Stablecoins vs CBDC:
The Digital Money Race in the Social Networks

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Motivation

- Topic: The money world is in a state of flux
- Given:
- 1) Fiat Money (End of Dollar Convertibility: 1971): Cash is Dead, or Long Life the Cash?
- Some years ago, a race began:
- 2) Cryptocurrencies: Flagship = Bitcoin (2008)
- 3) Stable Coins: Flagship = Libra Project (2018)
- 4) Central Bank Digital Currencies (CBDC) (Pilot Projects in 2019, see next slide)
- Research Question: Being acceptability the key property to be competitive the race, where we are?
- Taking into account that 3) and 4) are innovations and/or projects
- Answer: Exploring the social network first metrics can be found

Motivation

Source: Cecilia Skingsley, SUERF Conference, Frankfurt, May, 2019

Motivation

FINTECH NOTE

The Impact of Central Bank Digital Currency on Payments Competition

Prepared by Edona Reshidi, Marco Reuter, and Manisha Patel

November 2025

Motivation

Ask FT

FINANCIAL TIMES

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European Central Bank Added

A run on stablecoins could force ECB to rethink interest rates, warns top policymaker

New Dutch central bank governor says digital tokens linked to US assets could become 'systemically relevant'

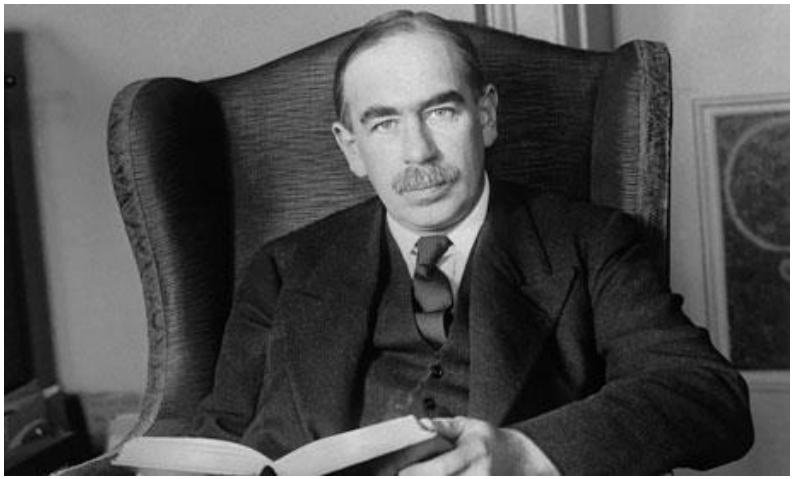
Dutch central bank governor Olaf Sleijpen said: 'If stablecoins are not that stable, you could end up in a situation where the underlying assets need to be sold quickly' © Peter Boer/FT

Speech

- 1) Acceptability: Key Drivers (Theory)
- 2) Results: Stablecoins vs CBDCs: the Digital Money in the Social Networks
- 3) Conclusion

Theory

- The first two properties of a currency are already highlighted in any standard theory of money demand, and they corresponds respectively to the transaction motive and the speculative motive of money holding discovered by Keynes (1936).
- Money as an hedging device:
- Transaction Motive = Illiquidity Risk
- Speculative Motive = Devaluation Risk



Principles: Money as a Medium of Exchange (Illiquidity Risk)

- First of all we assume that any individual cares about the expected illiquidity costs, which are associated with the probability that the asset cannot be traded, i.e. used as a medium of exchange and transformed in other goods and services
- We assume that the issuer type can influence the shape of the liquidity costs
- When the currency is a public legal tender, we assume that in a given country it is the safer asset, being the obligation for each trader to accept in any exchange between both public and private traders; in other words any trader cannot refuse to accept the legal tender as payment
- The legal tender, which is also the unit of account, minimized the expected liquidity costs.

Principles: Money as a Store of Value (Devaluation Risks)

- Regarding the second property of a financial asset – i.e. its expected value – we acknowledge its relevance for each individual, using as its proxy the real expected return of each portfolio asset, which summarizes the corresponding e purchasing power expected gains/losses
- Holding a MOP implies an expected opportunity cost which is equal to the overall excess level of return. The excess return can be calculated by comparing the total return in holding assets different from the MOP with its return
- The expected excess level of return captures the standard speculative motive for money holding

Principles: Money as a Store of Information

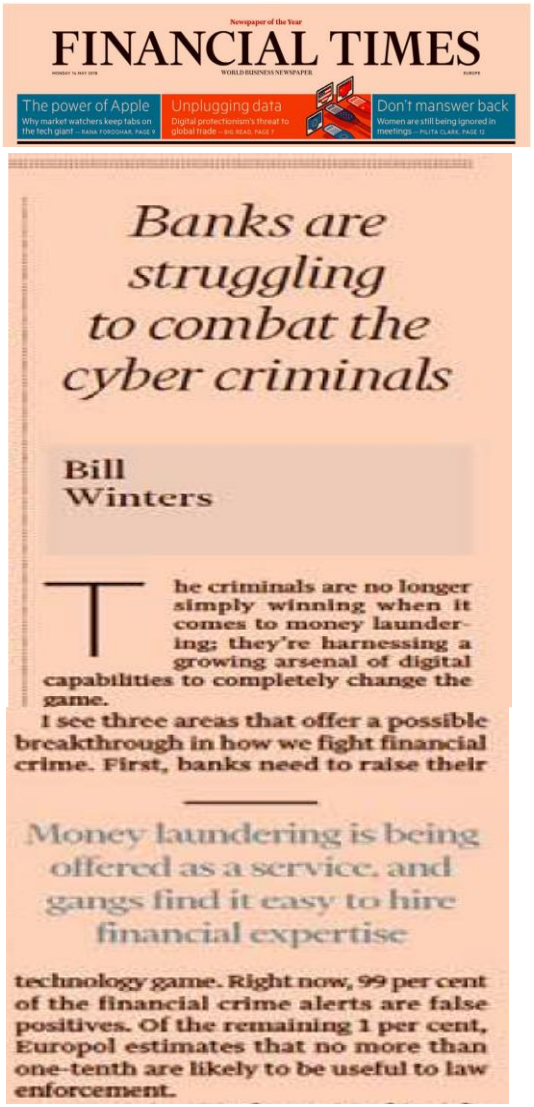
- Finally, respect to the traditional demand for money, we assume that using money can spread information on the money holder
- The relevance of the privacy costs can be found in a statement that Milton Friedman did during an interview:
- "I think the Internet is going to be one of the major forces for reducing the role of government. The one thing that's missing but that will soon be developed is a reliable e-cash, a method whereby on the Internet you can transfer funds from A to B without A knowing B or B knowing A." (1999)

Principles: Money as a Store of Information (Privacy Risks)

- We assume that using money can spread information on the money holder
- In other way we assume the existence of expected privacy costs in using money for exchanges
- The relevance of the privacy costs is linked to the so called demand for trustlessness
- A currency is a store of information: the individuals consider the privacy (transparency) risks that using a given currency for trading can imply, given that any exchange can disseminate information on the exchangers.
- In general anonymity characterizes an asset as a store of information

Principles: Money as a Store of Information

- Among the individuals that like the currency anonymity a relevant group are the people that appreciate such as property being motivated by illegal reasons, given that an anonymous currency can be an effective device to implement money laundering operation
- In fact, the conduct of any illegal activity may be subject to a special category of transaction costs, linked to the fact that the use of the relative revenues increases the probability of discovery of the crime and therefore the likelihood of incrimination
- Those transaction costs can be minimized through an effective money laundering action



The Baumol-Friedman Money Demand

- Given that consumption, exchanges and conversions are all evenly spaced, the profit function of each individual can be expressed using the average values of the assets as follows:

$$\pi = r_s \overline{S} + \sum_i r_{Mi} \overline{M}_i + \sum_j r_{Gj} - \sum_i T_i \alpha_i - \sum_i \sum_j Z_{ji} \beta_{ji}$$

- For the first order conditions we can get the optimal average quantity of each alternative medium of exchange:

$$\overline{M}_i = \left[\frac{\alpha_i}{2(r_S - r_{Mi})} \sum_j G_{ji} \right]^{1/2} - \sum_j \left[\frac{\beta_{ji} G_{ji}}{2(r_{Mi} - r_{Gj})} \right]^{1/2}$$

- Given the income and the consumption choices, each money holding money is: i) directly associated with the anonymity risk per conversion; ii) inversely associated with the illiquidity risks; iii) inversely associated with the opportunity cost risks

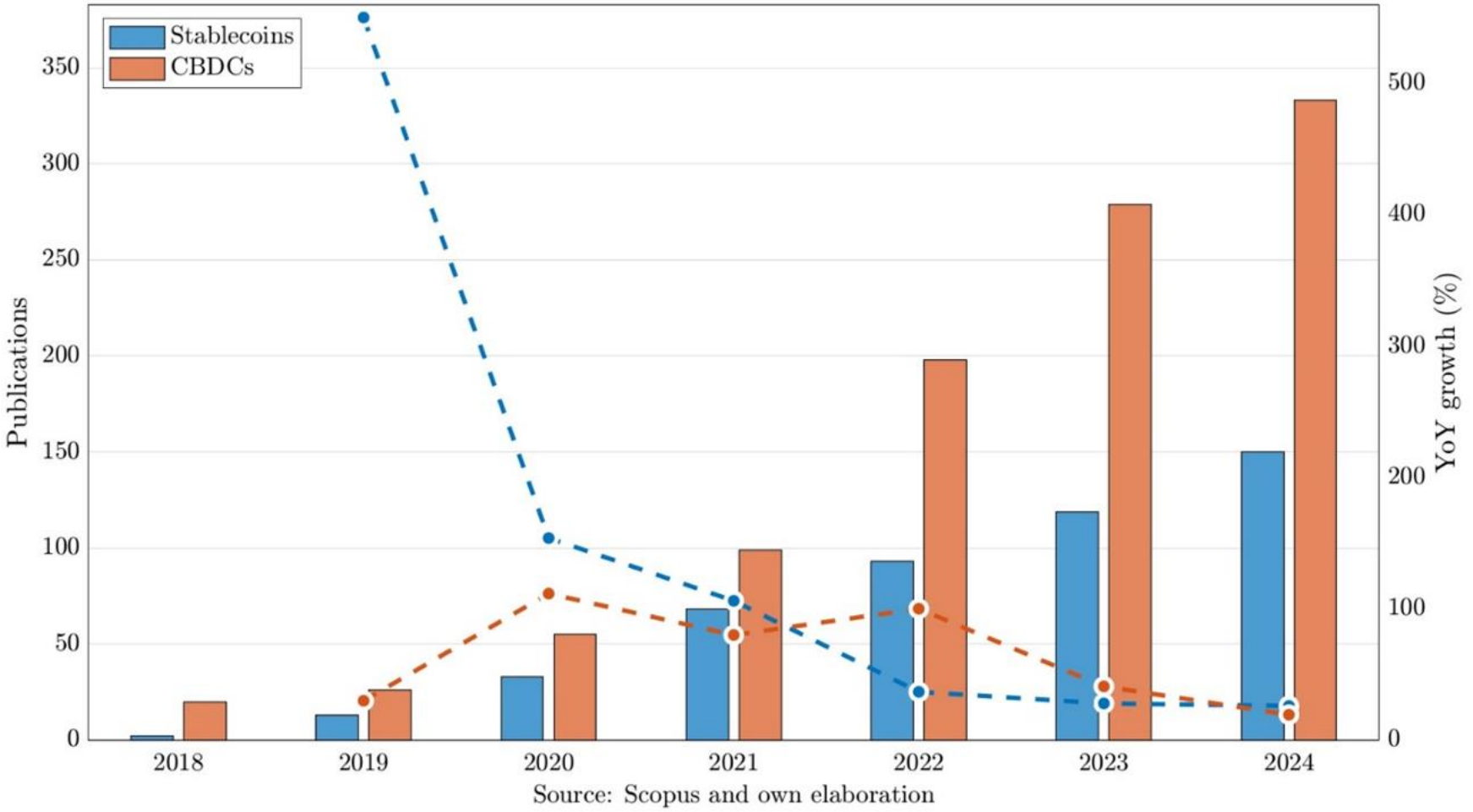
Results

- A first perspective comes from examining the growth in academic publications on stable coins and CBDCs. Figure 1 illustrates the number of papers indexed in Scopus from 2018 to 2024 and their year-over-year growth

- After this initial spike, the growth in publications on stable coins continued but at a steadier pace. CBDCs, by contrast, have consistently experienced a more constant increase in academic attention. The last five years show an alternation between the two topics in having higher growth. Overall, after 2023, the growth rates of publications on stable coins and CBDCs appear to converge

Results

Figure 1: Academic Publications on Stablecoins and CBDCs: Counts (Bars) and Growth (Lines)

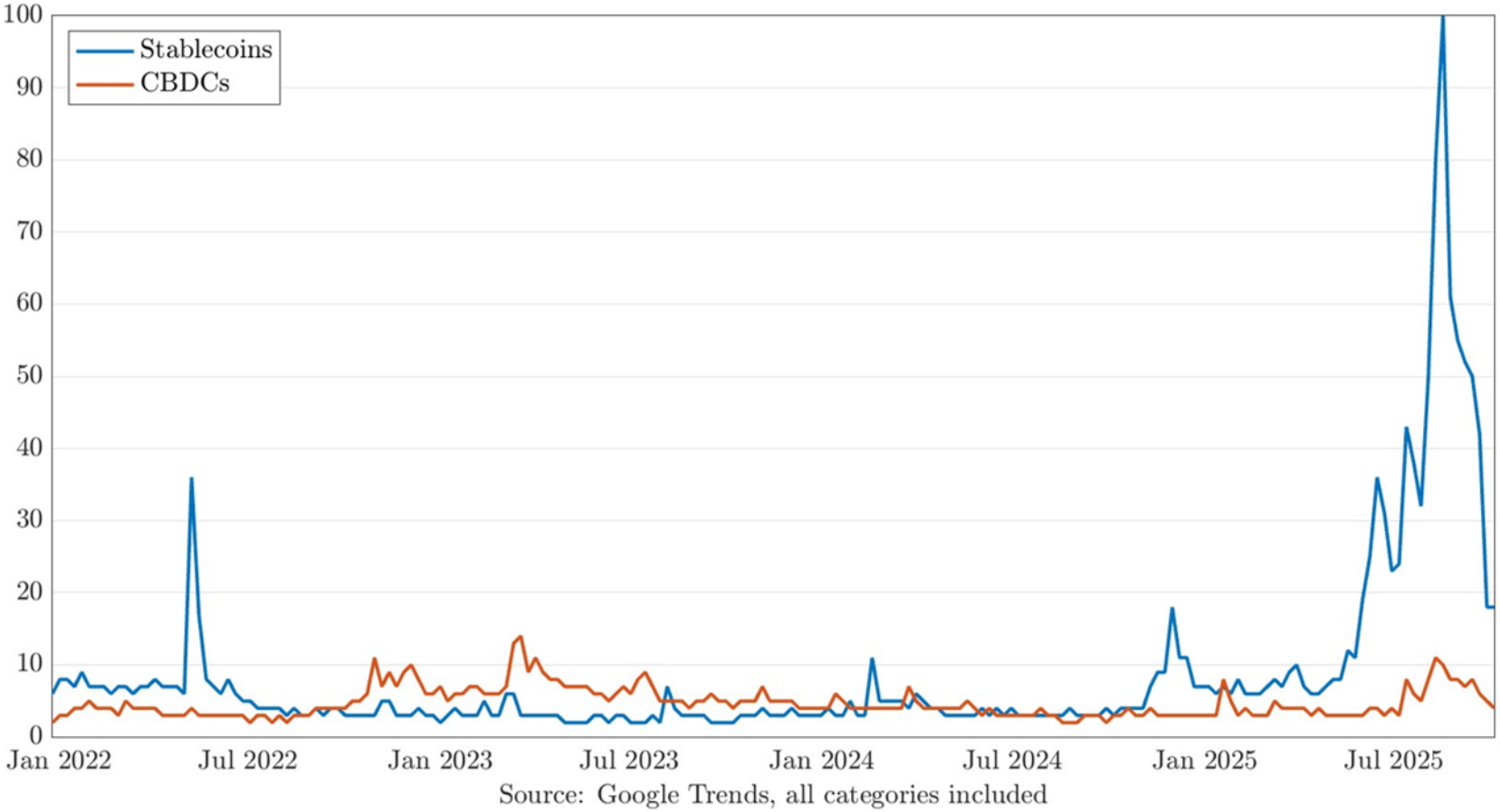


Results

- Beyond academia, public interest can be observed through the use of Google Trends. Figure 2 confirms the possibility of stable coins catching up in terms of relevance in the public debate. Over time, the two topics have alternated in public attention
- Between the end of 2021 and the first half of 2022, stable coins attracted greater interest, with a sharp spike in May 2022 likely linked to the collapse of Terra USD
- From mid-2022 onward, however, CBDCs captured more attention, reflecting the progress of numerous central bank projects worldwide. By 2024, the two topic trends converged, receiving similar levels of public interest.
- At the end of that year, stable coins regained momentum. This resurgence may be explained by Donald Trump's re-election campaign, during which he became a strong supporter of private digital currencies

Results

Figure 2: Worldwide topic trends



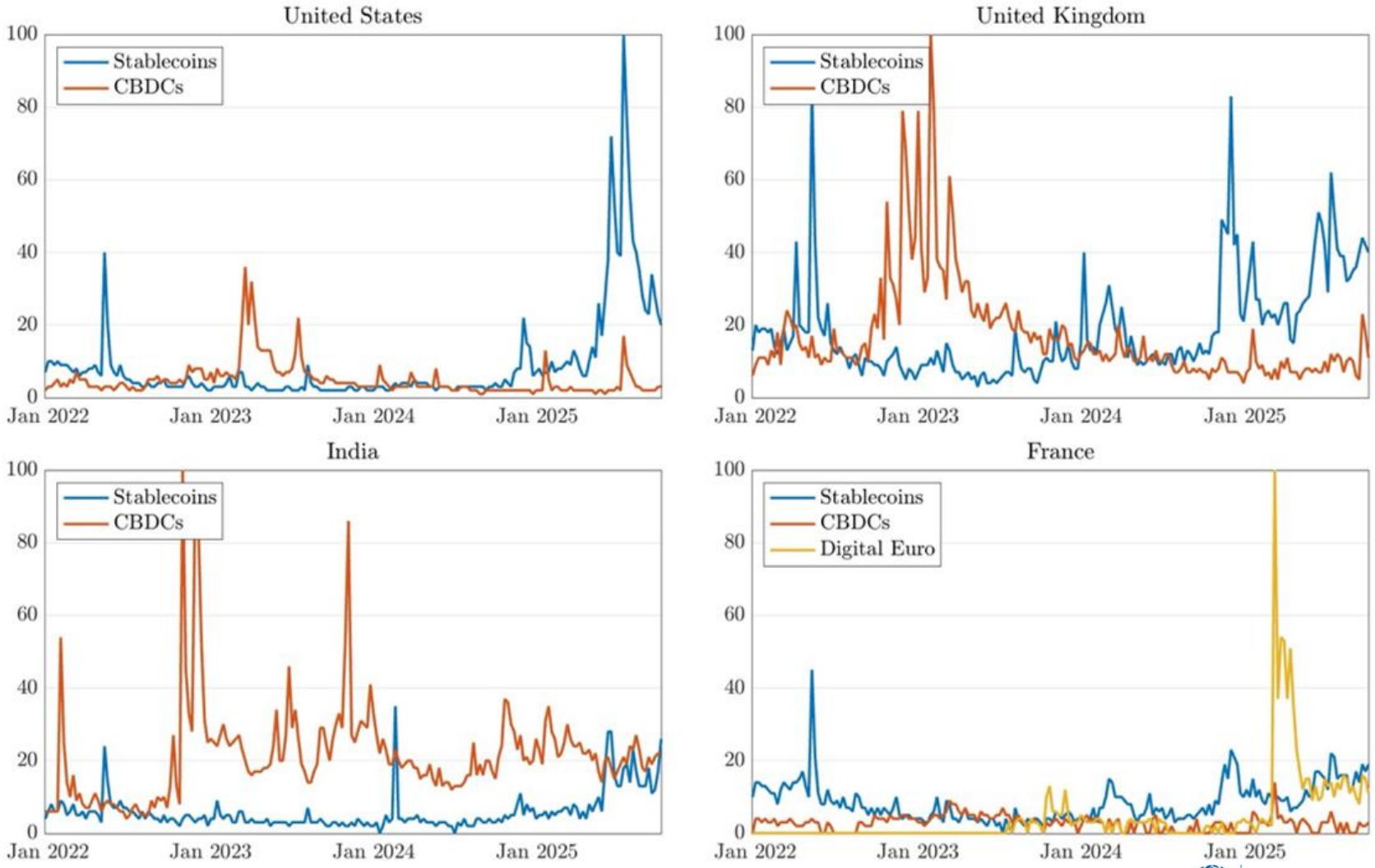
Source: Google Trends, all categories included

Results

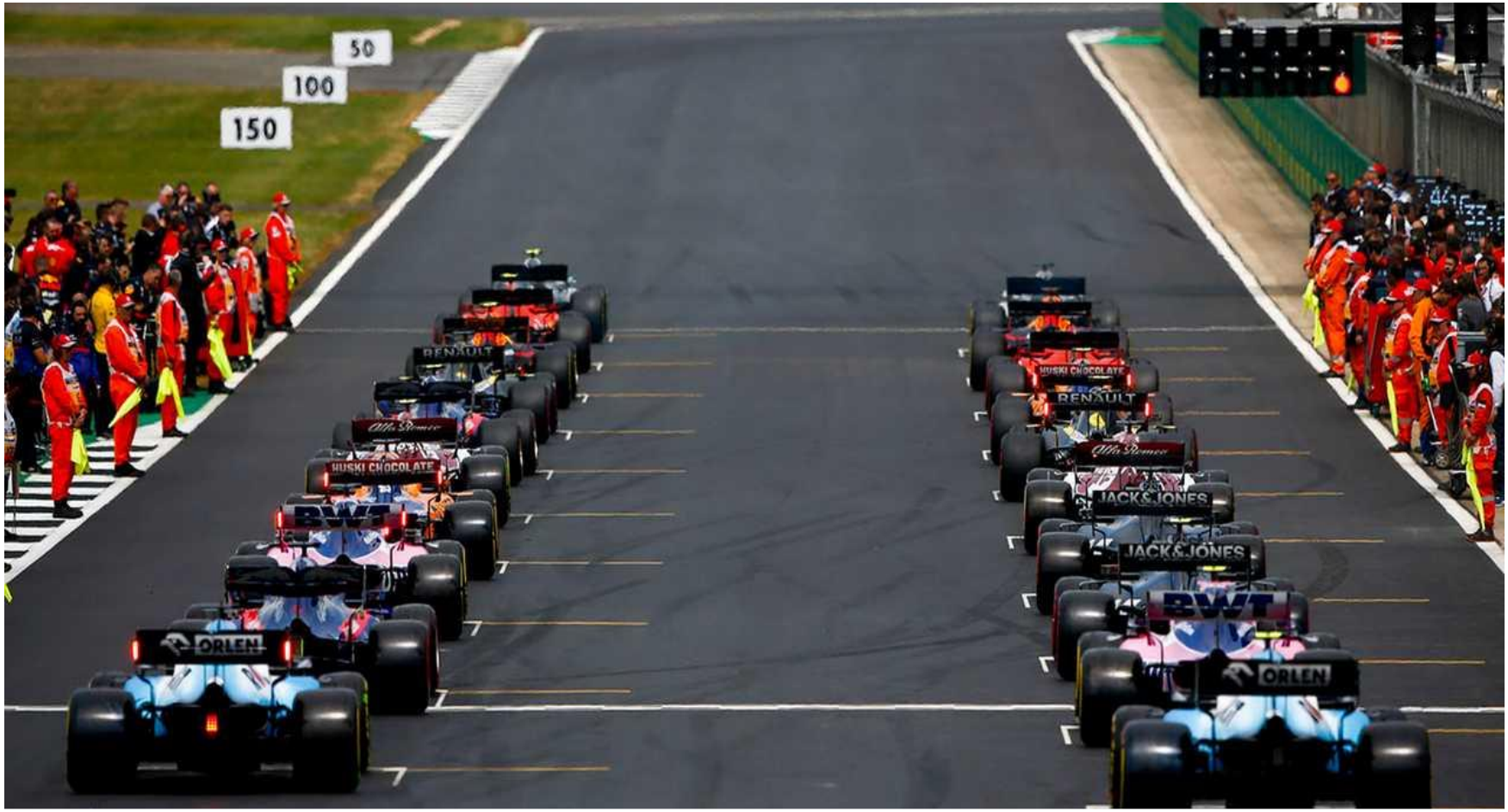
- Contextual and country-specific factors are also essential to interpreting these trends. Figure 3 decomposes Google Trends data by country, showing how public attention also depends on regional contexts.
- Four countries are highlighted as useful examples. The general trend resembles those of the United States, France (taken as a proxy for the EU after analysis of member states), and, to some extent, the United Kingdom.
- For Europe, the Digital Euro was added as a third topic, given its importance as one of the most advanced and relevant CBDC projects. Data show that, in Europe, the trend mirrors that of the U.S., but the most recent spike in stable coin interest is overshadowed by skyrocketing attention to the Digital Euro in 2025
- A particularly interesting case is India: here, attention to CBDCs has consistently and distinctly surpassed that to stable coins. Public interest rose significantly after the pilot launches of the Digital Rupee. This provides evidence that active implementation of CBDCs can itself boost their popularity by encouraging use.

Results

Figure 3: Cross-country comparison of topic trends



Conclusions



Conclusions

19/2/2018 Financial Times (Europe) | Monday, February 05, 2018 | ETFs | SR7-6

6 | FTReports FINANCIAL TIMES Monday 5 February 2018

FTfm ETFs

US watchdog drags feet on bitcoin

Regulation

The SEC has set its face against cryptocurrency vehicles for now, writes *Owen Walker*

The regulator's warning was unambiguous. "There are a number of significant investor protection issues that need to be examined before sponsors begin offering these funds to retail investors," wrote Dalia Blass, a director at the Securities and Exchange Commission, which oversees the US investment industry.

In a letter sent last month to two trade groups, Ms Blass outlined more than 30 questions that she said exchange operators, Cboe Global Markets and CME Group, opened bitcoin futures markets, spurring a handful of ETF providers to submit new applications.

Rather than owning the bitcoins outright, these proposed products – from the likes of VanEck, Rex ETFs and Direxion – were designed to invest in futures contracts. This would have allowed them to avoid one the SEC's main objections to the original Winkelvoss fund, that the bitcoins it would target were mostly traded on unregulated markets.

Several of the applications were for funds whose values were designed to move in the opposite direction to bitcoin's price, a technique known as shorting. This tactic would have been possible only by investing in derivatives, such as futures contracts, rather than the cryptocurrency itself.

Several of the SEC's concerns relate