing**

Sharing knowledge, code and use cases

Radar chart with axes: Workshops, Sharing use cases, Collaboration with experts, Guidelines, Pre-trained models, Co-investments. Scale 1 to 5.

Question: What are the main avenues for central bank collaboration to address the challenges of AI going forward?

Sharing AI/ML code and models has yet to mature

Pie chart: Not sharing 56, Shared privately 20, Shared publicly 15, Other 9.

- Not sharing
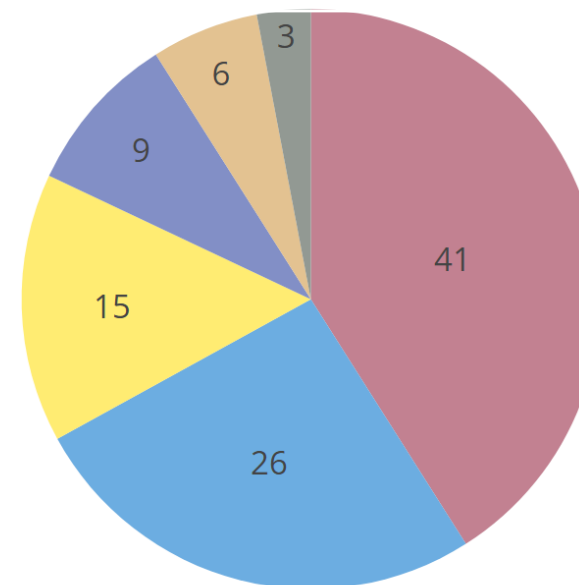- Shared publicly
- Shared privately
- Other

Question: Does your institution share AI/ML code or models, or plans to?

Looking forward, three priorities: **collaboration**

- **Collaboration** *within*, *across* and *outside* central banks

- Key role of **international cooperation**

- Coordination to **co-invest** but also to **monitor** and **manage risks**

AI/ML involve strong collaboration within the central bank

- IT, statistics and other — 41
- Data Science Hub — 26
- Other than statistics and IT — 15
- IT — 9
- Statistics and other non-IT — 6
- IT and statistics — 3

Question: Departments involved in current AI/ML-related projects by central banks.

Looking forward, three priorities: genAI, **data quality** and data platforms
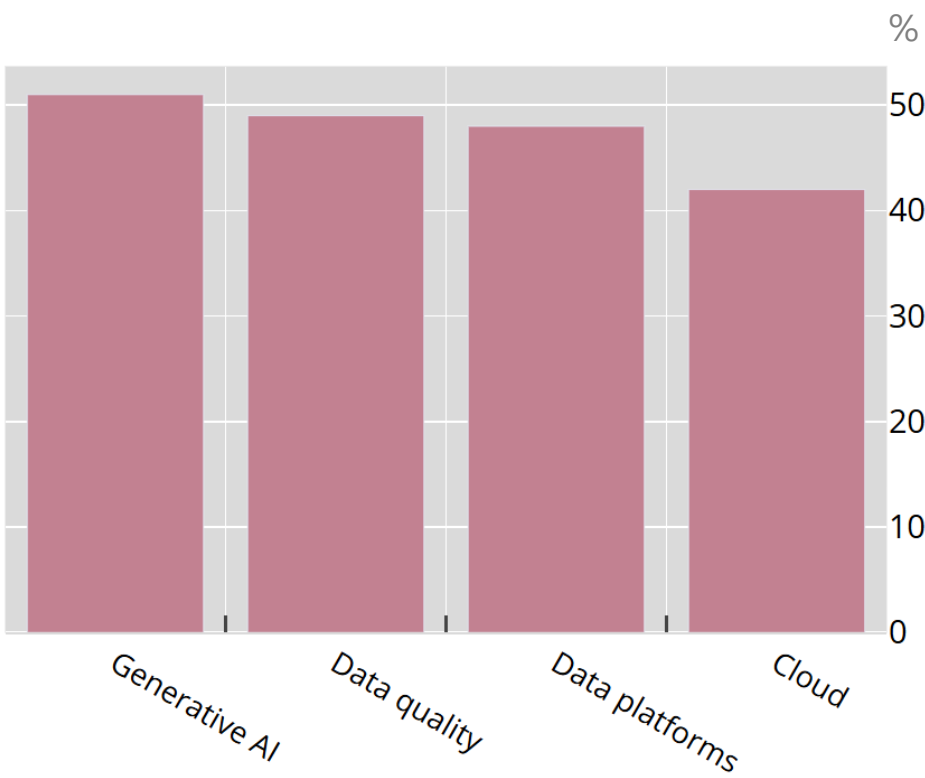
Beyond expanding the use of generative AI, **prioritizing data quality** as a top priority :

- Good **AI** is good **data**
- AI to get the **data right**
- AI to get the **right data**

Central banks as providers of **high-quality data for AI**

Maximize data value through **data platforms**, including **leveraging cloud** services and infrastructures

Priorities in the near future

Question: In your opinion, what will be the emerging technologies topics that will concentrate interest and resources in the upcoming future?

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Thank you for your attention !

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