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Online appendix for BIS Bulletin No 127: "Competition in retail digital payments"

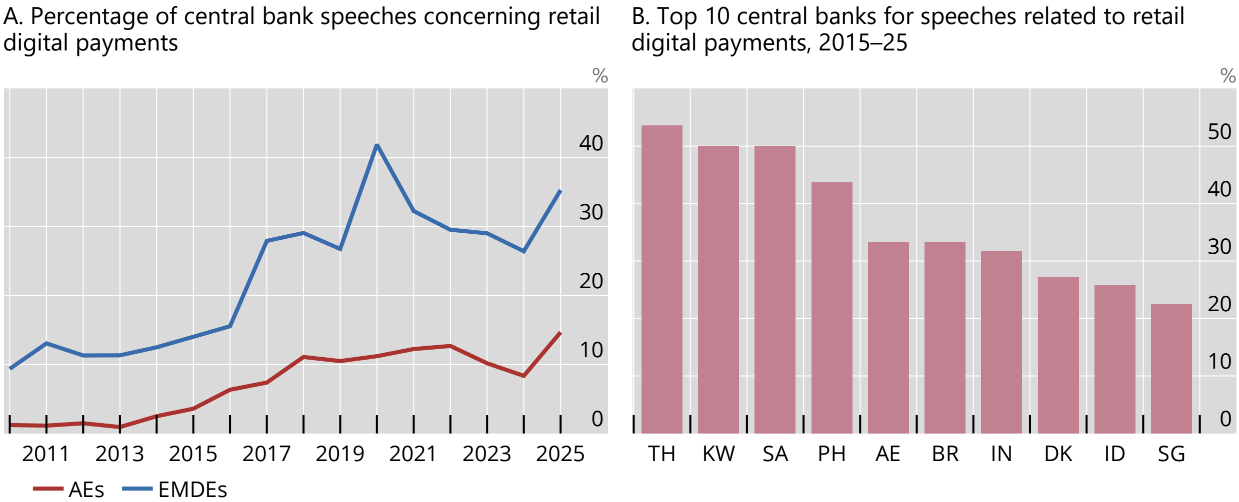
This online appendix provides an analysis of central bank speeches focused on retail digital payments between 2010 and 2025. It also provides details on the methodology.

Mentions of retail digital payments are increasingly frequent in central bank speeches. In both advanced economies (AEs) and emerging market and developing economies (EMDEs), the percentage of speeches on retail digital payments has risen notably since 2015 (Graph A.1.A). The central banks of Thailand, Kuwait and Saudi Arabia, in particular, have had a high number of speeches in this area since 2015 (Graph A.1.B).

Central bank speeches focused on retail digital payments[1]

As a percentage of total speeches

Graph A.1



[1] Speeches are from the period 2010–25. Analysis is produced using a large language model for language processing and thematic mapping. Speeches discussing keywords related to the topic of retail digital payments (cards, mobile wallets, quick response (QR), instant/faster retail rails, merchant acceptance, point of sale etc) are included. AEs include Australia, Canada, Czechia, Denmark, euro area, Finland, Hong Kong SAR, Israel, Japan, Korea, New Zealand, Norway, Singapore, Sweden, Switzerland, United Kingdom and United States. EMDEs include Algeria, Argentina, Brazil, Chile, China, Colombia, Hungary, India, Indonesia, Kuwait, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Romania, Russia, Saudi Arabia, South Africa, Thailand, Türkiye, United Arab Emirates and Vietnam.

Sources: BIS, authors' calculations

We describe the sample, taxonomy, methodology and caveats used for this analysis below:

Sample: Central bank speeches from BIS member economies (including by governors, deputy governors, board members and others) are used as input data. Each speech is processed individually to classify whether it discusses the specific topic of retail digital payments, identified by keywords. The classification is conducted using a large language model (LLM).

Taxonomy and keywords: To identify the speeches that discuss retail digital payments, LLM is prompted with examples of keywords, including retail digital payments, consumer-facing digital payments, cards, mobile wallets, quick response (QR), instant/faster retail rails, merchant acceptance and point-of-sale (POS). The LLM is then instructed to classify speeches based on their use of these keywords. The LLM generates the classification automatically, without human review or verification.

Classification and coding: The LLM assigns a value of 1 to a speech if it detects a meaningful discussion of the topic of retail digital payments based on the taxonomy, example keywords and guidance provided. A speech is marked as 1 only if it contains a clear discussion, analysis, policy stance or assessment of a keyword, not just a brief or tangential mention. For both AEs and EMDEs, we compute the proportion of speeches marked 1.

Caveats: Results depend on LLM accuracy. Findings may reflect reporting bias and exclude brief mentions, potentially leading to underreporting.