#### Al use cases for central banks

#### Iñaki Aldasoro\*

Principal Economist, Innovation and the Digital Economy -- Monetary and Economic Department, Bank for International Settlements

#### SUERF BAFFI Bocconi e-lecture – Artificial Intelligence in Economic and Financial Policy Making – 22 April 2025

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

#### Today nowcasting is done using pre-specified models



**Pre-specified models** 

LLMs could help overcome the narrow scope of previous nowcasting models. As zero-shot learners, they can provide forecasts or nowcasts without fine-tuning



Combining time series data with other forms of unstructured data could further enhance the capabilities of nowcasting models



#### It is in the payment system where AI holds the greatest potential



## Money laundering networks exploit the complexity of interconnections across firms both within and across borders





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AI tools can improve the detection of money laundering networks, as illustrated by Project Aurora from the BIS Innovation Hub



Aurora uses simulated data on money laundering activities to compare the performance of machine learning tools with the prevailing rule-based approach



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Comparison occurs under three scenarios: transaction data that are siloed at the bank level, national-level pooling of data and cross-border data cooperation



#### Machine learning models outperform the traditional rule-based methods



#### Gains are largest with privacy-preserving data cooperation across jurisdictions



## The reliance on the same handful of algorithms could amplify procyclicality and market volatility



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#### But AI could also be harnessed for more effective financial stability monitoring



The adoption of AI could increase the risk of cyber attacks and introduce altogether new sources of cyber risk



Target servers

## But here again, just as AI increases cyber risks, it can also be harnessed by cyber defenders



Central banks see more benefits than risks in AI to identify and respond to cyber threats

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.

# Toward an action plan for central banks

Traditionally, most data were collected and hosted within statistical agencies, including the central bank, with clearly defined access rights



Public institutions have traditionally acted as data provider to private sector firms and the general public



#### In the age of AI, Central Banks will rely increasingly on unstructured data



But much of the unstructured data reside in the hands of the private sector, which increasingly acts as data provider



The importance of data is a key factor in central banks' investments in information technology and human capital



Cooperation is key Central banks should come together to foster a **community of practice** 

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## Thank you for your attention! inaki.aldasoro@bis.org