

Crypto Assets – Danger for Financial Stability

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Structure

1. Types of digital currencies
2. Importance of crypto assets
2. Dangers of crypto assets for financial stability
3. Conclusion

1. Types of digital currencies

A: Central bank digital currency (private deposits held with the central bank)

B: Krypto assets

- B1 Stablecoins
 - They promise a fixed exchange into a fiat money
 - Examples: Tether, STASIS EURO
- B2 Other crypto assets
 - Flexible exchange rate vis-à-vis fiat money and other crypto assets
 - Example: Bitcoin, Ethereum

A: Central bank digital currency

Motivation:

- Cash in circulation plays an increasingly smaller role
- A safe asset for the private sector is needed as a substitute for banknotes and coins
- Private central bank deposits are the solution
- To reduce the use of banknotes also makes money laundering, tax evasion, criminal activities etc. more difficult

There is a conflict with the business model of commercial banks

Historical example

- The German Reichsbank – the central bank established in 1876 – used to have private deposits until 1918 and took over functions of commercial banks

B1: Stablecoins (for example Tether)

Almost all stablecoins are pegged to a stable fiat money

In this case stablecoins can be exchanged in a fiat money at a fixed exchange rate

The issuing institution of stablecoins keeps assets to guarantee the exchange in fiat money at the promised exchange rate

Problem:

Assets of institutions issuing stable coins are not completely liquid or stable

There is no lender of last resort

There is no government supervision

However, on Monday another prominent stablecoin, terra, broke its peg to the dollar and has slumped since, now trading at barely half of its supposed stable value. That appears to have precipitated a wider crash, with even the blue-chip cryptocurrencies plummeting over the past week.

The Guardian Mai 12, 2022

<https://www.theguardian.com/technology/2022/may/12/stablecoin-tether-breaks-dollar-peg-cryptocurrencies>

Assets held by Tether Mai 2023 in billion US dollar

| | |
|---|--------------|
| 1. Cash and cash equivalent and other short-term deposits (Treasury bills, money market funds, repurchase agreements, etc.) | 69.313 |
| 1. Corporate bonds | 0.140 |
| 2. Precious metals | 3.341 |
| 3. Bitcoins | 1.300 |
| 4. Other investments | 2.138 |
| 5. Secured Loans | <u>5.349</u> |
| | 81.833 |

Auditor's Report: https://assets.ctfassets.net/vyse88cgwfb/24G4DuQ0HE7h7EQE6vGy4J/8a8a170edf687ea07b3f86048af8b87b/ESO.03.01_Std_ISAE_3000R_Opinion_31-03-2023_BDO_Tether_CRR.pdf

B2: Other crypto assets – for example Bitcoins

Flexible exchange rates vis-à-vis fiat money and other crypto currencies

Price development of these crypto assets is very unstable and volatile

Boom of Bitcoin in 2021 and cash in 2022



Trading Economics 2023

Boom of Ethereum 2021 and crash 2022



Functions of digital currencies

| | Unit of account for goods | Unit of account in credit contracts | Keep for transaction purposes | Keep as for precautionary purposes | Hoarding money (money as money) | Keep to speculate |
|-------------------------------|---------------------------|-------------------------------------|-------------------------------|------------------------------------|---------------------------------|-------------------------------|
| Private central bank deposits | Yes | Yes | Yes | Yes | Yes | Yes, for currency speculation |
| Stablecoins | No | Unimportant | Yes | Unimportant | Unimportant | Yes, for currency speculation |
| Other crypto assets | No | Unimportant (not suitable) | Yes | Unimportant (not suitable) | No (not suitable) | Yes |

Crypto assets until now take over transaction functions and assets for speculation.
Until now they take not over full monetary functions.

2. Importance of crypto assets

Ranking of crypto assets, November 2023

| | |
|----------------------------|------------------------|
| 1. Bitcoin (BTC) | \$708.7 billion |
| 2. Ethereum (ETH) | \$246.2 billion |
| 3. Tether (USDT) | \$87.1 billion |
| 4. Binance Coin (BNB) | \$37.2 billion |
| 5. XRP (XRP) | \$35.2 billion |
| 6. U.S. Dollar Coin (USDC) | \$24.0 billion |
| 7. Solana (SOL) | \$23.8 billion |
| 8. Cardano (ADA) | \$13.0 billion |

Table 1: Estimates of Crypto-assets Adoption

Panel A: Statista Global Country Survey: Share of Respondents who Indicated That They Used or Owned Crypto-assets (2020)

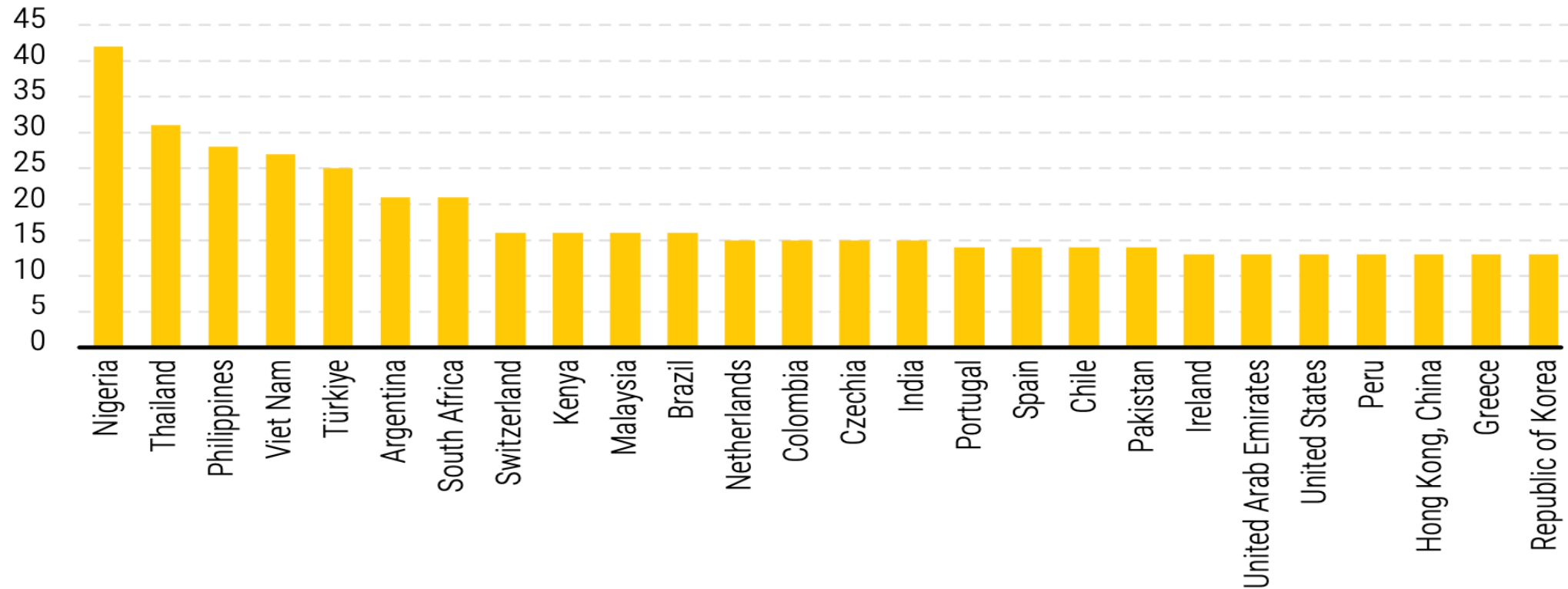
%

| Country | Share (%) | Country | Share (%) |
|----------------------|-----------|--------------------|-----------|
| Nigeria | 31.9 | Lithuania | 8.7 |
| Vietnam | 21.1 | Egypt, Arab Rep. | 8.3 |
| Philippines | 19.8 | Norway | 8.1 |
| South Africa | 17.8 | Portugal | 8.1 |
| Thailand | 17.6 | Australia | 7.8 |
| Peru | 16.1 | Korea, Rep. | 7.6 |
| Turkey | 16.1 | Serbia | 7.5 |
| Colombia | 15.3 | Russian Federation | 7.3 |
| Argentina | 14.4 | Austria | 7.2 |
| Indonesia | 13 | Poland | 7.2 |
| Brazil | 12.5 | China | 6.9 |
| Malaysia | 12.3 | Hungary | 6.4 |
| Chile | 11.7 | Romania | 6.4 |
| Saudi Arabia | 11.4 | Belgium | 6.3 |
| Switzerland | 11.1 | United States | 6.2 |
| Greece | 11.1 | France | 5.6 |
| Kenya | 10.5 | Pakistan | 5.6 |
| Dominican Republic | 10.3 | Canada | 5.2 |
| Netherlands | 10 | Germany | 5.2 |
| United Arab Emirates | 10 | Finland | 5.1 |
| Mexico | 9.7 | New Zealand | 5.1 |
| Ireland | 9.6 | Israel | 4.9 |
| Singapore | 9.6 | United Kingdom | 4.7 |
| Spain | 9.4 | Italy | 4.7 |
| Morocco | 9.3 | Denmark | 4.4 |
| Czechia | 9.2 | Sweden | 4.3 |
| India | 8.8 | Japan | 3.7 |

Source: Statista Global Consumer Survey.

Note: Statista reported that the survey contains between 1,000–4,000 respondents per country and that the samples are representative of the online population. These figures should be interpreted with caution as data gaps remain significant.

Figure 1 Ownership or use of cryptocurrencies, top twenty economies, 2021, percentage shares in total population



Source: Statista (<https://www.statista.com/statistics/1202468/global-cryptocurrency-ownership/>), accessed 4 December 2022.

Note: Numbers based on survey data covering 56 countries with 1'000–4'000 respondents per country replying to the question "Which of these financial products and investments do you currently use/own? (multi-pick)". The figures shown here reflect respondents who selected the option "Cryptocurrency (e.g., Bitcoin)".

Panel B: Chainalysis Top 20 Global Crypto-assets Adoption Index (2021)

| Country | Index score | Overall index ranking |
|--------------------|-------------|-----------------------|
| Vietnam | 1.00 | 1 |
| India | 0.37 | 2 |
| Pakistan | 0.36 | 3 |
| Ukraine | 0.29 | 4 |
| Kenya | 0.28 | 5 |
| Nigeria | 0.26 | 6 |
| Venezuela | 0.25 | 7 |
| United States | 0.22 | 8 |
| Togo | 0.19 | 9 |
| Argentina | 0.19 | 10 |
| Colombia | 0.19 | 11 |
| Thailand | 0.17 | 12 |
| China | 0.16 | 13 |
| Brazil | 0.16 | 14 |
| Philippines | 0.16 | 15 |
| South Africa | 0.14 | 16 |
| Ghana | 0.14 | 17 |
| Russian Federation | 0.14 | 18 |
| Tanzania | 0.13 | 19 |
| Afghanistan | 0.13 | 20 |

Sources: Statista; Chainalysis.

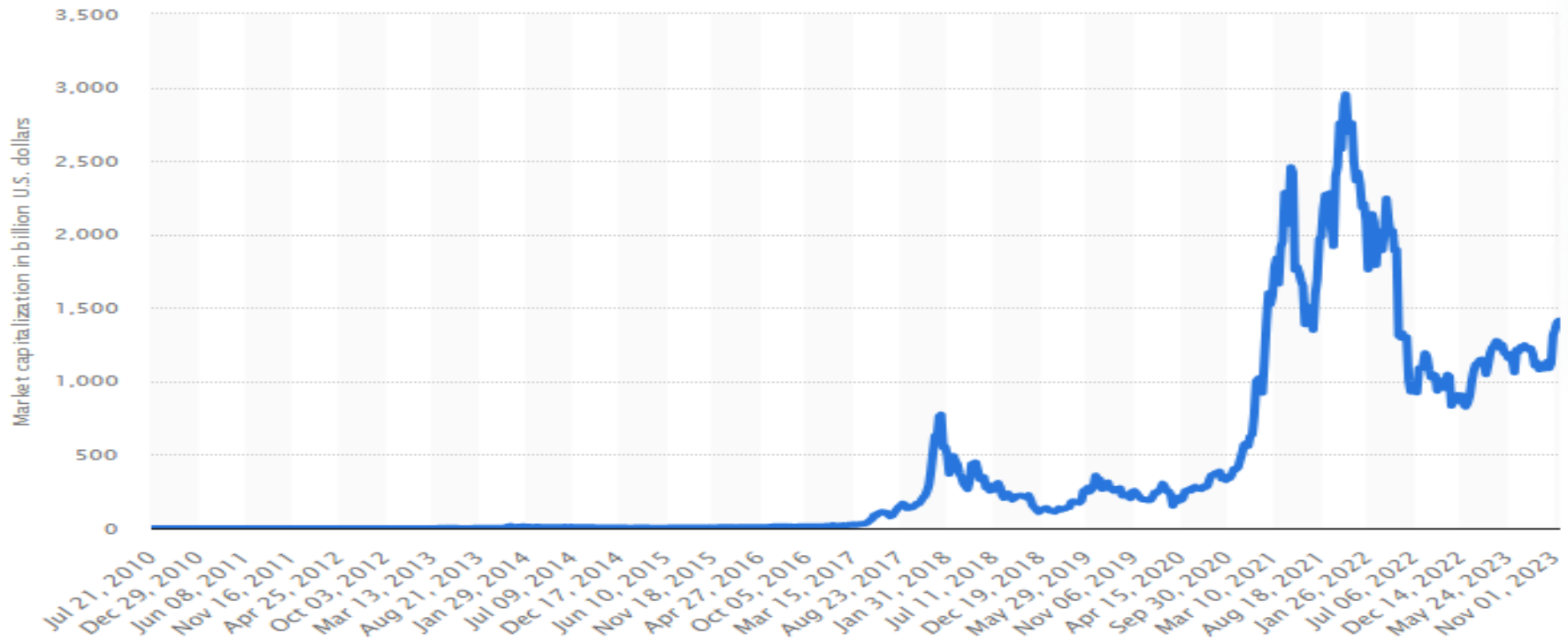
Note: The panel shows the 2021 crypto adoption index calculated and published by Chainalysis. These figures should be interpreted with caution as data gaps remain significant.

Quoted from: E. Feyen, Y. Kawashima, R. Mittal, Crypto-Assets Activity around the world, World Bank Group, Policy Research Working Paper 9962, 2022

Overall cryptocurrency market capitalization per week from July 2010 to November 2023

in billion U.S. dollars

Zoomable Statistic: Select the range in the chart you want to zoom in on.



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Size of the Crypto Market

The size of the crypto market November 2023 was \$1,415,665,130,428, over 1.4 trillion US dollar.

<https://www.slickcharts.com/currency>

This is equal to 3.1% of US GDP 2022
or the GDP of Indonesia, Turkey or Spain

“While crypto-asset markets currently represent less than 1% of the global financial system in terms of size, they have grown significantly since the end of 2020. Despite recent declines, they remain similar in size to, for example, the securitised sub-prime mortgage markets that triggered the global financial crisis of 2007-08.”

European Central Bank, **Decrypting financial stability risks in crypto-asset markets, 2022,**
https://www.ecb.europa.eu/pub/financial-stability/fsr/special/html/ecb.fsrart202205_02~1cc6b111b4.en.html

Drivers of crypto assets

- Deformed domestic financial systems (high dollarisation)
- Strict capital controls or economic sanctions
- High criminal sector / corruption
- Exclusion from international payment systems, for example SWIFT
- Popularity of speculation – mostly young persons and low-income and high-income households
- But also hedge fund and other institutional investors increasingly start to invest in crypto asset as part of portfolio diversification (2021 7% of all crypto assets were held by institutional investors ([Institutional Investor Digital Assets](#)", Fidelity Digital Assets, 2021)).

3. Dangers of crypto assets for financial stability

Risk for individual retail investors

A) Misleading information

B) Absence of rights and protections such as complaints procedures or recourse mechanisms

C) Product complexity with leverage sometimes embedded

D) Fraud and criminal activities (money laundering, cyber crime, hacking)

E) Market manipulation (lack of transparency)

**European Central Bank, Decrypting financial stability risks in crypto-asset markets, 2022,
https://www.ecb.europa.eu/pub/financial-stability/fsr/special/html/ecb.fsrart202205_02~1cc6b111b4.en.html**

Risk for financial stability and economic development

- A) Investing in crypto assets with credits from the traditional financial system
- B) Using crypto assets as collateral, for example for credits in fiat money
- C) Asset price deflations with liquidity and solvency problems for investors
- D) Contagion effects among crypto assets or in the total financial market

This has to be seen that in the crypto market there is no regulation, no supervision and no lender of last resort

“Following a deep dive into crypto-asset leverage and crypto lending, we conclude that if the present trajectory of growth in the size and complexity of the crypto-asset ecosystem continues, and if financial institutions become increasingly involved with crypto-assets, then crypto-assets will pose a risk to financial stability”

European Central Bank, **Decrypting financial stability risks in crypto-asset markets, 2022,**
https://www.ecb.europa.eu/pub/financial-stability/fsr/special/html/ecb.fsrart202205_02~1cc6b111b4.en.html

4. Conclusion

- A) Central bank digital currencies help to stabilise financial system by offering safe assets – in substance they bring no big changes
- B) Crypto assets until now serve two purposes – transactions of funds and speculation
- C) Future developments are unclear – there is growth potentials for crypto assets
- D) Crypto assets increase the shadow banking system and increase the risk of financial stability
- E) Crypto assets can
 - be used by economic agents in countries with distorted financial systems and
 - reduce transaction costs
 - – but overall they destabilise financial systems
 - are harmful for unexperienced investors
 - and serve illegal activities
 - they should be forbidden or highly regulated