

Digital assets in Central Asia and the Caucasus

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November 2024

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Different countries in the region use varying definitions and terminology (digital assets, virtual assets, crypto assets). Therefore, slides dedicated to specific countries use that country's legal definition, while in general slides, the authors use the term "digital asset" (DA).

The data for this study was collected prior to the significant price surge of Bitcoin and other cryptocurrencies, specifically before October 15th, enabling a more objective assessment of market trends and conditions, uninfluenced by anomalous fluctuations.

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Page / 2

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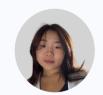
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Page / 3



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MyDataCoin

5 countries covered

30+ market leaders interviewed

20+ startups/ projects surveyed







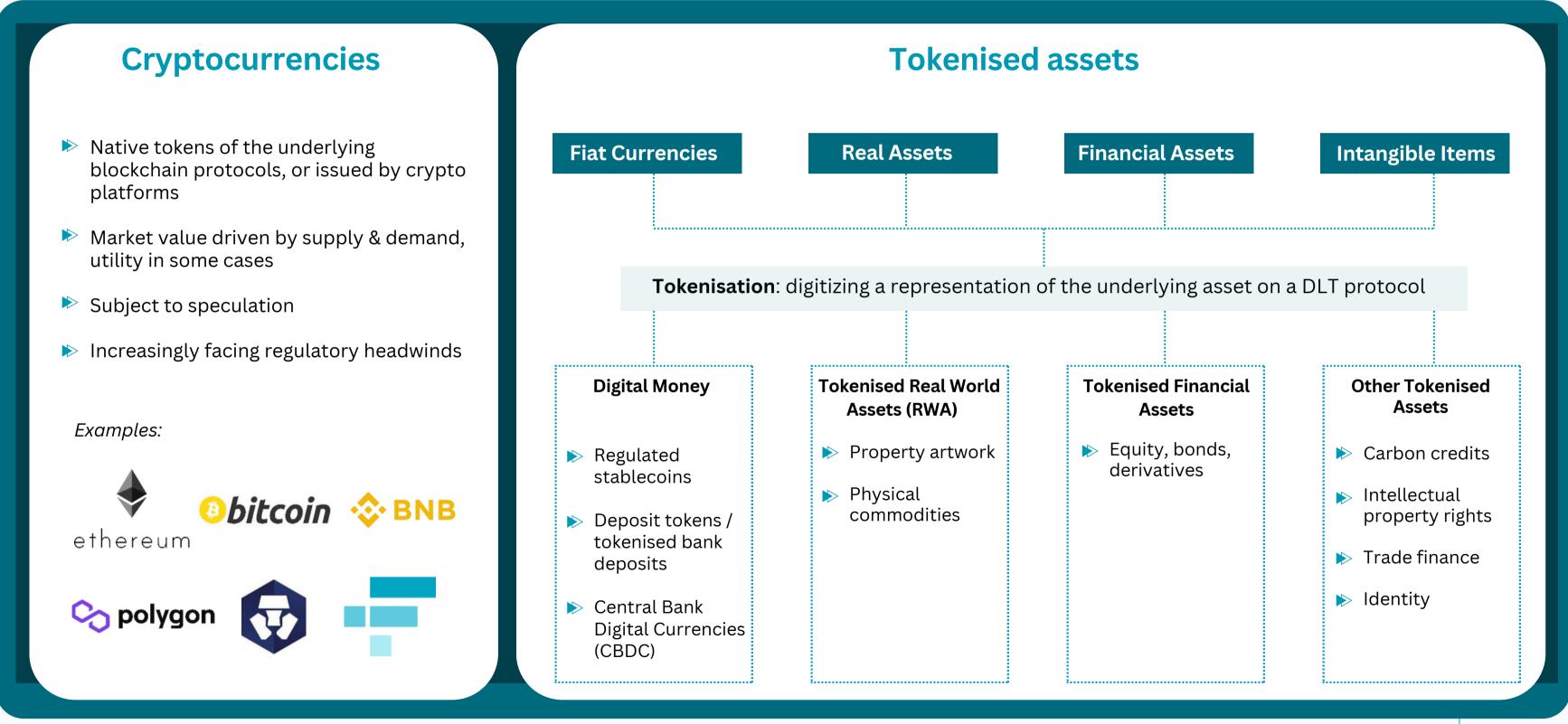


Global & regional trends





The digital assets taxonomy







Timeline and the evolution of digital assets ecosystem

| DIGITAL ASSETS ECOSYSTEM | cryptocurrencies and grows trading • Regulation of the space | | Web 3 Read-write-own internet begins to emerge and becomes a new boon for content creators | Asset Tokenization • Real world assets are becoming digital | |
|--------------------------------|--|-----------|---|---|--|
| | 2013–2016 (| 2017-2020 | 2021-2022 | 2023+ | |
| MASTERCARD EXPERIENCE | PlatformTokens• Mastercard blockchain created and blockchain API launched• Mastercard's CDBC sandbox launched | | Enablement On-ramp and off-ramp services Ciphertrace acquisition | Infrastructure • Crypto Source launch for banks to buy, sell, hold crypto | |
| | Mastercard becomes a leader in blockchain patents | | Mastercard & Coinbase NFT announcement D&S crypto practice Stablecoin partnership with Paxos & Circle | Crypto Credential brings trust into blockchain transactions Multi-Token Network enables secure and scalable digital asset transactions | |

Not exhaustive



Key global trends in digital assets

\$2.7T+ cryptocurrency market cap

580M+

users of cryptocurrency worldwide

49%

of global consumers have used or would use cryptocurrency as a means of payment



60+

banks globally have invested in blockchain projects

93%

Central Banks exploring CBDCs

\$10T+ by 2030

real world assets are expected to be tokenized

Institutional & 2 government adoption

Source: Mastercard; The State of Global Cryptocurrency Ownership in 2024, Triple-A, May 2024; Roland Berger | Capturing the multi-trillion-dollar Digital Asset market *60 countries—including G20 member states, plus countries with the highest rates of cryptocurrency adoption **as of July 2024

33 out of 60*

countries have legalized cryptocurrency, while it is partially banned in 17 and generally banned in 10**

12 out of 20

G20 countries, accounting for over 57% of the world's GDP, have legalized cryptocurrencies, with regulatory frameworks being considered across all G20 nations

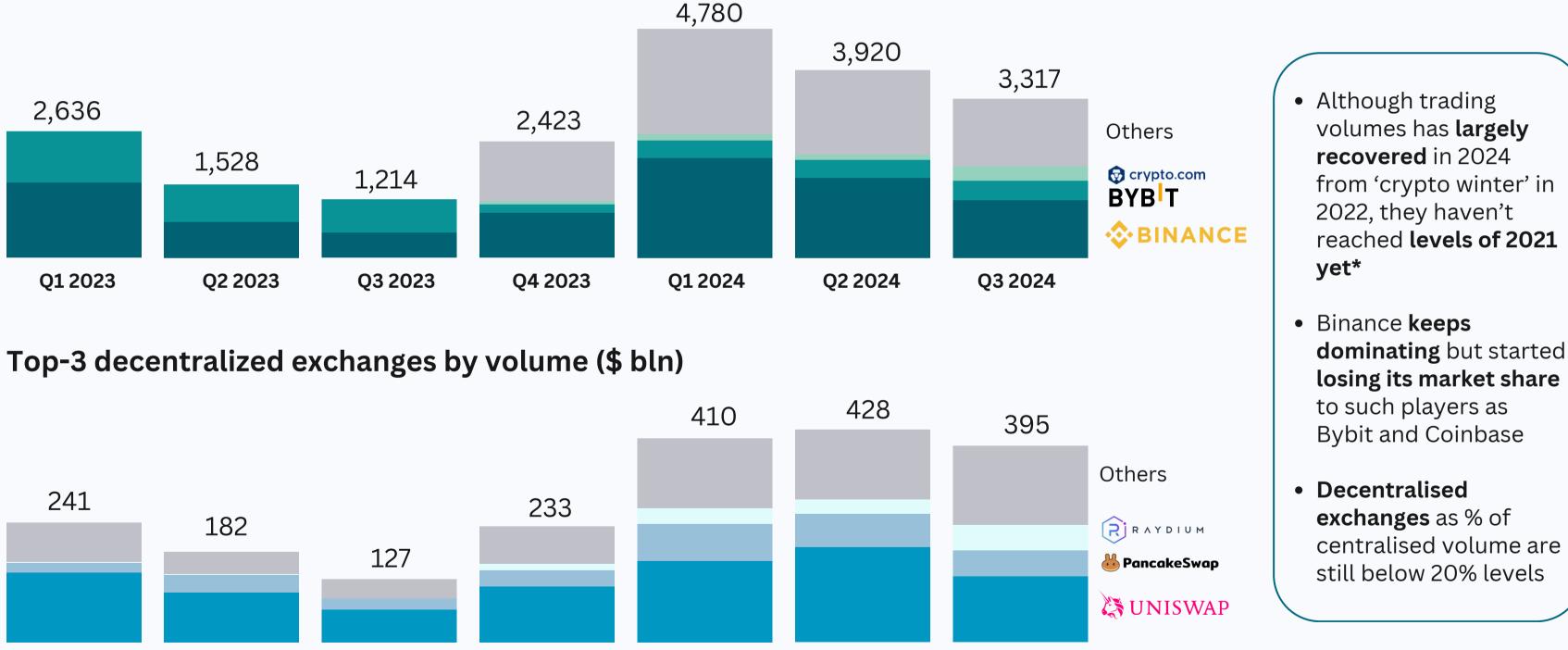
Increasing regulatory clarity

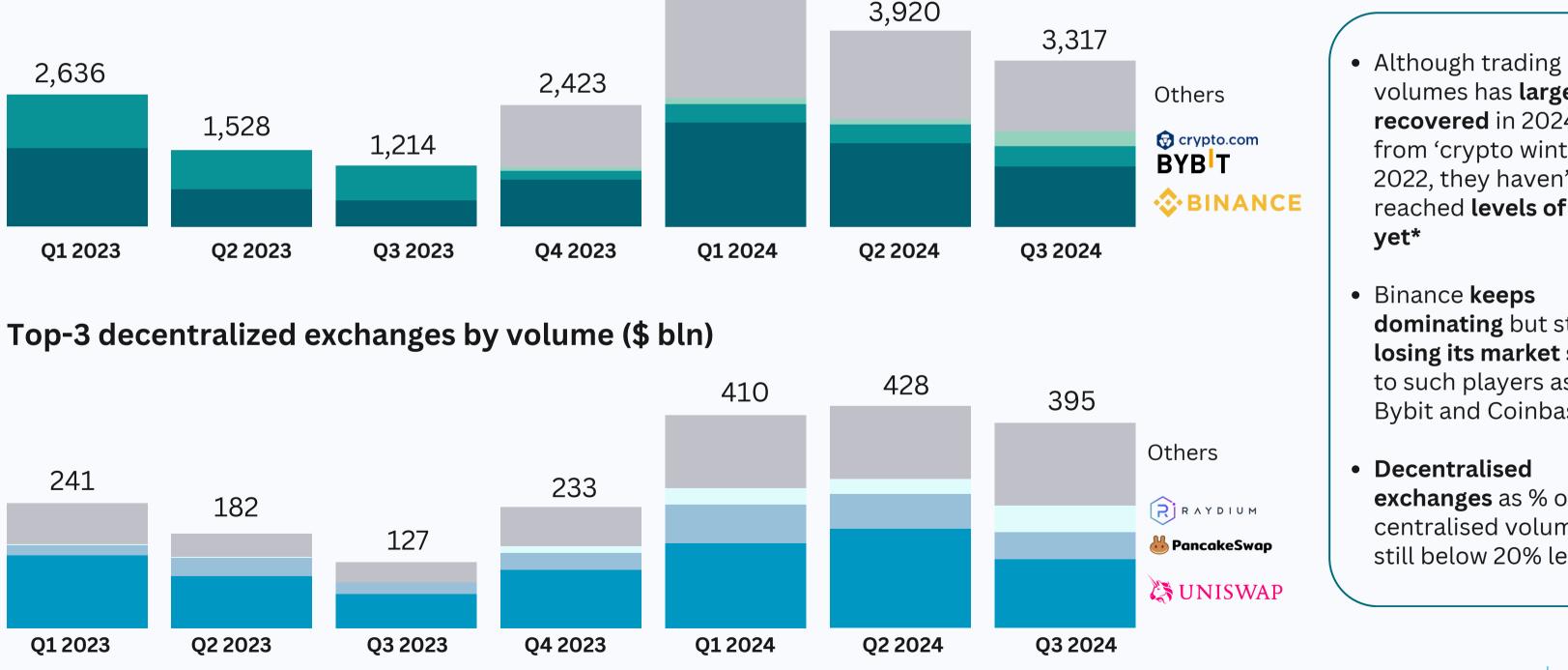


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As cryptocurrencies recovered after 'crypto winter', crypto exchanges increased trading volumes, with DEX losing some of it's share to CEX

Top-3 centralized exchanges by volume (\$ bln)





Page / 10

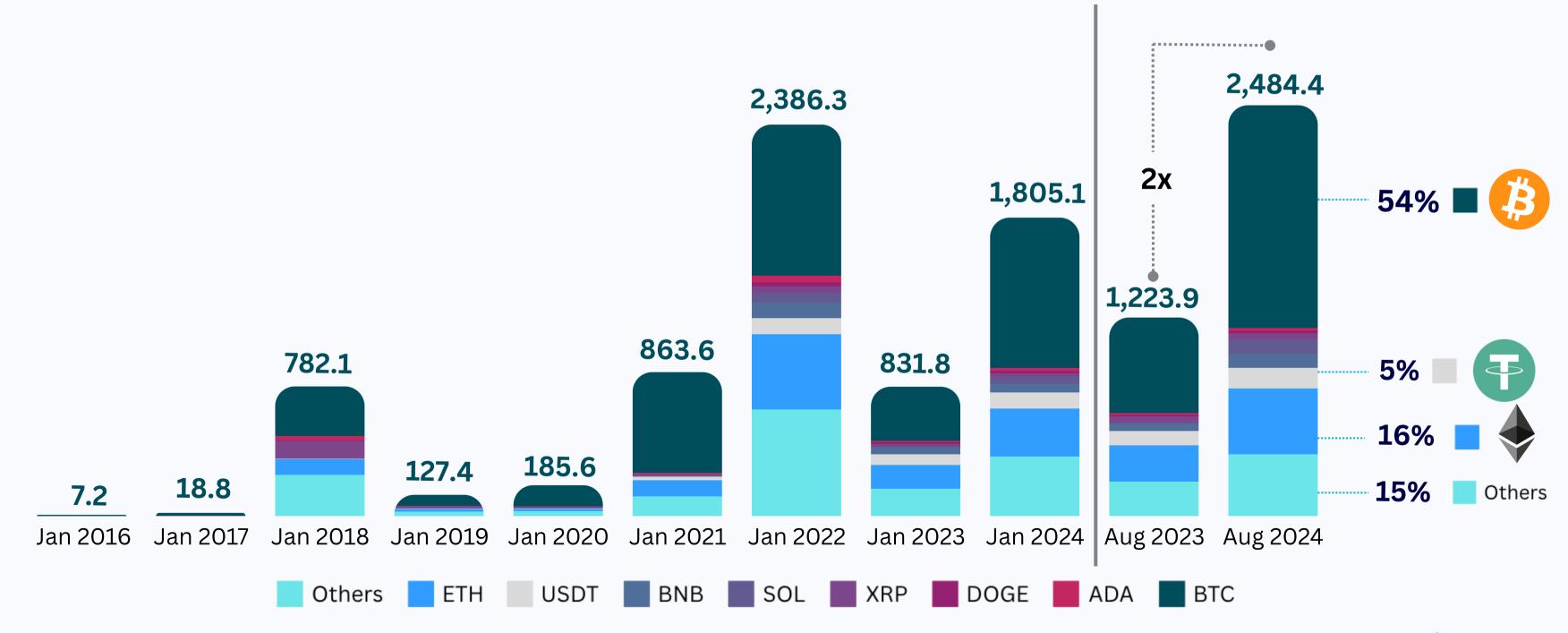
Sources: Mastercard; The Block; Defillama *As of the time of writing this study, which is October 2024





The total cryptocurrency market cap surged from \$829B in August 2023 to \$2.4T by August 2024, with Bitcoin (BTC) maintaining its dominance at \$1.3T (54%)

Total crypto market cap 2016-2024, \$ bln







Decentralized Finance protocols are still in their infancy, but have shown resiliency through the crypto winter



| Top-3 DeFi protocols ⁴ | (by TVL, as of Oct'24) |
|--|------------------------|
|--|------------------------|

| Protocol | 🗳 LIDO | aave | E <i>i</i> gen LaYer | Regu The re | |
|-------------------------|----------------|------------------------------------|-----------------------------------|-------------------------|--|
| TVL | \$ 25.59 bln | \$ 13.09 bln | \$ 13.09 bln \$ 11.16 bln | | |
| % change (2022-2024) | +300% | +114% | +85000% | | |
| Blockchain | ethereum | ethereum AVALANCHE MARBITRUM | ethereum | Trad Banks took a | |
| Business model | Liquid staking | Lending | Restaking | Aave | |

Resiliency of DeFi 5

During the **Crypto Winter**, many **CeFi** companies went **bankrupt**, while **DeFi platforms endured the stress test**, with billions of dollars liquidated but remaining resilient

Transparency & real time monitoring of on-chain transactions enabled everyone to correctly evaluate risk unlike CeFi

ulatory risks

regulatory environment for DeFi is still **uncertain in y jurisdictions**, particularly in the US

lecoins are being subject to additional oversight

dFi x DeFi

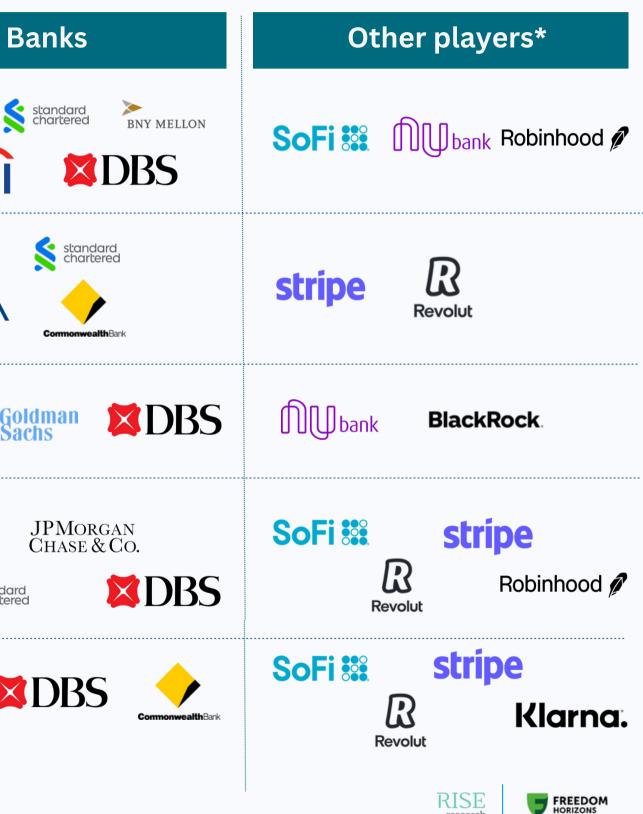
As made pilot transactions on Defi. Société Générale a loan from MakerDao. JP Morgan and DBS executed based smart contracts



Global players have accelerated building internal capabilities and customer facing solutions (1/2)

| | Areas of Play | B |
|------------------|--|-------------------------------|
| | Digital asset custody and wallet Players are building digital asset storage capabilities, especially for institutional and private banking clients | PARIBAS |
| ities | Exchange (On/Off ramping) Players are developing on/off ramp capabilities (fiat to digital asset and vice versa) for centralized and decentralized finance (DeFi) platforms | DBS BBVA |
| Internal Capabil | Tokenization / Securitization Banks are launching their own asset tokenization platforms and undertaking near real-time collateralized transactions | JPMorgan Go Chase & Co. Sa |
| | Risk management framework Institutions are strengthening areas like AML, fraud, cyber, and transaction monitoring | CITI Standar |
| | Emerging capabilities Banks and fintechs are building blockchain protocols/domains, application- level solutions, data and analytics, and smart contracts | JPMorgan Chase & Co. |

Not exhaustive



research

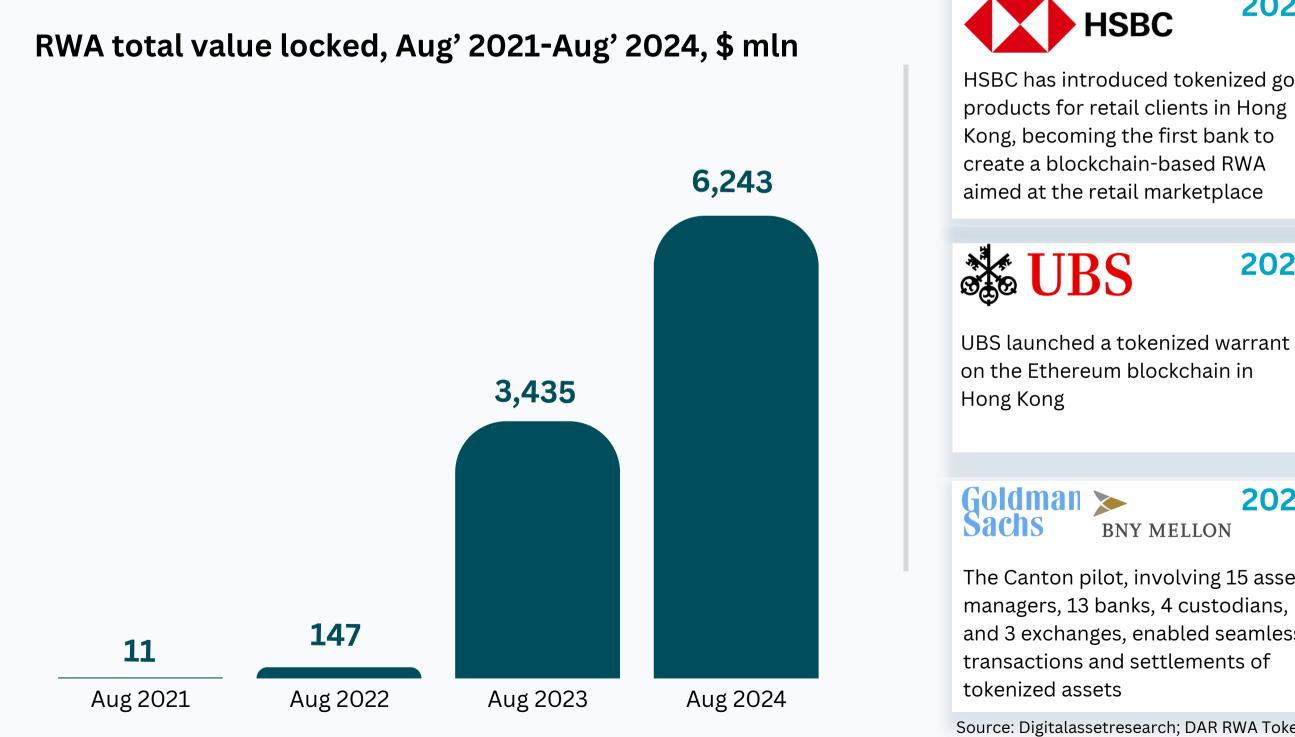
Global players have accelerated building internal capabilities and customer facing solutions (2/2)

| | Areas of Play | |
|------------------|--|-----------------------|
| | Loans Digital asset collateralized loans, loans backed by tokenized commodities are some solutions banks are introducing. Crypto credit cards are offered by fintechs | Goldr Sach Sach |
| utions | Deposits Given the volatile nature of digital assets, banks and fintechs have limited solutions, with crypto staking being the more common feature offered | & SE B |
| facing solutions | Payments Players are leveraging blockchain rails for real-time payments (for B2B clients) and cross-border payment networks | JPMorg Chase & |
| Customer | Investments and Trading Banks have created digital asset investment products, with focus on wealthier clients with risk appetite. Trading is concentrated among fintechs | JPMorg Chase & |
| | New Business Models Banks have started entering NFT marketplaces, metaverse engagements. White- labelling of capabilities, carbon credit marketplaces remain unexplored. Fintechs' entry is also limited currently | |

Not exhaustive



The tokenization of real-world assets (RWAs) has continued to gain traction with increasing user adoption and the entrance of large institutional players





HSBC has introduced tokenized gold

2024

2024

2024

BNY MELLON

The Canton pilot, involving 15 asset and 3 exchanges, enabled seamless

/ Deutsche Bank

Deutsche Bank joins the Monetary Authority of Singapore's Project Guardian to explore asset tokenization, alongside Citi, Fidelity, OCBC, and JPMorgan

2024

2024

Citibank tested the tokenization of private equity funds on the Avalanche network

BLACKROCK°

2024

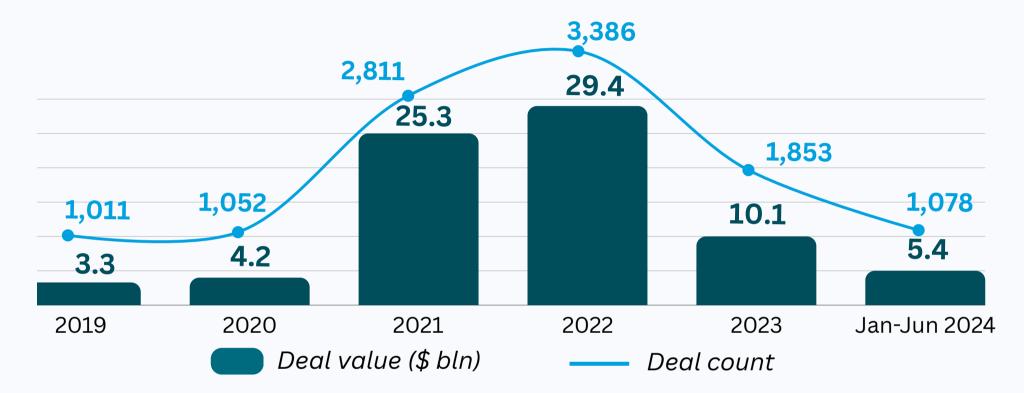
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BlackRock launched its first tokenized fund on Ethereum, "BUIDL", in partnership with Securitize. The fund invests in cash, U.S. Treasury bills, and repurchase agreements

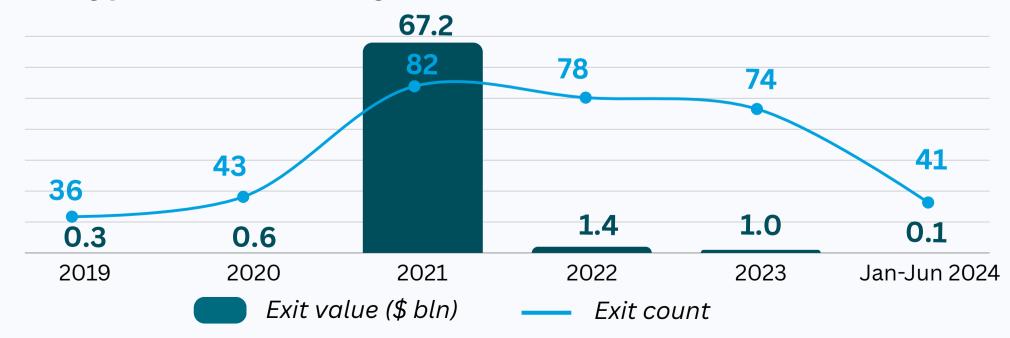


Global crypto VC deal activity

Global crypto VC deal activity, 2019-2024



Global crypto VC exit activity, 2019-2024





"Following the intense interest in digital assets seen during the 2018-2020 period, **market demand has significantly declined.** This shift is evident in the reduced number of client inquiries and service requests we are receiving for digital assetrelated solutions, with those requests now being **more refined and result-oriented**".

Konstantin Aushev KPMG Caucasus and Central Asia







"The landscape for raising capital via digital assets is at a crossroads. Strict regulations in many countries have diminished their advantages, equating them with traditional methods. While **some benefits** remain for **cross-border transactions**, they aren't enough to drive ICO and STO growth. On the positive side, tokenization holds potential for *regulated crowdfunding* to support small and medium-sized businesses. However, finding the right **balance** between oversight and innovation remains a challenge for regulators and stakeholders alike".

Kairat Kaliyev Freedom Horizons



"Rapid, purposeful digitalization across Central Asia presents exciting opportunities for the *adoption of* blockchain as a technology underpinning and interlinking sectors from finance to healthcare to energy and agriculture. The challenges to scaling are those with which we are familiar globally: achieving **technical** interoperability and regulatory clarity through the creation of consistent definitions and standards. Realizing blockchain technology's transformative potential requires balanced, multi-stakeholder engagement to develop and implement robust, compatible frameworks".

Sandra Ro Global Blockchain Business Council



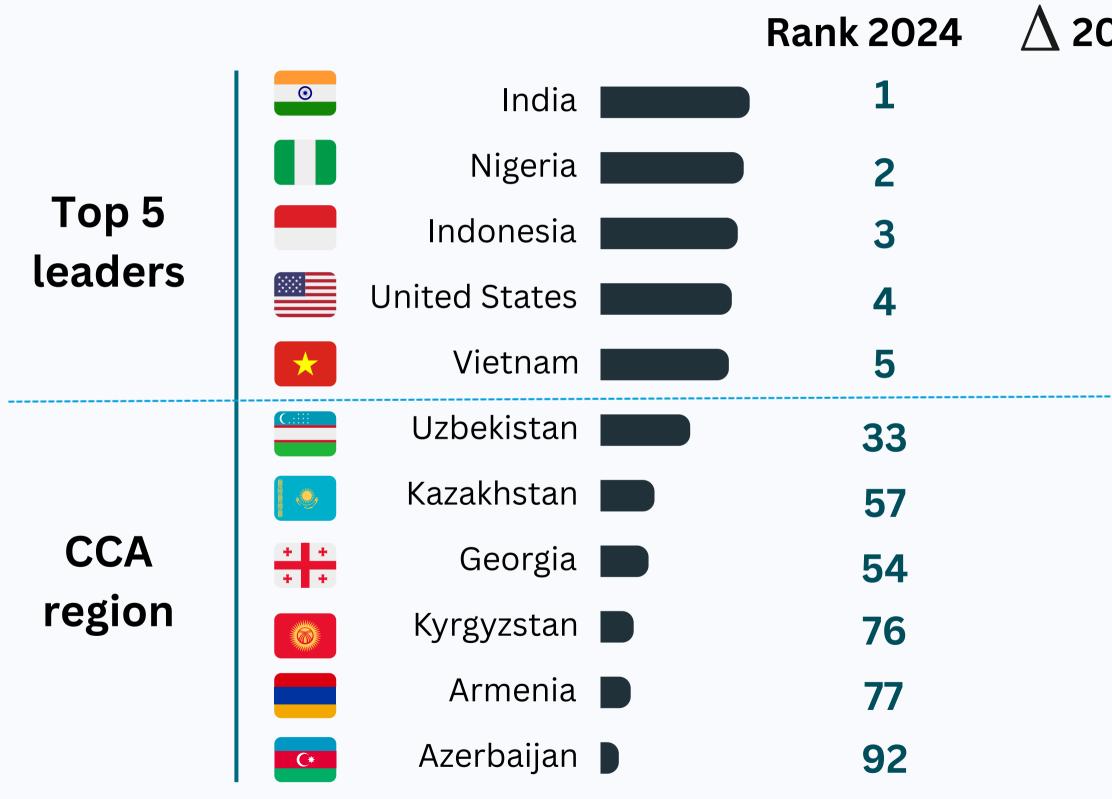
"We are in a time of significant change in finance, driven by blockchain and cryptocurrency technologies. **The** global digital asset market is steadily growing, including in Central Asia. Mastercard's solutions, such as cryptocards and Multi-Token Network platform, connect traditional finance with cryptocurrencies, ensuring secure and compliant transactions. These innovations create new opportunities for users and businesses".

Sanzhar Zhamalov Mastercard Kazakhstan and Central Asia





The global crypto adoption index



Source: The 2024 Global Adoption Index, Chainalysis. The Global Crypto Adoption Index includes 151 countries Λ 2022-2024 +4 +10 +17 +1 -5 +54 +5 -17 +1 -2 +17



WORLD ALLIANCE of International Financial Centers

"Kazakhstan and Central Asia as a whole are in strong competition with other crypto hubs such as Dubai, *Singapore, or Hong Kong in Asia; Switzerland/ Liechtenstein, Berlin, London, or Malta in Europe; or San Francisco in North America. In such a dynamic environment, it is difficult to predict who will win the race in the end".*

Jochen Biedermann The World Alliance of International Financial Centers





Taxonomy and legal definition of digital assets in the CCA region*



Digital asset is property created in electronicdigital form with the assignment of a digital code, including the use of cryptography and computer calculations, registered and provided with the immutability of information based on the technology of a distributed data platform



Digital asset is a digital representation of value that: can be digitally traded and functions as (a) a medium of exchange; or (b) a unit of account; or (c) a store of value, can be exchanged back-and-forth for fiat currency, but is neither issued nor guaranteed by the government of any jurisdiction, and fulfills the above functions only by agreement within the community of users of the digital asset; and accordingly, is to be distinguished from fiat currency and e-money

Law "Digital Assets in the Republic of Kazakhstan"

AIFC GLOSSARY



A virtual asset is a digital representation of value that is interchangeable and non-unique, can be digitally traded or transferred, and can be used for investments and/or payment purposes. A virtual asset does not include digital representation of fiat currencies, securities, or other financial instruments. A convertible virtual asset is a virtual asset that has an equivalent market value in national or foreign currency, another virtual asset and/or financial instrument, into which it can be exchanged

Organic Law "About the National Bank of Georgia"



A virtual asset is a set of data in electronic-digital form that holds value, representing a digital expression of value and/or a means of certifying property and/or non-property rights. It is created, stored, and circulated using distributed ledger technology or similar technology, and is not a monetary unit (currency), a means of payment, or a security

Law on "Virtual Assets"

*Some definitions have been translated independently by the authors (from state languages). For a more accurate definition, it is necessary to refer to the original sources

Page / 19 **As this is still a draft law, the final legal definition may be subject to change



Crypto-asset is defined as a property right, represented by a set of digital records in a distributed data ledger, which has value and an owner. "Token" is a type of crypto asset that serves as a unit of account in a distributed data ledger, used to certify an obligation or property right over a specific asset, managed through a smart contract. *Tokens are further categorized into* secured (Investment Token, Asset-Backed Token, Commodity Token, Stable Token) and unsecured (i.e. Utility Tokens) types

Presidential Resolution No. RP-3832 NAPP Order No. 3397





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Global & regional trends

Regulation and Taxation at glance (as of 01.10.2024)

| V In place 🕓 Active Engagement Special Tax | | | | | |
|--|--|---|--|--|----------------------------|
| | | | | + + + | |
| | Kazakhstan | Uzbekistan | Kyrgyzstan | Georgia | Armenia |
| Regulatory framework for DAs | | \checkmark | | | |
| Licensing/registration regime for DASPs | | | | | <u>(</u>) |
| Licensing/registration authority | © AFSA | NATIONAL AGENCY OF PERSPECTIVE PROJECTS | AND | საქართველოს ეროვნული ბანკი National Bank of Georgia | CENTRAL BANK OF ARMENIA |
| DAs taxation peculiarities* | VAT-exempt | Tax-exempt (until Jan 1, 2029) | VAT-exempt | VAT-exempt Personal income tax - 0% | <u>(</u>) |
| Special tax on DASPs | Digital assets exchanges - general tax rule; Other DASPs - CIT exempt (until 2066) | Monthly fixed fees (vary by provider type) | General tax rule | General tax rule | C |
| Licensing/registration regime for mining | | | | | |
| Licensing/registration authority | DIGITAL & SPACE MINISTRY Mining of Digital Development of the Republic of Kazabhara | NATIONAL AGENCY OF PERSPECTIVE PROJECTS | A DO | | |
| Special tax on mining | General tax rule** + digital mining fee (per kilowatt-hour) | Monthly fixed fee | 10% (based on electricity consumption) | General tax rule | General tax rule |

Source: RISE Research analysis

Page / 20

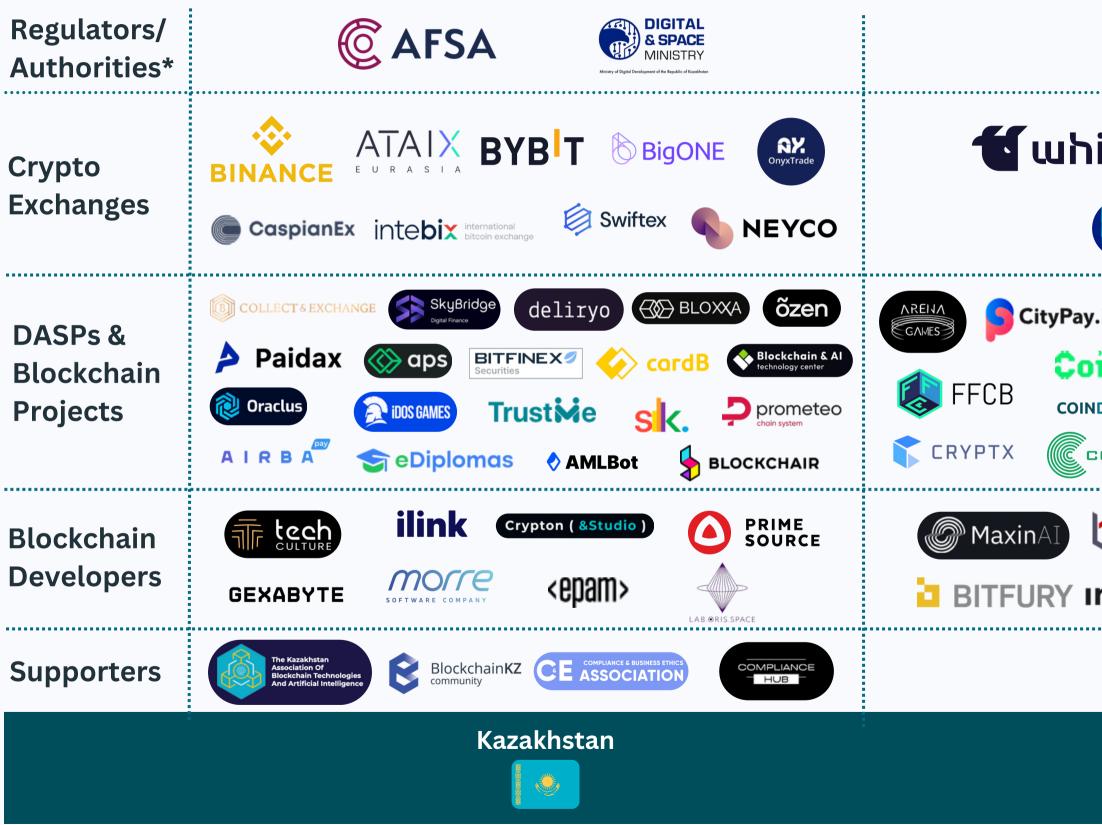
*This section highlights certain tax features, such as exemptions from specific taxes. The information is not exhaustive and should not be considered tax advice

**There is a specific corporate income tax (CIT) calculation for mining-pools and miners

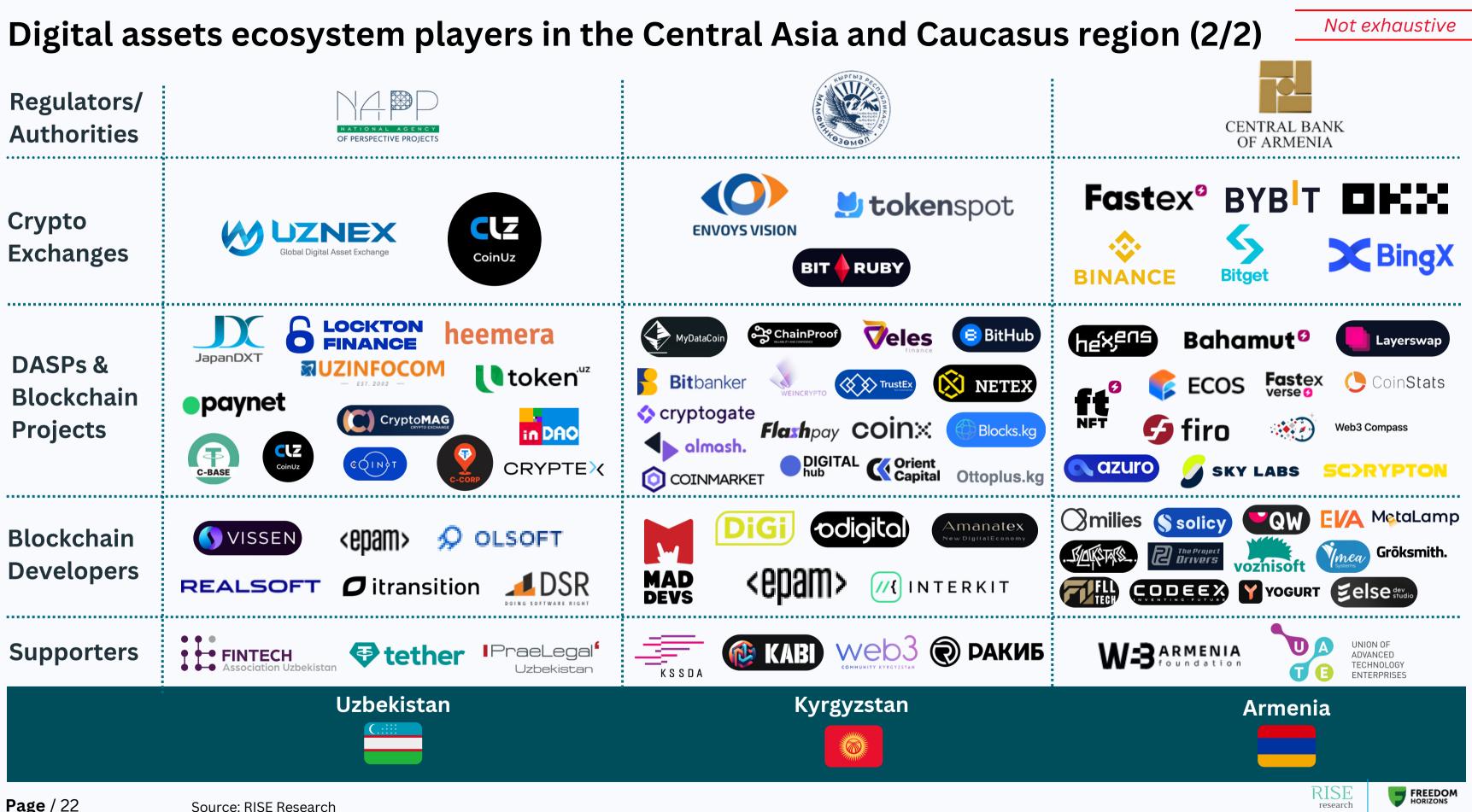


Not exhaustive Digital assets ecosystem players in the Central Asia and Caucasus region (1/2) საქართველოს ეროვნული ბანკი **©** AFSA & SPACE National Bank of Georgia BYB T t whitebit ATAIX BYB T BIGONE **RX** OnyxTrade Swiftex bitanica NEYCO RYPTA MyCoins B COLLECT & EXCHANGE õzen delirvo **CityPay.**io HUMANODE LUART **DASPs** & Paidax Blockchain & Al technology center **ASPIS** BITFINEX Bitnet aps Coinet **Blockchain FFCB Projects** COINDATAFLOW AllTrust.me 📙 Oraclus **Trust**Me prometeo COINSWAP C AIRBA CRYPTX **S** eDiplomas COINMANIA BIT 🖄 CHANGE SLOCKCHAIR 🔷 AMLBot ORBITAL ilink PRIME SOURCE Jet<u>Rockets</u> Crypton (&Studio) C TEAM sunmait tech MaxinAI morre <edam> 8.Finance BITFURY INNOWISE NOXTTON Aiolane GEXABYTE **FIA** CE ASSOCIATION BlockchainKZ COMPLIANCE CHAMBER GEORGI Kazakhstan Georgia + + + + FREEDOM RISE

research



Page / 21 Source: RISE Research *Though several authorities regulate digital asset service providers (DASPs), the authors have selected the primary regulatory bodies

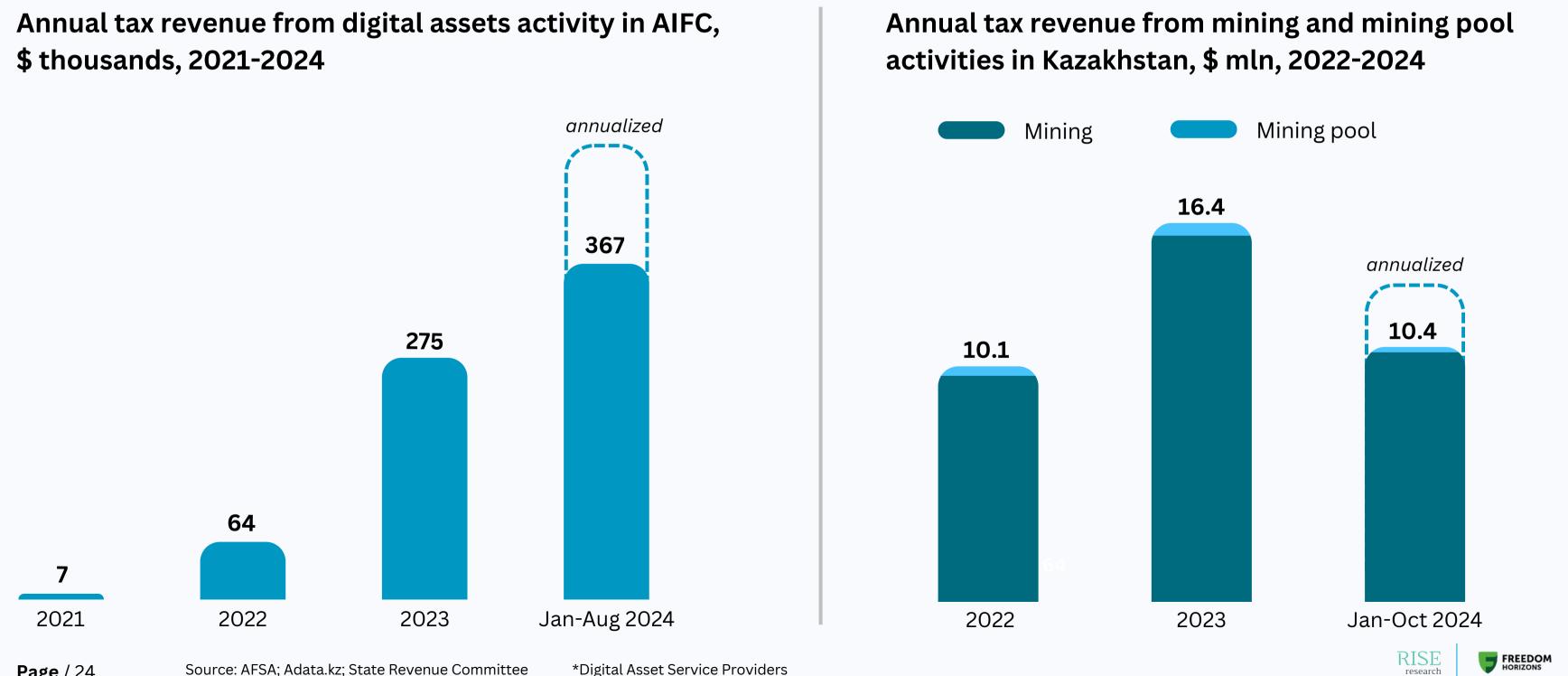


Kazakhstan





Revenue to the state budget from DASPs* licensed in the AIFC shows steady annual growth and may reach \$500,000 by year-end. Meanwhile, annual budget revenue from mining, though significantly higher, fluctuates due to changes in tax policies and electricity shortages



Page / 24

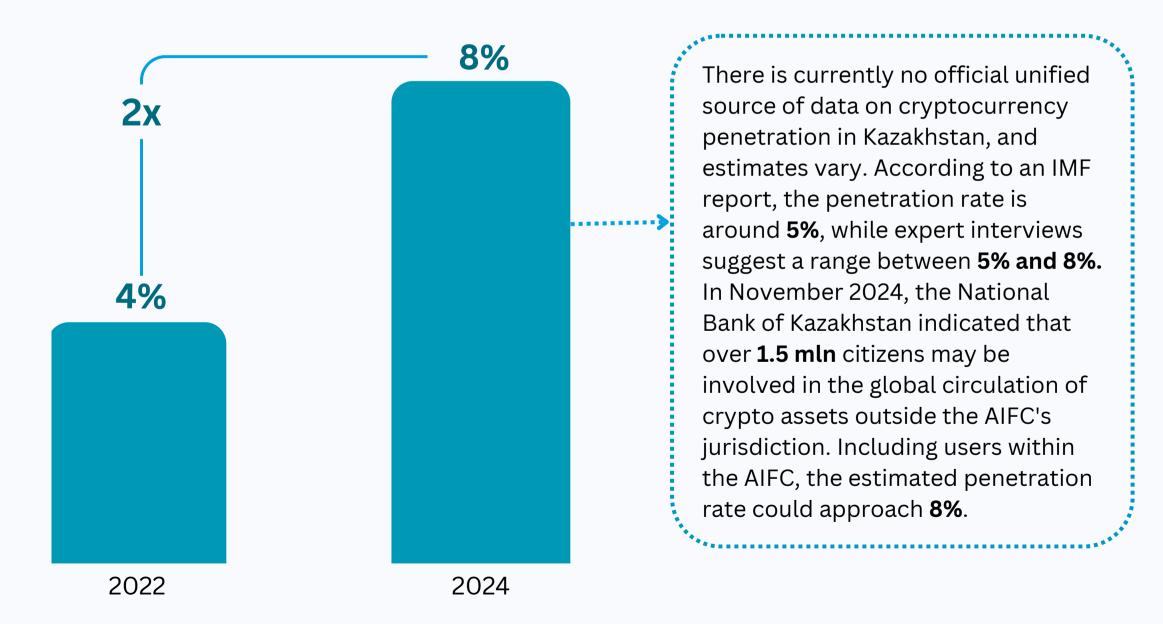
Source: AFSA; Adata.kz; State Revenue Committee



research

Kazakhstan lacks official data on cryptocurrency penetration, and estimates vary. Experts suggest that around 4% of the population may have owned cryptocurrencies in 2022, with this figure reaching up to 8% by 2024

Crypto penetration rate in Kazakhstan, 2017-2024



Page / 25

Source: Research by the National Bank of Kazakhstan dated November 19, 2024; analysis by RISE Research, and interviews with industry experts; Technical Note on Regulation and Supervision of Crypto Assets for the Republic of Kazakhstan Financial Sector Assessment Program, IMF April 2024



Reasons why residents in Kazakhstan hold crypto assets:



the growth of crypto markets



growing interest in holding crypto assets for speculative or investment purposes



a belief that the underlying technology could create efficiencies, transparency, and financial inclusion

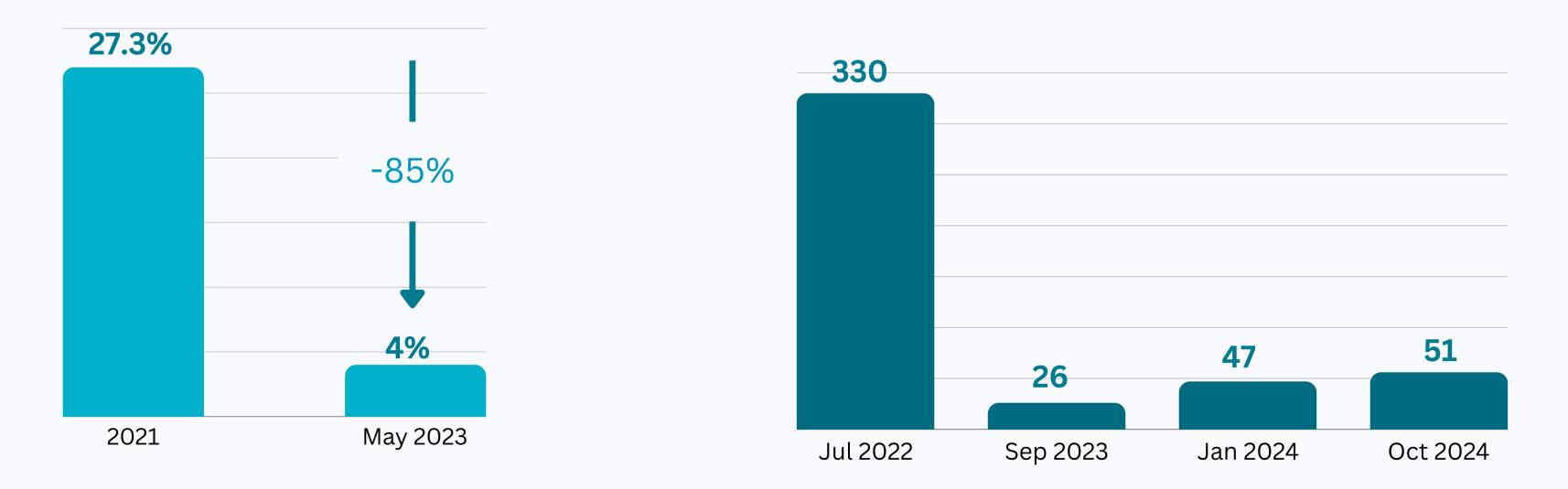


the possibility of high yields, particularly through decentralized finance



At its peak in October 2021, Kazakhstan accounted for 27.3% of the global Bitcoin hashrate, becoming the 2nd largest producer. However, the market later contracted due to mining restrictions and increased regulatory oversight over energy consumption and crypto risks

Kazakhstan's average hashrate share, 2021 vs 2023 Number of mining organizations, 2022-2024

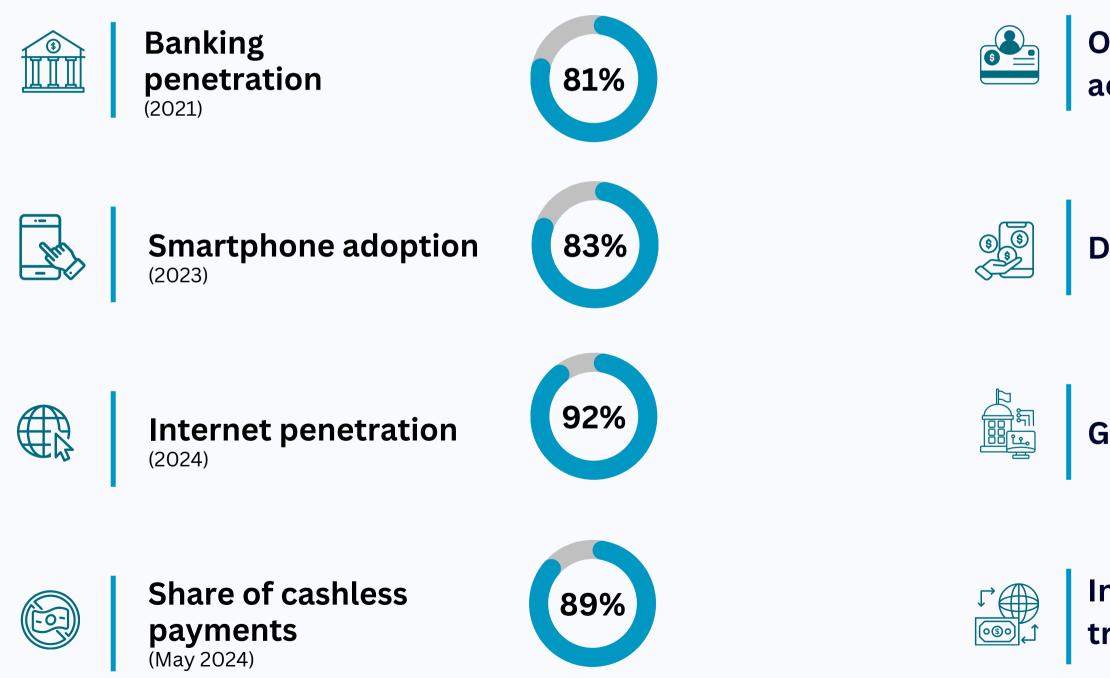


Source: RISE Research analysis; Ministry of Digital Development, Innovations and Aerospace Industry of the Republic of Kazakhstan; kapital.kz; Technical Note on Regulation and Supervision of Crypto Assets for the Republic of Kazakhstan Financial Sector Assessment Program, IMF, April 2024; hashrateindex.com





Another reason for the limited crypto market size is Kazakhstan's advanced fintech sector, which offers sophisticated banking services, digital payments and currency exchanges





Opening of bank account



Average time to open a bank account online

Digital lending

~2 min

Average time to get online lending approved

GovTech

International transfer

<1 hour

Average time for providing composite services online (for example, purchasing and re-registering a car)

<1 hour

Average time for the settlement of an international transfer





Timeline of key events and regulations

2018-2021 Crypto mining boom

Crypto activities in Kazakhstan, primarily focused on mining, saw steady growth from 2017, driven by rising global crypto prices. The sector surged in May 2021 after China imposed restrictions and eventually banned crypto activities

2021-2022 Crypto mining crackdown

In 2021, crypto mining consumed up to 7% of the country's energy, contributing to power shortages. The government shut down illegal "grey" miners and restricted electricity access for legal "white" miners. Following the collapse of TerraUSD and falling crypto prices, 70% mining companies left Kazakhstan

- Jan'18: The official launch of all AIFC bodies, affiliated organizations, and the regulatory sandbox
- July'19: The Law "On Amendments and Additions to Certain Legislative Acts of the RK on the Regulation of Digital Technologies." It defines digital assets, including tokens and cryptocurrencies, and legalizes mining and blockchain technologies
- Dec'20: KEGOC's restriction or reduction of power supply to mining companies in case of electricity shortages
- Jan'21: Kazakhstan's Tax Code introduced a digital mining fee starting January 1, 2022, charging 1 tenge per kWh of electricity used in mining operations*
- June'22: AFSA, together with MDAI, NBK, and ARDFM, launched a pilot project to develop the crypto asset market, allowing crypto circulation within the AIFC through local exchanges and commercial banks

Page / 28Source: RISE Research analysis; AFSA
*Later, the fees for digital mining were adjusted multiple times



Not exhaustive

2022-2024

Regulatory shift & emerging use cases

The AIFC broadened regulations on stablecoins and tokenization, leading to new use cases, while banks and the Digital Tenge pilot advanced financial initiatives

- Apr'23: The Law of the RK "On Digital Assets" banned the use of unsecured digital assets, stablecoins, and security tokens (except for the AIFC), while allowing regulated crypto mining. Miners must register and will gradually be required to deposit 75% of their rewards on AIFC-registered exchanges
- Feb'23: Amendments to the Law "On Digital Assets"
- Oct'23: The first tokezation project by Intebix, Mastercard, and Airba Pay

- Jan'24: AFSA introduced its first Stablecoin framework
- Plans: Issuance of a stablecoin in collaboration with a commercial bank
- Plans: Issuance of a crypto card in collaboration with a commercial bank in a sandbox environment

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Kazakhstan has a dual regulatory framework for digital assets: the National law that generally prohibits unsecured digital assets, while allowing them in the AIFC, which functions under its own jurisdiction to promote flexibility and innovation



According to Kazakhstan's Law on Digital Assets, digital assets are categorized as:

- Secured (backed) digital assets;
- Unsecured (unbacked) digital assets

The issuance and circulation of unsecured digital assets are prohibited in Kazakhstan, except within the jurisdiction of the Astana International Financial Centre.

The Ministry of Digital Development, Innovations, and Aerospace Industry supervises:

- licensing of digital assets mining activities;
- the issuance and circulation of secured (backed) digital assets;
- intersectoral coordination in the field of digital assets

The Astana International Financial Centre, located in Astana, Kazakhstan's capital, operates under its own jurisdiction with a special legal framework based on English common law principles

The AIFC's financial regulator, the Astana Financial Services Authority, oversees both traditional financial services and activities related to digital assets, including the regulation of Digital Asset Service Providers.

To promote innovation, AFSA offers a regulatory sandbox - FinTech Lab, where companies can test cutting-edge initiatives, including digital asset ventures









Industry players: regulators and authorities

MDAI

Ministry of Digital Development, Innovations and Aerospace Industry

coordinates Kazakhstan's digital assets industry and oversees crypto mining and secured digital assets

NBK National Bank of Kazakhstan

is tasked with regulating payment systems, including any potential future digital assets payments infrastructure, as well as considering the macro financial implications of digital assets

AFSA Astana Financial Services Authority

ARDFM

Agency for Regulation and Development of the **Financial Market**

regulates banks serving digital assets exchanges and ensures financial integrity

AFSA FinTech Lab

NPCK National Payment Corporation of Kazakhstan

Page / 30

works on the development of a Digital Tenge project. This initiative aims to enhance the country's financial ecosystem and streamline digital transactions while promoting innovation in the payment sector

Source: RISE's analysis





combats violations in the digital assets sphere and investigates cases of the illicit use of cryptocurrency

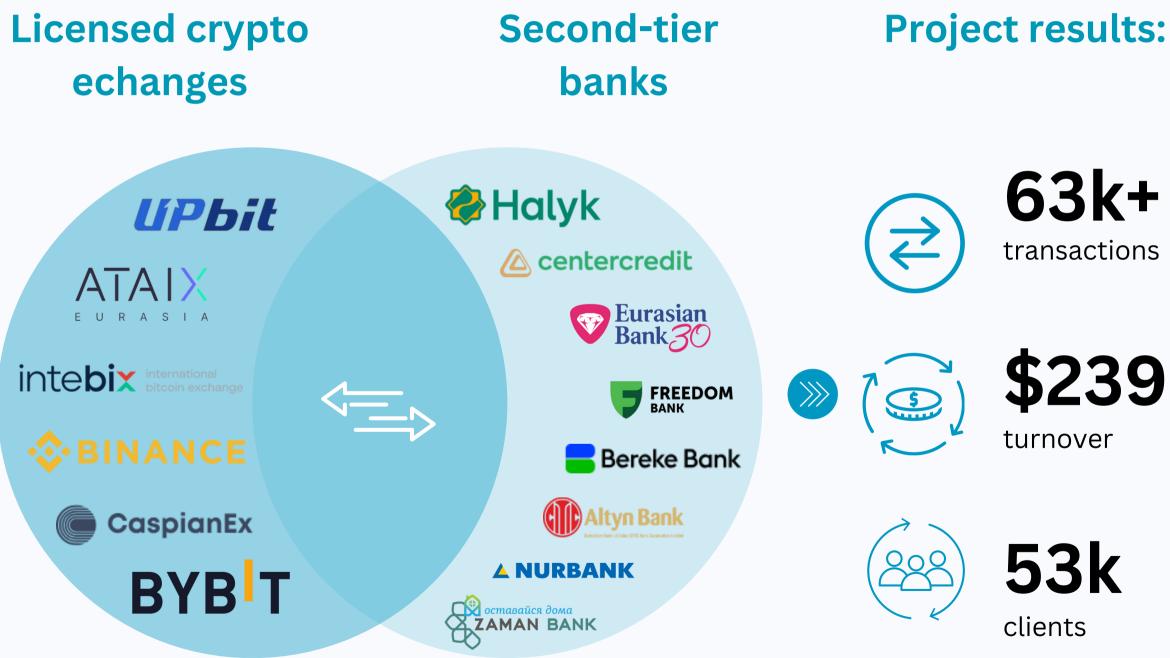
regulates and supervises digital asset service providers, working closely with its domestic partners (regulators and authorities)

FinTech Lab at Astana International Financial Centre

regulatory sandbox that provides an environment for entities to test and develop fintech driven innovations in a live market while benefitting from some regulatory reliefs and exemptions



From June 2022 to January 1, 2024, a pilot project on interaction of AIFC crypto exchanges with commercial banks engaged 6 crypto exchanges and 8 second-tier banks, shaping regulations for digital asset activities





239M

In June 2022, AFSA, in conjunction with domestic authorities such as the MDAI, the NBK, and ARDFM, have launched a pilot project to foster the development of a digital asset market. This project allowed the circulation of crypto assets within the AIFC through licensed local exchanges, serviced by commercial banks.

Feedback from this 1.5-year project helped shape regulations within the AIFC. Now, licensed digital asset service providers can test products like margin trading, peer-to-peer trading, derivatives, staking, NFT trading, and digital asset lending



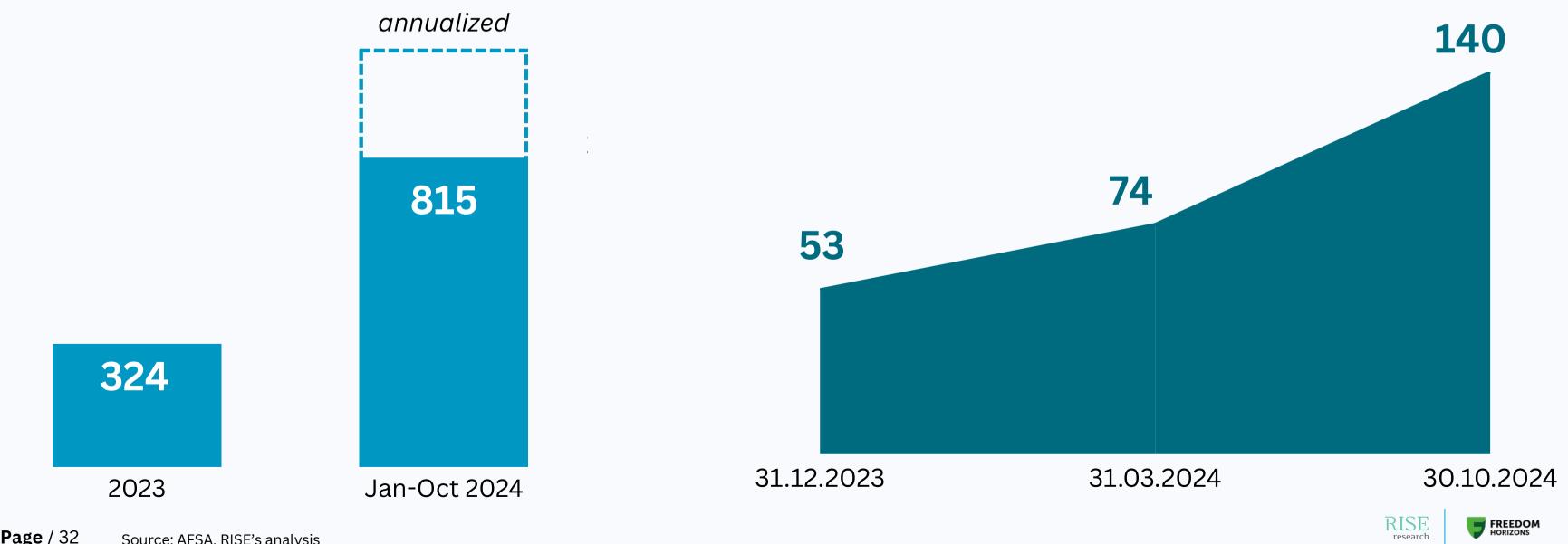




Despite its relatively small size, Kazakhstan's digital assets market demonstrates significant annual growth

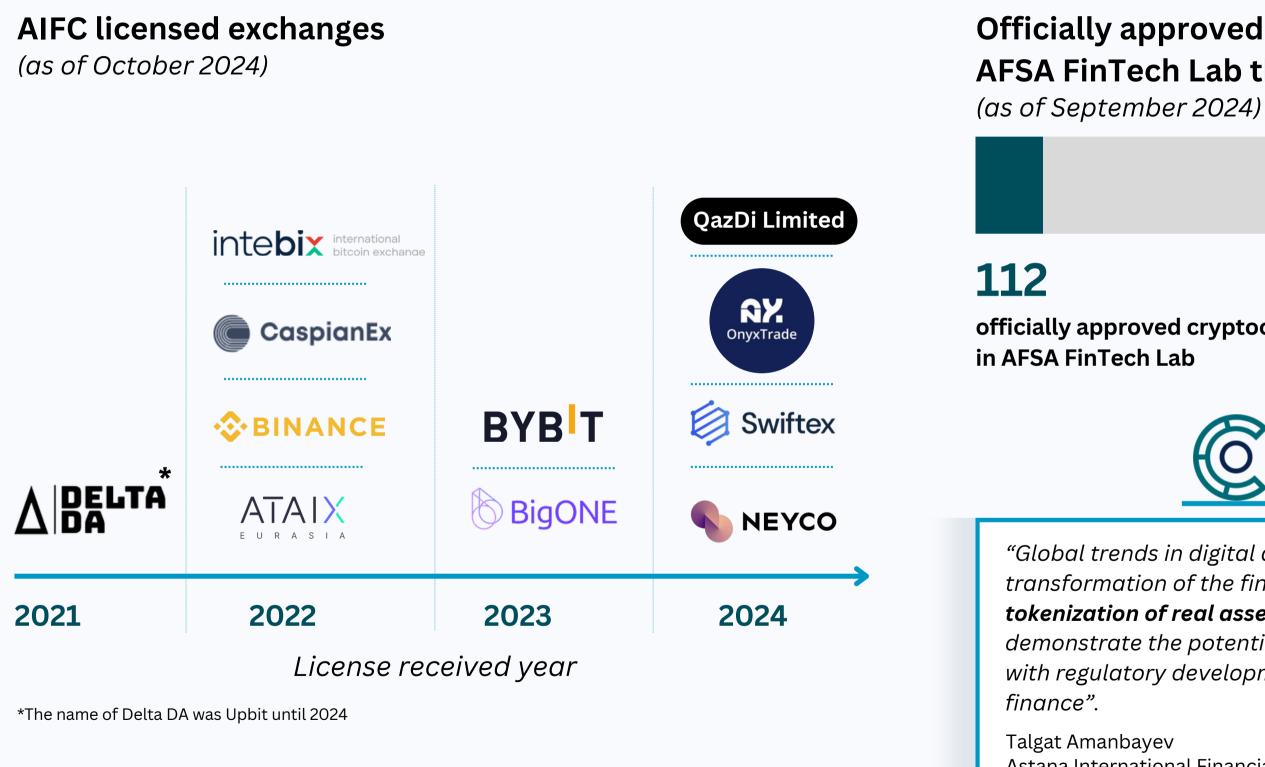
The trading volume of digital asset service providers in AIFC, 2023-10M2024, \$ mln

Number of registered users on AIFC licensed exchanges, thousands





Industry players: AIFC-registered crypto exchanges





Officially approved cryptocurrencies for use in AFSA FinTech Lab through licensed exchanges

9000+

officially approved cryptocurrencies

active cryptocurrencies in the world



"Global trends in digital assets highlight the ongoing transformation of the financial system. The adoption of blockchain, tokenization of real assets, and the rise of stablecoins demonstrate the potential of this sector. Central Asia is advancing with regulatory development and integration with traditional

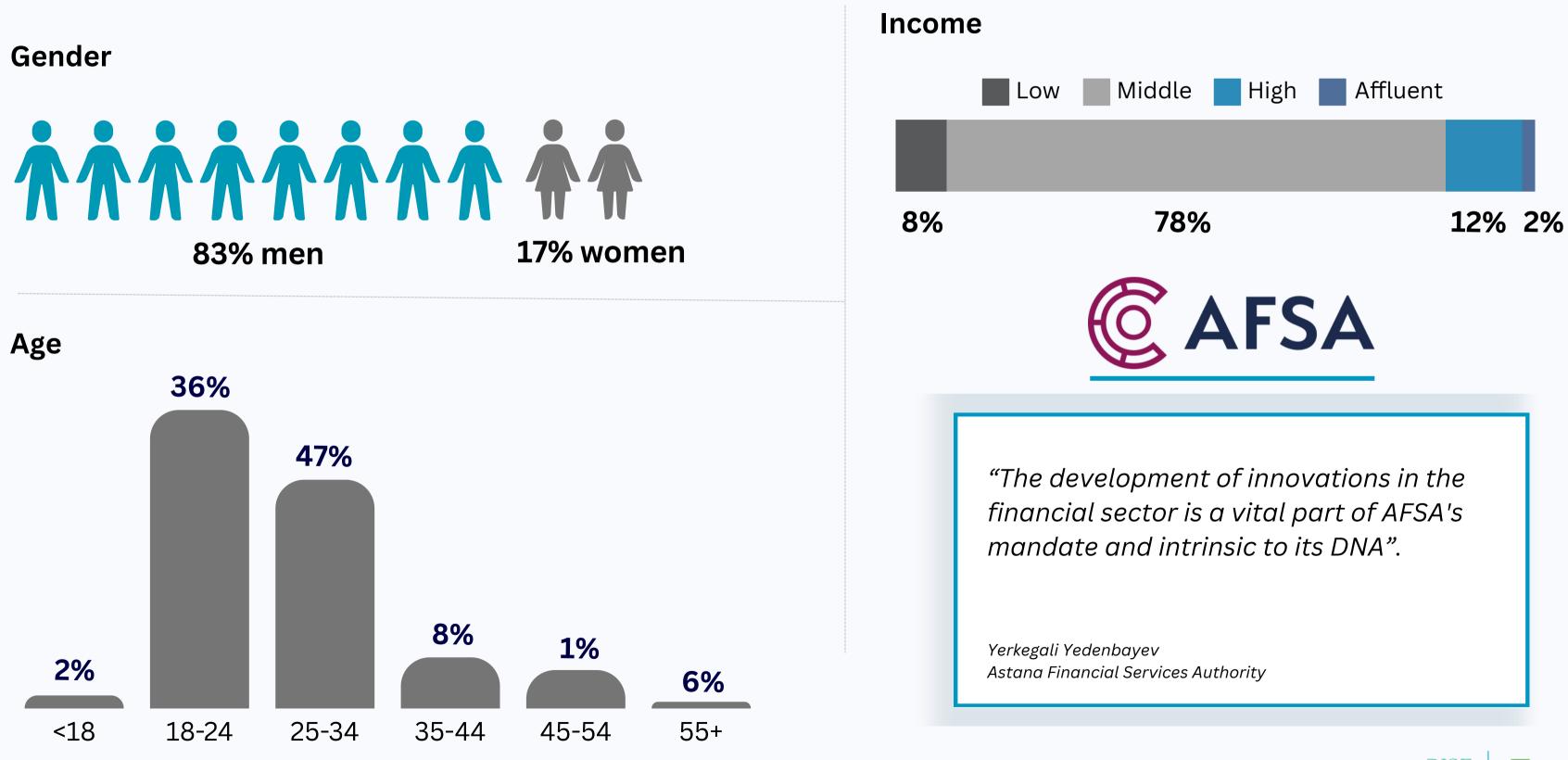
Astana International Financial Centre







Profile of the average cryptocurrency investor in Kazakhstan



Page / 34

Source: ATAIX survey; RISE Research analysis







international bitcoin exchange

"Regulators could introduce 'crypto cards' for non-residents, attracting the global crypto community to Kazakhstan. The risks are minimal, as banks and exchanges conduct thorough KYC and KYT checks. It's worth noting that Kazakhstani residents can already easily obtain 'crypto cards' from payment operators based in offshore jurisdictions".

Talgat Dossanov Intebix Kazakhstan



"One of the main barriers we face is access to banks. Currently, **not all banks are willing to work with crypto firms** or open accounts for us because they perceive us as higher risk. Even when it comes to transferring money to our cryptocurrency exchange, some banks don't offer support, and the money gets stuck, requiring transfers to other banks".

Athena Miao BigONE Exchange

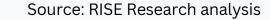


ATA X E U R A S I A

"The buyers' market is dominated by those purchasing crypto with fiat. **This forces market makers to seek liquidity abroad, mainly on global exchanges.** Transferring fiat through the banking system is not easy, not only in Kazakhstan but all over the world. You overcome the compliance of the local banks, but then immediately encounter issues with the correspondent banks, especially with USD wires".

Arutyun Poghosyan ATAIX Eurasia







intebix international bitcoin exchange

TechnoDom

AIRBA

BITFINEX

Page / 36

USE CASE 2 TOKENIZATION

Tokenization cases

Mastercard, in cooperation between Intebix Crypto Exchange, the Technodom Ecosystem, and AIRBA, has presented the first digital asset tokenization project in Kazakhstan. This project allows users to convert cryptocurrency into technobonuses, which can be spent within the ecosystem

Blockstream Mining Note Series 1 (BMN1) - emission volume EUR 6.75 mln

Bitcoin mining exposure, available for qualified investors on the Liquid Network

Exordium Limited (EXO) - emission volume \$5.3 mln

Security token associated with Exordium Limited, a video game company, seeking funding to develop a game called Infinite Fleet

ALT2611 Tokenized Bond - emission volume \$10 mln

Tokenized bond issued by Mikro Kapital giving exposure to debt and equity of micro-financing companies, small financial institutions, leasing companies, banks or credit cooperatives

K SE

SkyBridge Invest

BITFINEX

LAZARD





The Kazakhstan Stock Exchange (KASE) has introduced a pilot project called "KASE Digital" to issue tokenized securities using distributed ledger technology

Lazard is planning to create tokenized funds with **Bitfinex Securities and SkyBridge Invest.**

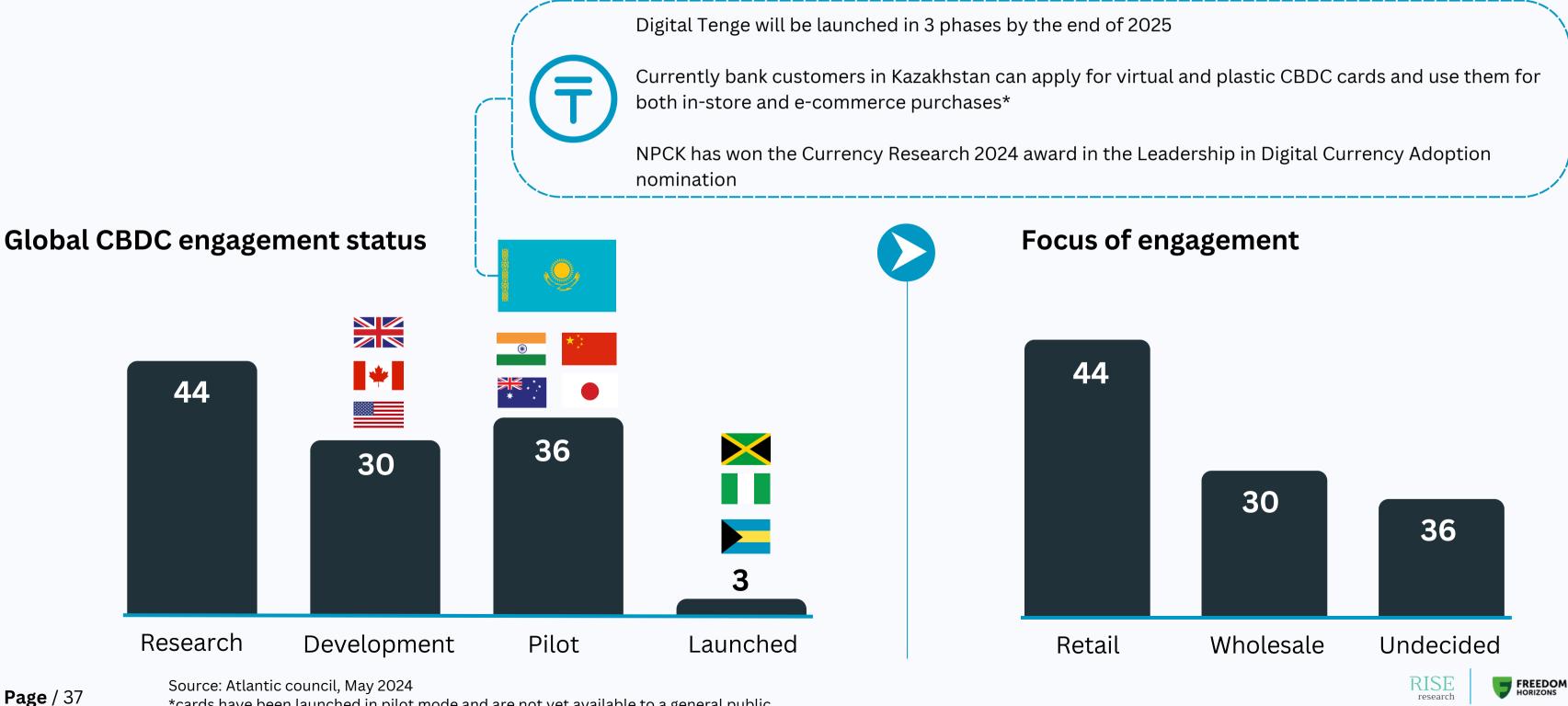
The tokenized funds will be set up and issued under Kazakhstan's financial services law, under regulatory oversight of Astana Financial Services Authority, where SkyBridge and Bitfinex are licensed to operate. Bitfinex Securities is responsible for the tokenization process, while SkyBridge will act as broker and manager of the tokenized fund. The products will be available to retail users, but with certain geographic limitations, and available to be purchased with **Tether's stablecoin**. The vehicle will offer exposure in a "fund of funds" structure to various existing Lazard-managed funds focused on global equities and emerging market equities, which have been available only to professional investors and institutions before





USE CASE 3 CBDC

Over 130 countries are exploring CBDCs. Kazakhstan, one of the 36 countries piloting them, offers a tangible instrument for Digital Tenge payments, unlike others that mostly use web and mobile interfaces

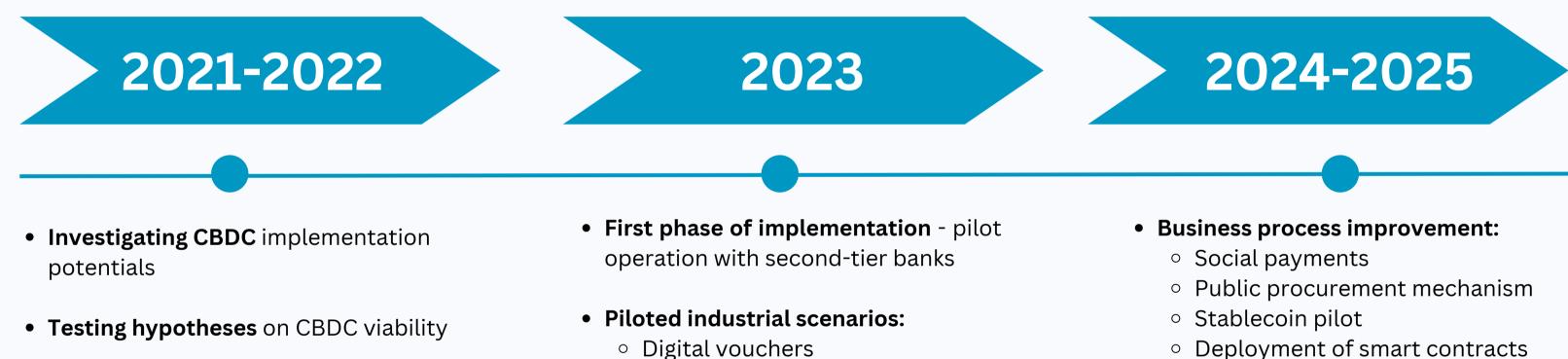


*cards have been launched in pilot mode and are not yet available to a general public



CBDC

The National Bank of Kazakhstan is among the leaders in Central Bank Digital Currency innovations worldwide, achieving rapid implementation of the Digital Tenge concept to industrial operation within three years



- Affirming feasibility of CBDC implementation
- Based on the research findings, a decision was made for the phased implementation of the Digital Tenge by 2025

• Payment card linked to CBDC

• Researched experimental scenarios:

- Smart contracts
- Cross-border payments
- Digital Tenge-backed stablecoins
- Public procurement, tokenization and purchase of securities



- Deployment of smart contracts
- Pilot of cross-border settlement
- Pilot of offline transactions

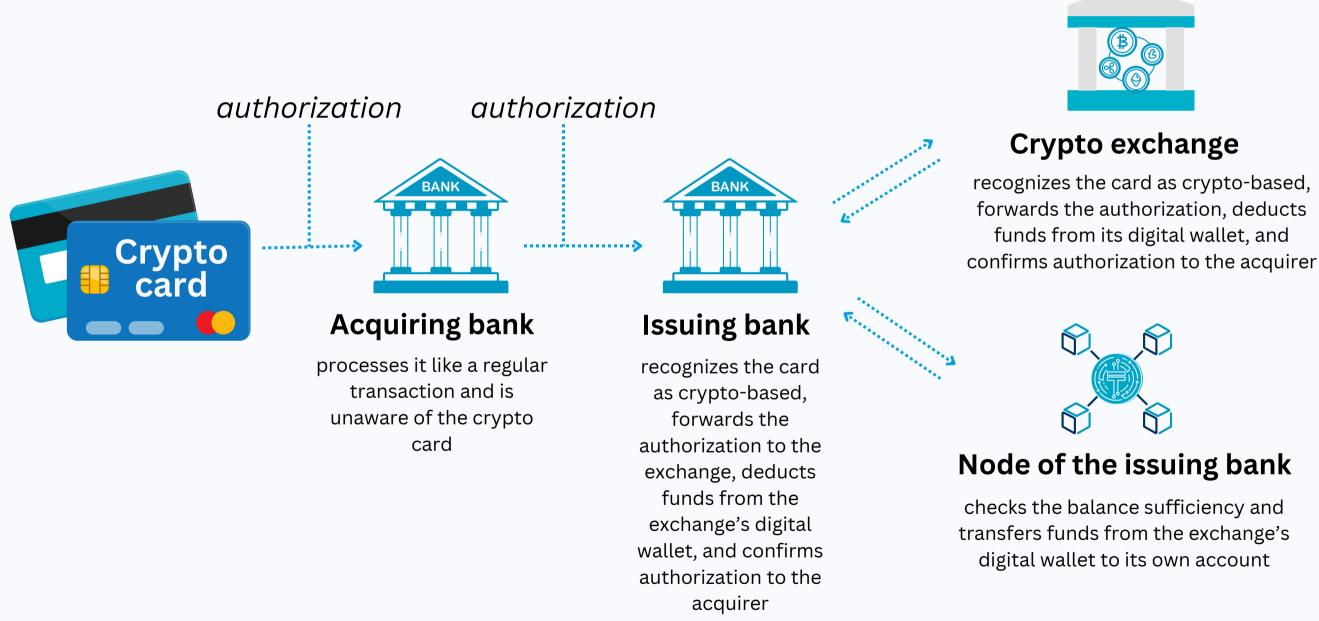
• Regulation:

- Digital Tenge legal status
- Legal and regulatory framework
- Technology:
 - Architecture
 - Information security





The National Bank is currently working on the "Crypto Card" scenario, building on progress and pilot results from 2023. The project is expected to be ready next year







The National Payment Corporation of Kazakhstan sees potential in developing a "crypto card" as part of the Digital Tenge project. Digital currencies could act as a bridge between traditional finance and decentralized technologies, providing a secure and convenient way to use digital assets in daily life and fostering collaboration between the two financial

systems. We expect the system to be ready for piloting next year, enabling the first users to test "crypto cards".

Binur Zhalenov NPCK





Kazakhstan

Barriers and challenges



"One of the main **barriers** to market development in Kazakhstan is the **integration with the banking industry**. Although the AFSA has developed rules and mechanisms to facilitate cooperation between unbacked Digital Asset Exchanges and second-tier banks in Kazakhstan, adoption has been slow. The limited integration with the banking sector makes it challenging for crypto exchanges and services to offer seamless fiat-to-crypto transactions, creating an additional obstacle for broader adoption".



"... barrier is the **general understanding of what crypto is among the public.** Most investors still feel more comfortable with traditional finance, like stocks and bonds".

Athena Miao BigONE Exchange



ATAIX

"Some barriers to development can be **the market size, especially for market makers.** Our markets are mostly dominated by buyers, and we have very few active sellers of crypto. The issue is always finding market makers and having sustainable liquidity".

Arutyun Poghosyan ATAIX Eurasia





Uzbekistan



Page / 41

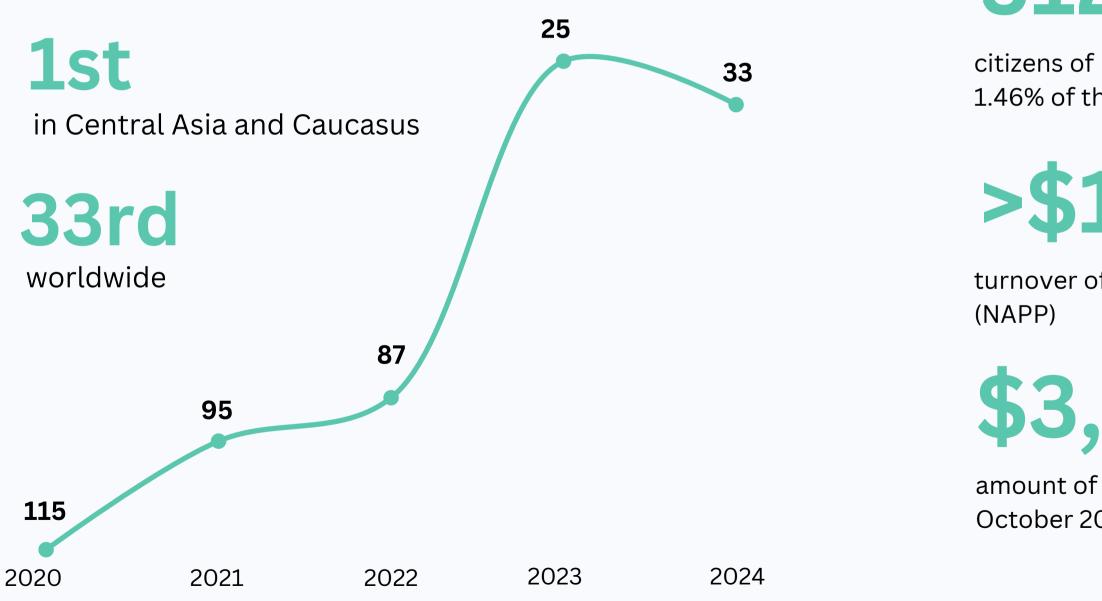






Uzbekistan ranks 1st in Central Asia and Caucasus and 33rd globally in crypto adoption, with licensed businesses generating over \$1 bln in turnover and 512,000 citizens owning crypto assets

Global crypto adoption index, 2024





citizens of Uzbekistan own crypto-assets, which represents 1.46% of the population as of 2023 (Triple-A)

\$1B

turnover of the licensed crypto businesses in Uzbekistan

\$3,6M

amount of funds recieved by the State Budget from 2022 to October 2024 (NAPP)

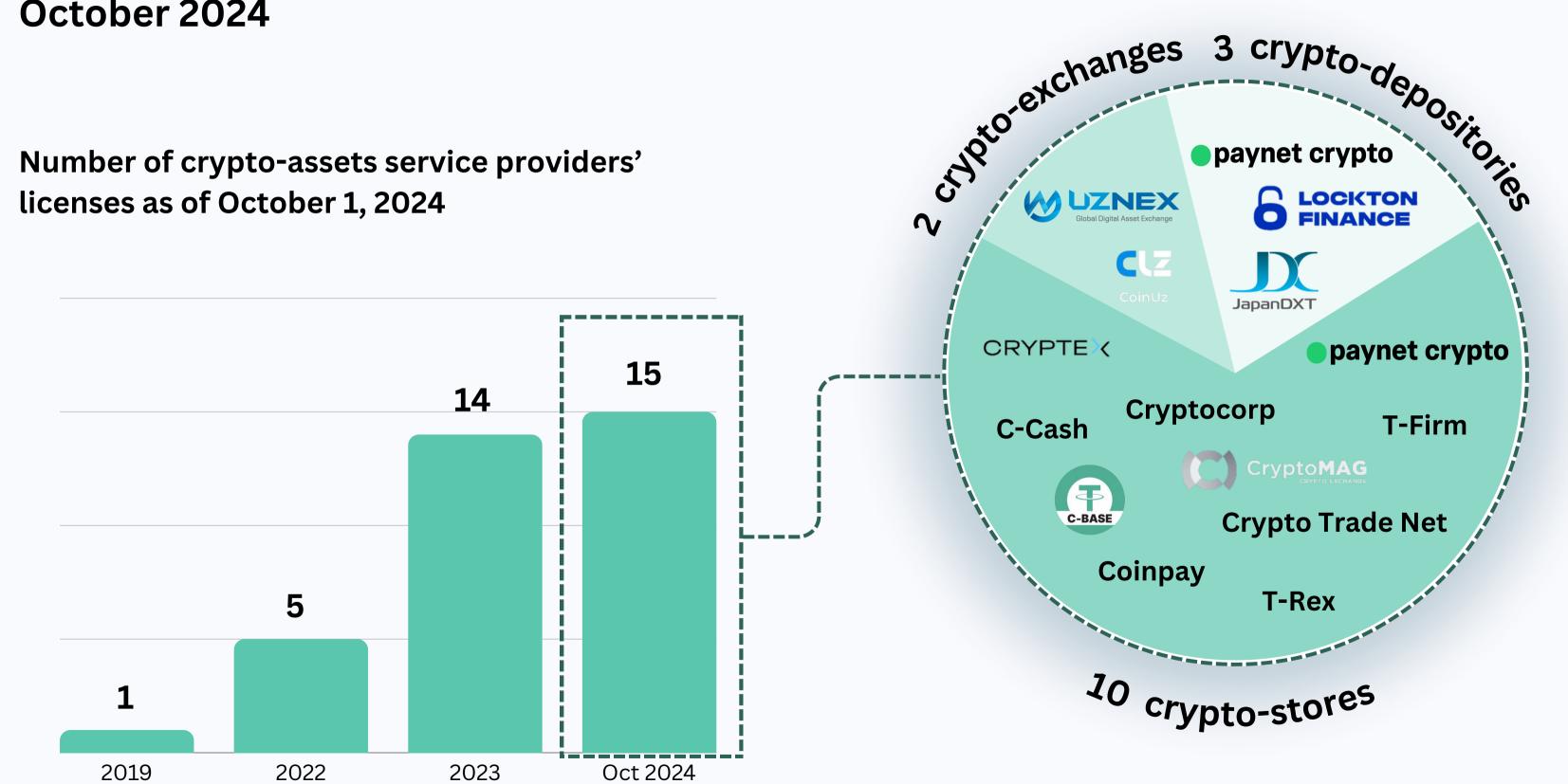






heemera

Number of crypto-assets service providers (CASPs) is growing and accounts to 15 as of October 2024





Source: NAPP presentation at Crypto Week Uzbekistan, June 2024





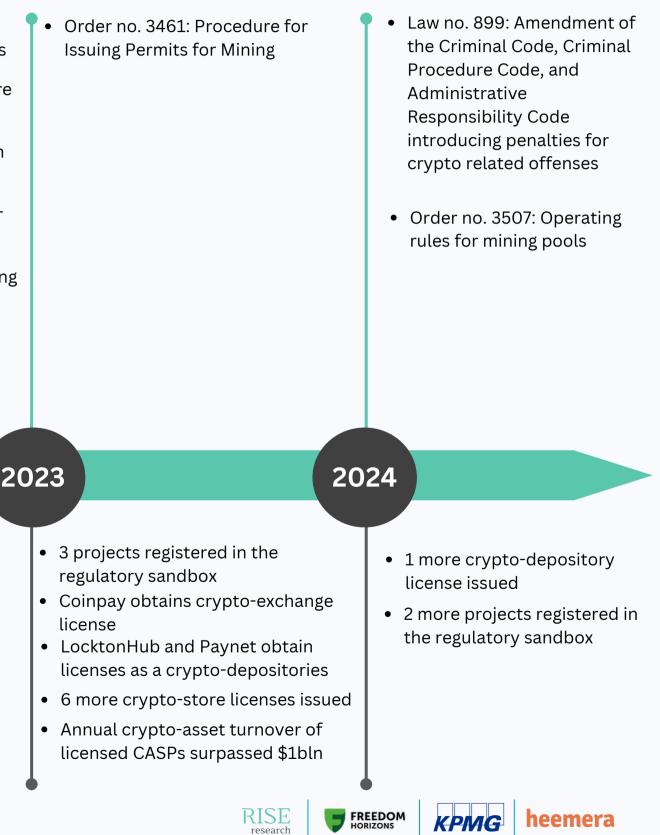


heemera

Uzbekistan

Uzbekistan created comprehensive regulatory framework that covers licensing and operations of CASPs, AML, tokenization, mining, marketing, and circulation of crypto-assets

| eforms and sulations | Resolution RP-3832: Development of the Digital Economy and Crypto-Asset Turnover esolution RP-3926: Organization of Crypto Exchanges Order no. 3127: Approval of the icensing Procedure for Crypto- exchanges | Order no. 3127-4: Improvement of the Licensing Procedure for Crypto-Exchanges Resolution no. 3309: Rules for Internal Control Against Money Laundering, Financing of Terrorism, and Proliferation of Weapons of Mass Destruction in Crypto-Assets Circulation Resolution of the General Prosecutor's Office, Ministry of Internal Affairs, State Security Service, and State Customs Committee: the protocol for freezing, securing, and seizing crypto-assets by law enforcement | Order no. 3379: Rules for Trading Crypto-Assets on Crypto Exchanges Order no. 3380: Licensing Procedure for Crypto-Asset Service Providers Resolution no. 3388: Regulations on Fees for Crypto-Asset Activities Order no. 3395: Operating Rules for Crypto Stores Order no. 3397: Procedure for Issuing and Circulating Crypto-Assets by Uzbekistan Residents Order no. 3409: Procedure for Registering Participants in the Special Regulatory Sandbox for Crypto Circulation |
|-------------------------|--|---|--|
| | First crypto exchange, Uznex, established (2019) | Uzbekistan receives FATF Recommendation 15 Largely Compliant status | Coinpay established, obtaining its crypto-store license A total of 4 crypto-store licenses issued |



Citizens of Uzbekistan can access crypto through domestic CASPs only, operations with crypto-assets are exempt from taxation, CASPs are not subject to currency control laws



National agency of perspective projects (NAPP)

- NAPP is the only regulatory body overseeing the crypto industry in Uzbekistan
- It is independent from any other government body and reports directly to the President



Key regulations

- Since 2023, local residents can access crypto solely through domestic Crypto-Asset Service Providers
- All crypto transactions are exempt from tax
- CASPs are not subject to currency control laws



Tokenization

- Uzbekistan created a regulatory framework and infrastructure for issuing crypto-assets in the country
- Any business and individual can issue crypto-assets, subject to registration by a licensed crypto-depository
- Entities can tokenize commodities, goods, services, as well as attract debt and equity financing utilizing blockchain technology and crypto-assets

Uzbekistan's legal framework distinguishes between two primary types of crypto activities: mining and CASPs

Mining operations are allowed for legal entities utilizing electricity generated by solar photovoltaic stations, with registration required by NAPP **CASPs** encompass four categories, each require licensing:

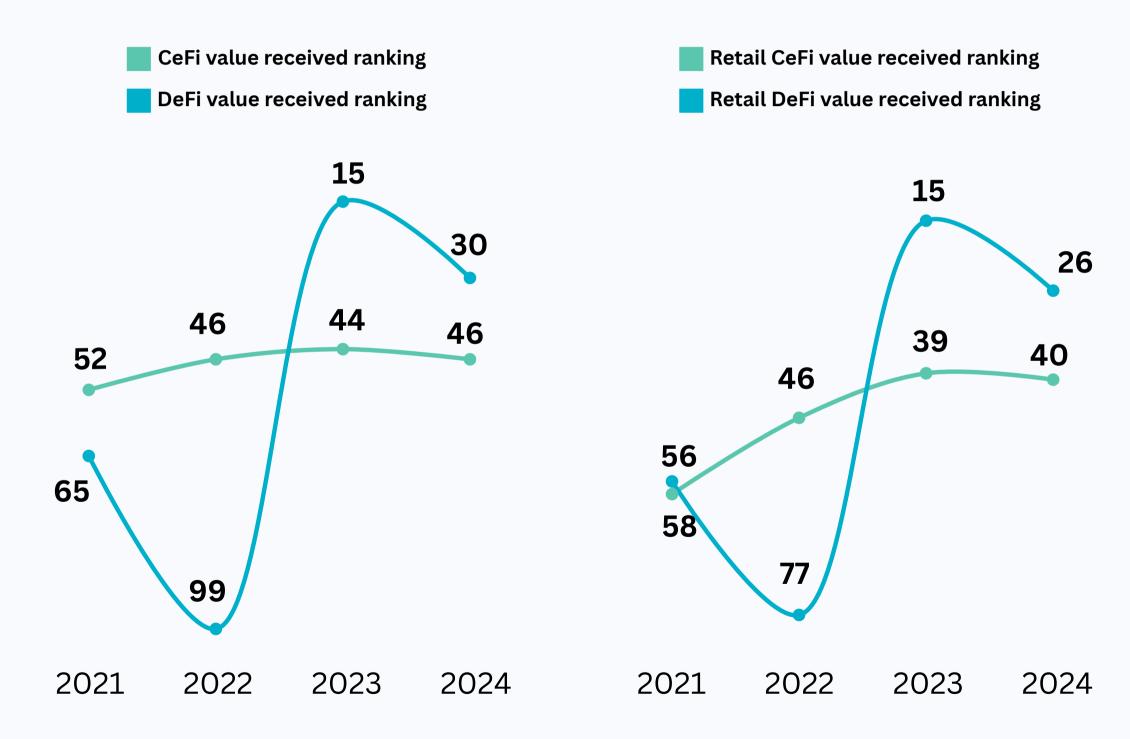
- crypto-exchanges
- crypto-stores
- crypto-depositories
- mining-pools

Crypto-assets are not considered legal tender in Uzbekistan





Uzbekistan's position in the global DeFi adoption ranking surges, powered by growing share of young, tech-savvy population



Uzbekistan's position in the global DeFi adoption rankings has surged, influenced by:



 \gg

an expansion in the number of crypto users



predominantly among the young population with interest in new digital technologies and tools

CeFi ranking maintains stability and demonstrates sustainable growth







NAPP established a regulatory sandbox for testing new blockchain technologies, offering participants tax exemptions and other benefits

Three organizations currently operate within the Special Regulatory Sandbox Regime, implementing four projects:

| Organization | Project | |
|--|--|--|
| CONTRACT OF CONTRACT OF CONTRACT OF STATE OF STATE INFORMATION SYSTEMS IN UZBERISTAN | 1: Issuing certificates for domain names in the national domain zone '.UZ' as NFTs 2: Developing a distributed data registry, 'Token.uz' | |
| A digital banking platform offering innovative financial services, tailored for tech-savvy users and businesses | Developing and implementing a bank card 'Crypto Card- UzNex' in collaboration with Mastercard | |
| beenera Global provider of crypto investigative, assets recovery, training, risk and compliance services | Blockchain analytics and recovery of crypto-assets lost as a result of theft, fraud, extortion, and other illegal actions Heemera organizes Crypto Week Uzbekistan (cryptoweek.uz), and partners with universities to integrate crypto programs into their curricula. They also created Crypto Guide Uzbekistan (cryptoguide.uz), a resource on the country's crypto regulations | |

Project overview

1: In 2023, over 420 NFT certificates were generated and issued

2: Token.uz is a blockchain-based platform for secure and transparent data storage. Confirmed blocks: 271,656. Transactions: 242,182 (2023 data)

In 2023, over 90 bank cards were issued, with a cash turnover of over \$6,000

The company leverages new technologies, including AI and ML, and network of partners across 142 countries to develop advanced solutions for tracing and recovering crypto assets, and ensuring compliance for crypto businesses







heemera



"We see increasing interest from global institutional crypto players in the Uzbek market, driven by the implementation of a comprehensive regulatory framework that enhances business predictability. Local traditional banking and financial sectors have embraced crypto with acceptance. Domestically licensed CASPs enjoy smooth access to banking services and straightforward fiat transactions related to their crypto activities".

Sherzod Abdulkasimov PraeLegal Uzbekistan

heemera

"Uzbekistan holds the highest crypto adoption ranking among all countries in the region. On-chain metrics indicate sustained growth in transaction volumes. While this growth attracts common crypto-related threats including scams and hacks targeting retail users, the country's law enforcement agencies have created specialized cyber units with demonstrated expertise in blockchain forensics, successfully investigating and resolving numerous crypto-related incidents".

Artem Klimenko Heemera



6 LOCKTON FINANCE

"While market players have a long way to go both in enhancing their own services and in developing educational programs for users, Uzbekistan has become one of the most favorable jurisdictions for crypto business, offering transparent and consistent regulatory as well as seamless interactions with related industries. All these factors form the supportive environment for innovative, applied services that extend far beyond the core crypto community".

Denis Shipilov Lockton Finance







heemera

Kyrgyzstan





Kyrgyzstan took just over two years to develop comprehensive virtual asset legislation, from forming an interagency working group to licensing VASPs. The process for obtaining a VASP license is one of the most straightforward in the region



- Legalization of mining through the introduction of a special tax. The tax base for mining has been set as the electricity consumed, taxed at a rate of 15%
- A regulatory impact analysis by an interagency working group
- The National Bank of the Republic of Kyrgyzstan has submitted a draft law "On the Circulation of Cryptocurrencies" for public discussion

- ≽ Law of the Kyrgyz Republic "On Virtual Assets", which governs the relations involved in the creation, issuance, storage, and circulation of virtual assets
- > Virtual asset service providers (VASPs) are classified as financial institutions, and their activities are licensed
- State Service for Regulation and Supervision of the Financial Market has been tasked with overseeing the virtual assets market
- > The first crypto exchange license was issued

- approved plan)

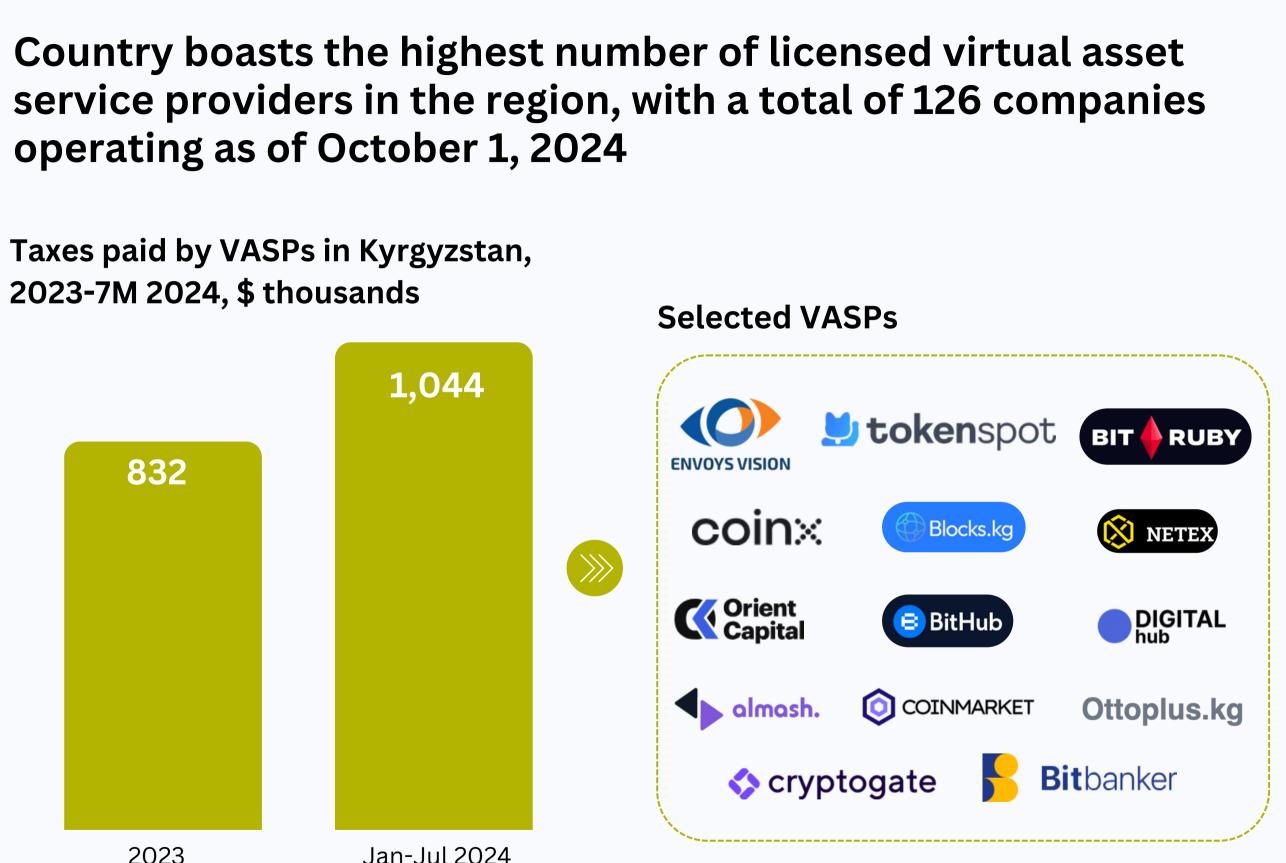
Requirements have been set for commercial banks to obtain National Bank approval before receiving a virtual assets license and offering related services

Revenue to the state budget from mining taxes for 2023 exceeded \$1 mln (940% of the > The number of licensed crypto stores has passed 100

2024

► Total turnover of licensed VASPs exceeded \$4 bln in the first 7 months of 2024





Source: State Service for Regulation and Supervision of the Financial Market (as of 01.10.2024); RISE Research analysis



118licensed crypto shops**

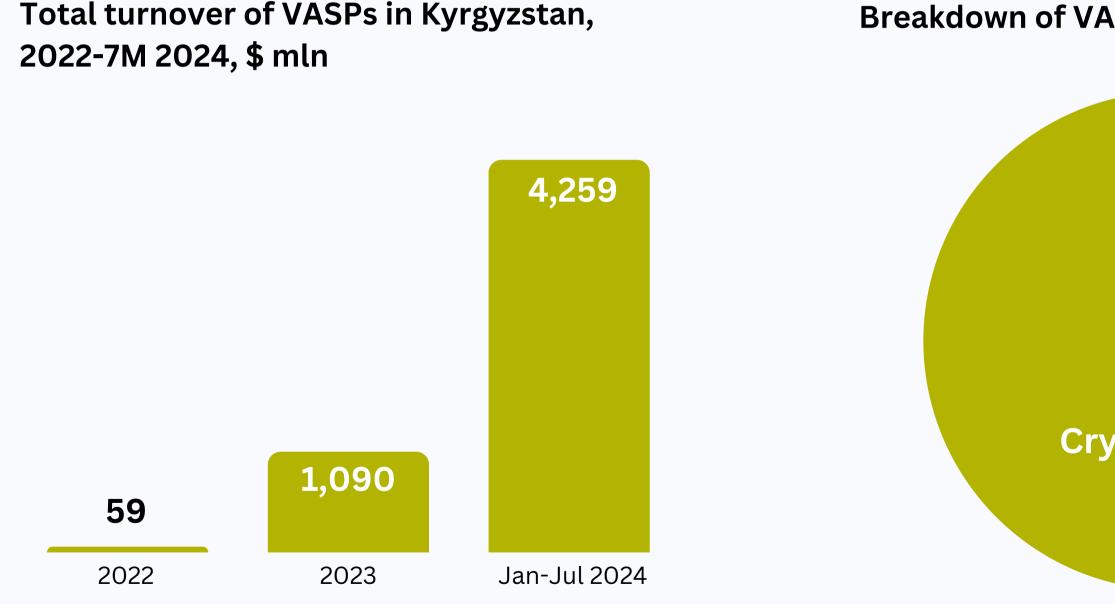


There is no special taxes on VASPs, general tax rules apply. The sale of a virtual asset is not subject to VAT





With new service providers entering the market, the first half of 2024 witnessed a sharp increase in VASP turnover in Kyrgyzstan, surpassing \$4.2 bln in the first seven months, with crypto shops presumably accounting for nearly 98% of this total



Breakdown of VASPs' total turnover, H1 2024

Crypto exchanges 2.3%

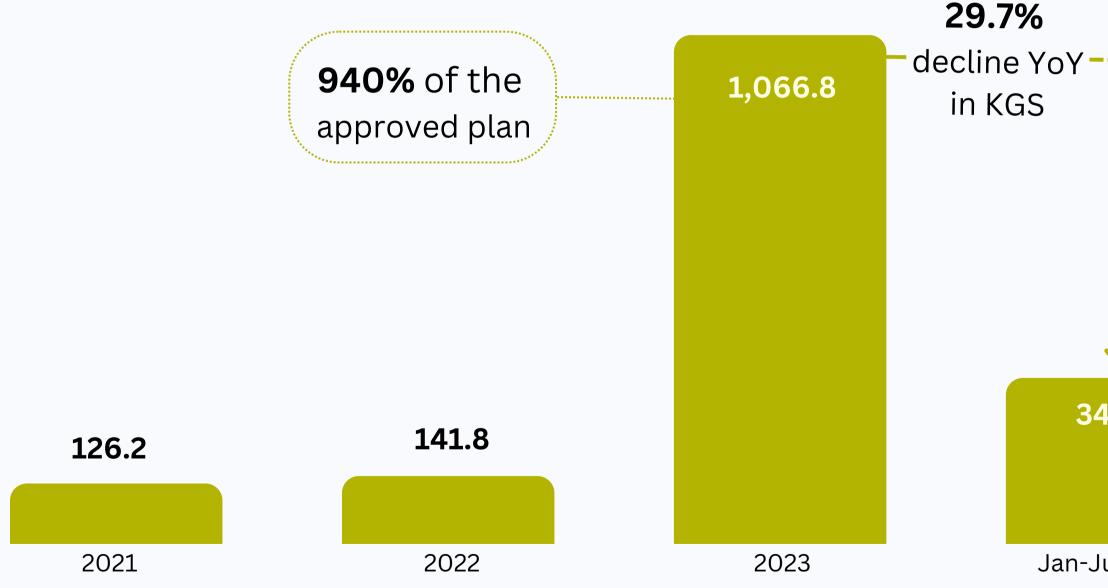
Crypto shops 97.7%





Since 2020, mining has been subject to a special tax. The tax base is calculated based on electricity consumption, with mining entities facing higher electricity tariffs

Revenue to the state budget from mining taxes, 2021-7M 2024, \$ thousands



Page / 53

Source: State Service for Regulation and Supervision of the Financial Market; State Tax Service under the Ministry of Finance of the Kyrgyz Republic (as of 01.10.2024) *The tariff, implemented in 2023, is indexed to the annual inflation rate.

347.7

Jan-Jul 2024



15%

Special tax on mining, 2020

10%

Special tax on mining, 2024

5.7 cents USD per 1 kWh*







"In Kyrgyzstan, blockchain is mostly seen **as cryptocurrency rather than a technology** for broader solutions. Universities offer limited blockchain courses, leading to a **shortage of skilled developers** and few products. Future market growth depends on the next **crypto bull run**, which could attract retail investors. I also expect more product companies as blockchain's significance increases"

Elena Chigibaeva WeinCrypto DAO



"The Kyrgyzstan government has created **favorable conditions for VASPs** to increase market transparency. This has enabled crypto exchanges to enter the market smoothly and helped regulators better understand the sector. **Future regulations are expected to tighten,** further improving transparency in crypto operations. This move would **streamline the market**, allowing stronger players to succeed while boosting state revenues"

Azimbek Sagynbaev MyDataCoin



"Given the modest size of the Kyrgyz market, it is crucial for the country to **seek additional sources of growth**.

The virtual assets market, with over \$2 trillion in capitalization and daily turnover in the hundreds of billions, offers **a potential growth opportunity**. However, this requires maintaining **open and supportive regulations**, as well as providing **predictable and clear conditions** for domestic and foreign players"

Asylbek Aitmatov Royal Inc.



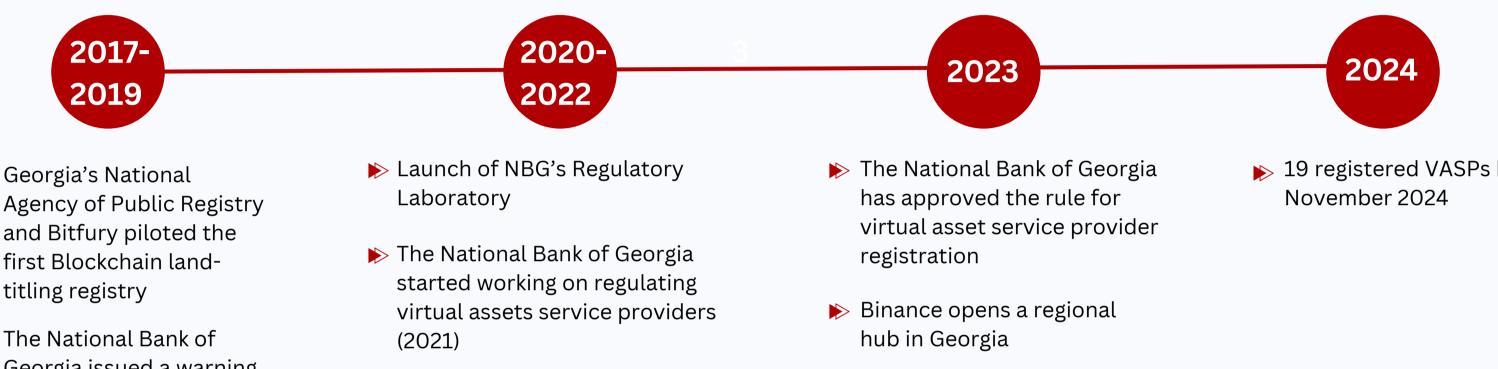
Georgia







The Georgian government has actively promoted the use of blockchain technology in state processes for several years, but regulation of virtual assets only came into effect in 2023 after a comprehensive review



> Parliament of Georgia announced the framework of a new regulatory regime for virtual assets and associated services (2022)

- November
- Project (CBDC)
- infrastructure

- Georgia's National and Bitfury piloted the first Blockchain landtitling registry
- The National Bank of Georgia issued a warning regarding the risks associated with cryptocurrency use
- Georgia's Finance Minister issued the first public decision on taxing crypto-assets (VAs and mining, 2019)



▶ The first virtual asset service provider was registered in

Ripple becomes the technology partner for the National Bank of Georgia's Digital GEL Pilot

Government of Georgia and Tether signs MOU to develop Blockchain and Peer-to-Peer

19 registered VASPs by





In September 2022, the Georgian Parliament introduced a new regulatory framework for virtual assets and related services, effective from 1 January 2023. The package of amendments (mainly to the NBG Law and AML/CFT Law) created a stable legal foundation for the development of the VAs market*



Regulator: National Bank of Georgia (NBG)



NFTs, CBDC and mining are outside of regulation



Virtual assets cannot be used for payments, except for the exceptional cases defined by the NBG



Financial instruments (securities, deposits, etc.) in the form of virtual assets are **regulated by** other relevant legal acts



Commercial banks, micro-banks, MFOs and brokerage companies are entitled to provide certain types of services (exchange, transfer, safekeeping and/or administration, and auxiliary activities)

Virtual Asset Service Provider (VASP) is obliged to **register** with the NBG and to ensure the compliance with the **requirements** set by the NBG ("Fit&Proper" criteria, AML/CFT regulation, etc.)





The following activities are considered to be virtual asset services:

- Exchange
- Transfer
- Safekeeping and/or administration
- Portfolio management
- Administration of the trading platform
- Lending
- ICO





National Bank of Georgia adopted a lenient approach for VASP, opting not to introduce prudential regulation and supervision at the initial stage*



Legal form: VASPs must be a Limited Liability Company or Joint-Stock Company registered under Georgian law



Staffing requirements: at least 2 directors if the entity has only 1 shareholder (being the director at the same time). VASPs must have an **administrator** who is a member of the supervisory board or directorate as well as a person who is authorized to assume obligations on behalf of the VASP



Office requirements: head office must be located in Georgia, where the administrator manages operations



Compliance: VASPs must develop **internal policies for compliance**, including **ML/TF** risk assessment and implement an **automated system to detect unusual transactions** based on distributed ledger technology



Page / 58

Documents required (not limited to): business plan (3-year forecast), property ownership/lease proof for office, schematic of virtual asset service implementation, the internal instruction for the compliance control system

Source: Rules for registration, cancellation of registration and regulation of virtual asset service providers at the National Bank of Georgia *As of the time of writing this study, that is, as of 01.11.2024. The information on regulation is provided for high-level awareness and is not exhaustive; it should not be regarded as legal advice







VASPs registration fee (5,000 GEL)



There is no special taxes on VASPs, general tax rules apply. Exchange of virtual asset to fiat currencies is exempt from VAT



FREEDOM





"There are some promising blockchain projects emerging in the market that I believe have great potential. However, over the past three years, we haven't seen any breakthroughs that truly push the technology forward. To give the market the boost it needs, we have to reach the masses—everyday users and make access to blockchain as simple as buying bread. The easiest way to achieve this seems to be integrating blockchain into everyday banking operations".

Arno Gzirov CityPay.io AllTrust.me

"I believe our country is receptive to new technologies, with **blockchain** emerging as a **key driver for development**. Industry participants are actively working to ensure that virtual assets reach every household and provide benefits to all citizens. As a company, we are committed to market education and fostering understanding of these innovations. Moreover, **Georgia's regulatory framework** is **among the most advanced in the region**, designed to support innovation while ensuring consumer protection and market integrity".

Irakli Ablotia AllTrust.me



"The National Bank of Georgia has actively supported fintech growth through its Regulatory Laboratory, a sandbox enabling startups to test various business models and innovative products. With a regulatory framework for virtual assets already in place, the main barrier to further development lies in the banking sector's cautious approach toward virtual asset services. This reluctance among traditional banks has created friction, slowing the virtual asset sector's growth despite favorable regulatory conditions".

Market expert





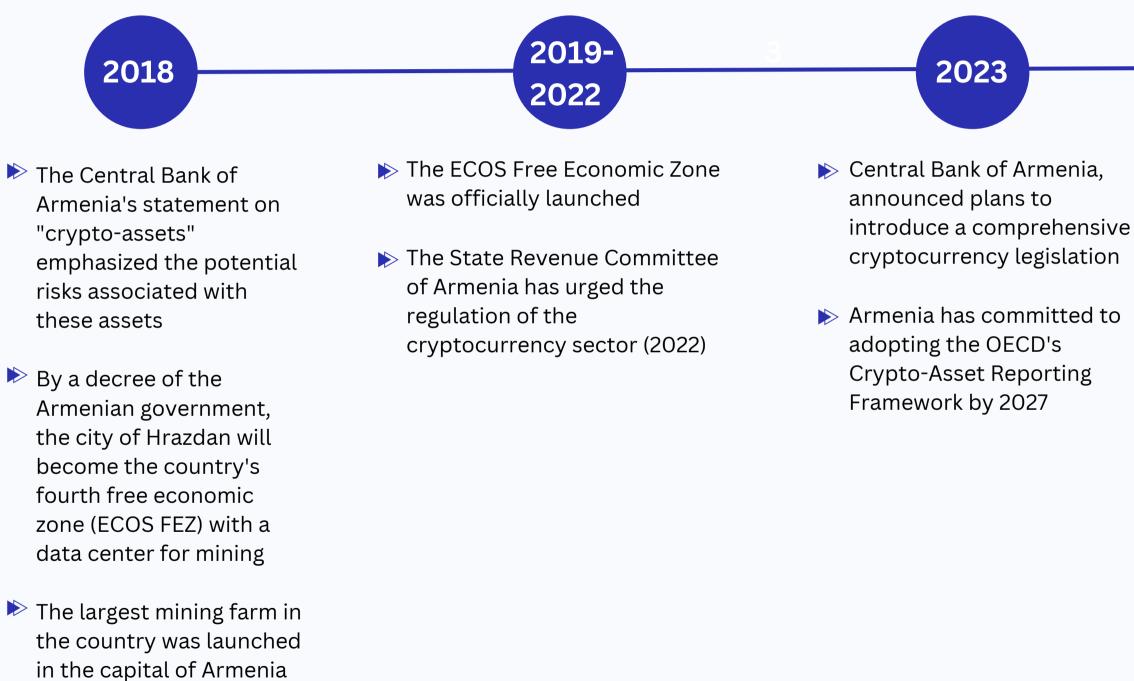
Armenia





Armenia

After years of deliberation, Armenia's Central Bank released a draft law to regulate virtual assets, with implementation possible next year





> The State Revenue Committee of Armenia will purchase a software system to control cryptocurrency transactions

> The National Polytechnic University of Armenia has announced the world's first bachelor's degree in 'Blockchain and Web3 Technologies'

> The Central Bank of Armenia has introduced a new draft Law "On Crypto Assets" for public discussion

> The amendments to the Law "On Non-Cash Transactions" require that crypto assets be traded only via non-cash methods

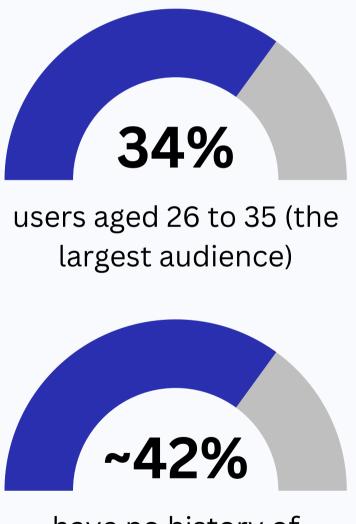
> Central Bank of Armenia has authorized banks to conduct crypto-related transactions



FREEDOM

According to a recent survey, the Armenian cryptocurrency community is predominantly comprised of young men, and almost half of this community have never engaged in conventional investment activities





have no history of traditional investments





Country's draft crypto regulations align with the EU's MiCA, continuing a trend of harmonized legislation, as its securities market laws are largely based on EU directives. However, the draft law raises concerns within the crypto community, as it is seen as too strict for an emerging market



Regulator: Central Bank of Armenia (CBA)



Crypto assets **cannot be used for payments**, except for crypto-assets **considered electronic money**

Only certain services are permissible in the crypto assets market, including the **custody**, exchange, sale, and brokerage services







Providers must meet standards on client fund protection, audits, conflict of interest prevention, reporting, and AML/CFT



Service providers are licensed by the CBA, existing FIs can provide services with permission from the **CBA**

Transactions involving crypto-assets and payments for crypto-asset-related services shall be conducted only through non-cash means



NFTs, CBDC and mining are outside of regulation

Financial instruments (securities, deposits, etc.) in the form of crypto-assets are **regulated by relevant** existing laws (regardless of underlying technologies)



Although official data on cryptocurrency turnover in Armenia is lacking, the market is reportedly nascent but expanding



Anecdotal evidence suggests that Armenia's **crypto market remains nascent**, possibly due to the **CBA's risk warning on crypto assets** from May 7, 2018. Regulating the sector could boost growth by **attracting more retail investors** and establishing **crypto on-ramps** between banks and crypto exchanges*



Major global exchanges like Binance, Bybit, and OKX are currently popular in the country**, with **Fastex**, licensed in Lithuania, especially notable as both a crypto exchange and a major blockchain developer with its own product ecosystem



Crypto ATMs have become quite popular among crypto enthusiasts, especially in **Yerevan and Gyumri**. However, the lack of regulation poses **potential financial risks** for users

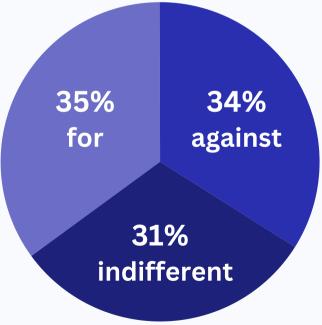


Incorporated **crypto asset miners** are **taxed on their economic operations and/or gains.** Armenia offers favorable conditions for crypto mining within its **free economic zones**

Note: the data was collected (May 2024) prior to the release of the Central Bank's draft law and does not pertain to it

Source: Republic of Armenia: Technical Assistance Report-Tax Compliance and Crypto Assets, IMF; RISE's analysis *The Central Bank of Armenia has reportedly authorized banks to conduct crypto transactions (October 2024) **Data on the most popular financial apps in Armenia from Similarweb. However, the introduction of licensing and branch registration for crypto service providers may lead to changes in this landscape





Recent survey conducted among Binance users shows that opinions on regulation are nearly evenly split





"Armenia and several emerging markets in our region are attempting to **replicate virtual asset regulations** from developed economies, such as the EU's MiCA framework. This approach is fundamentally flawed. It **overlooks our distinct economic context** and imposes overly strict rules that **stifle innovation in blockchain and virtual assets** industries that could become growth drivers for our economies. Governments must show the political will to foster, not stifle, this potential".

Aram Kocharyan Layerswap



"Those who see **opportunities in times of change**, rather than focusing only on risks, come out ahead. In a world becoming more controlled, decentralized technologies like blockchain provide a real counterbalance. **Web3 ensures transparency and privacy** without needing trust. Those individuals, organizations, or countries that embrace these opportunities will shape the future. Armenia has this potential, but how it will be realized—by community and state time will tell".

Hamlet Manukyan VozniSoft

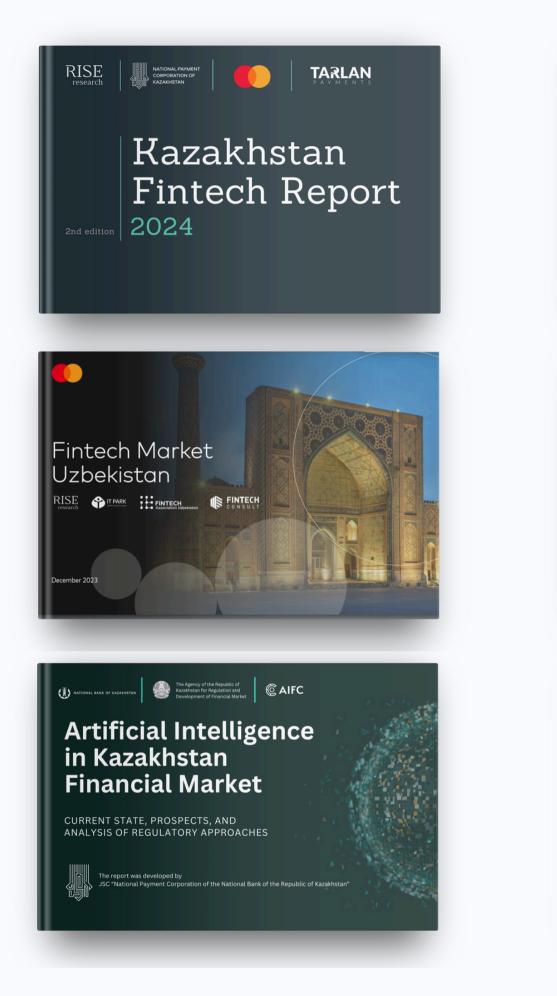
Fastex^o

"Blockchain's technological development, while disruptive, presents a **unique opportunity for a win-win scenario** through synergy and mutually beneficial cooperation with traditional finance. The only viable path forward in competitive environment is not exclusion but rather **collaborative projects and joint development**. Our knowledge and expertise can be aligned to serve the best interests of end users, fostering innovation and progress together. This approach ensures that both sectors grow stronger through shared value creation and strategic partnership".

Vakhtang Abrahamyan Fastex









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