CIPHERTRACE mastercard

Cryptocurrency crime and anti-money laundering

REPORT

OCTOBER 2022

Contents

Opening comment

Thanks to those of you who downloaded and read our previous CAML report, which focused both on the first quarter of 2022 and the state of the cryptocurrency world in 2021.

This report is a little smaller in focus, looking at the trends, news stories and global regulatory changes of the second quarter of 2022. We're boosting our regional data as well, offering a more granular look at the crypto space.

Our goal, as always, is to keep you informed, spot emerging and ongoing trends and to give you the best possible information to keep your business running smoothly.

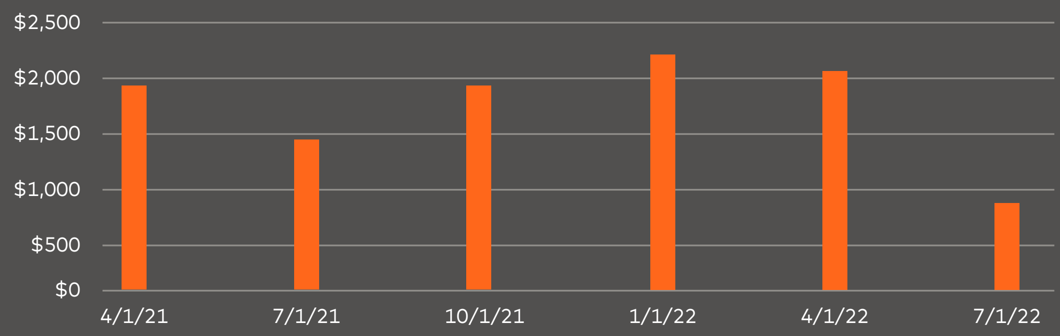
Dave Jevans
CEO of Ciphertrace, a Mastercard company

Executive summary

We are very conscious that 2022 has been turbulent in the world of cryptocurrency. That said, the wider economy has been fluctuating in its own way too. We don't take these trends lightly and continue to carefully watch for patterns in activity.

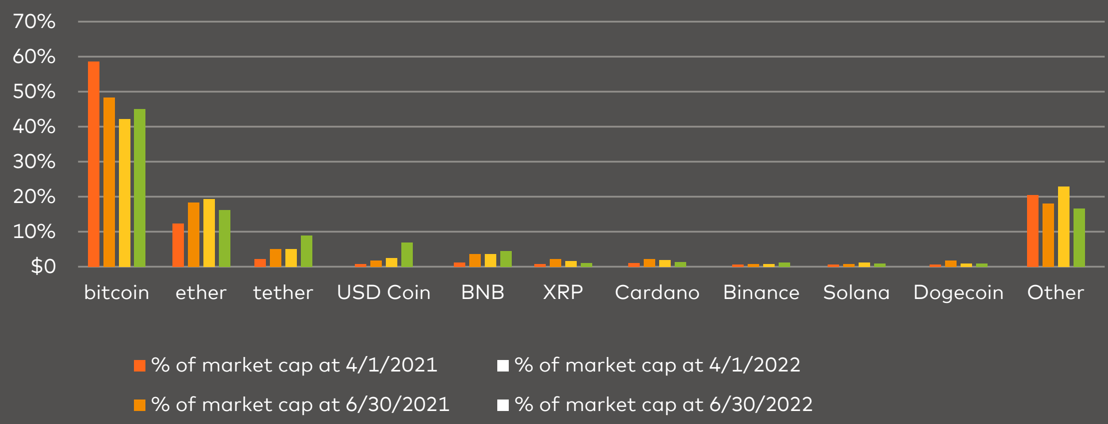
In Q2 2022, volatility and market pressure has become prominent in the virtual asset ecosystem. The term, "Crypto Winter" is being widely used to describe the substantial declines in asset prices and market capitalizations for virtual assets. There are varying reasons the Crypto Winter is occurring – natural market correction, inappropriate and unnecessarily created leverage in the market, tulip-mania ending, and the weeding out of all the weak players much like we saw a little over 20 years ago with the tech bubble. Regardless of the driving factor(s) or individual opinions, it's clear that virtual asset prices have taken a substantial, negative hit. The total market capitalization for crypto-assets and stablecoins over the last six quarters is depicted in Graphic 1.

Graphic 1: Market cap ($ in billions) of crypto and stablecoins



As of June 30, 2021, bitcoin was just above $35,000 after enjoying an 11% gain during Q2 2021. Compare that to June 30, 2022, bitcoin was around $20,100 and had plummeted nearly 56% during Q2 2022. Despite those results, bitcoin (btc) continues to be the largest crypto-asset by market capitalization. Graphic 2 depicts virtual asset market caps for some of the largest individual assets; this is from a total population of over 20,000 virtual assets (i.e., cryptocurrencies, stablecoins, and other cryptographic tokens).

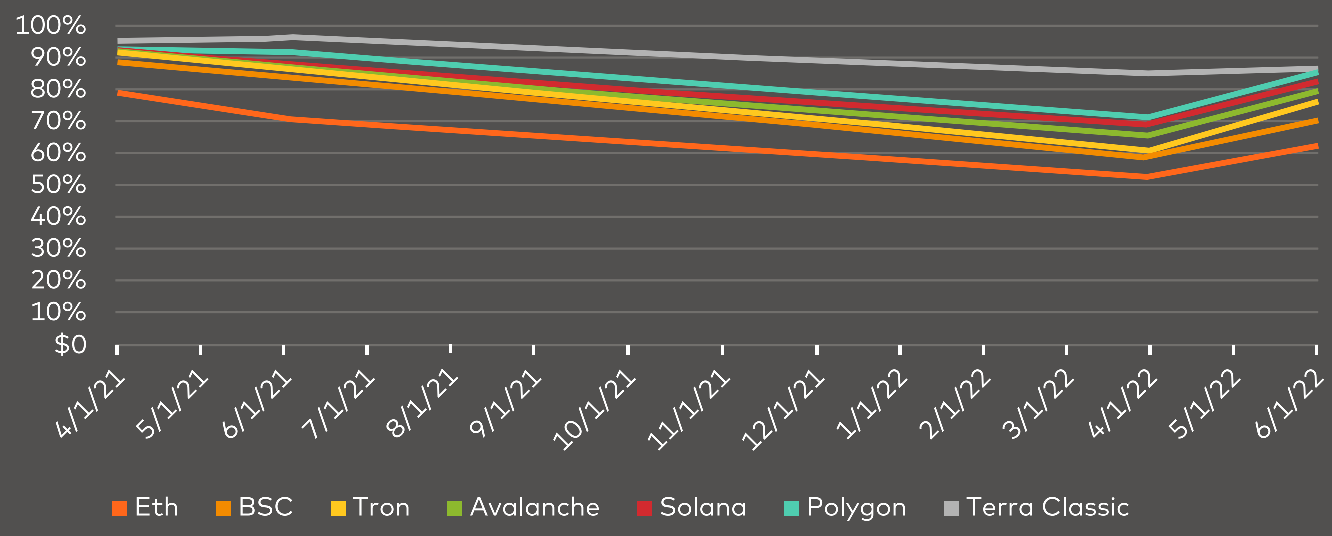
Graphic 2: Market cap - by top virtual assets



Source: CipherTrace

Token assets do not have their own blockchain to operate on; therefore, they must operate on an existing blockchain. This is often referred to as Layer 2, which is a secondary protocol placed on top of and programmed into the existing blockchain. The Ethereum blockchain continues to have the largest volume of virtual asset tokens. Graphic 3 illustrates the percentage of total value locked (TVL) by various blockchains. The Terra classic blockchain quickly rose from just above one percent in April 2021 to just above 12 percent in April 2022. The decline was steeper than the rise after the collapse of its native asset (Luna) and associated stablecoin (Terra USD) as TVL retracted to 0.01% as of June 2022. Later in this publication, we will detail the downfall of these algorithmically pegged assets. We'll also discuss some examples of hacks, thefts, and fraudulent events, all of which continue to highlight vulnerabilities existing within and adjacent to the virtual asset ecosystem.

Graphic 3: Total value locked by blockchain



Source: CipherTrace

In our Q1 CAML report, we noted 2021 illicit activity was between 0.10 and 0.15 percent of total cryptocurrency activity. Analysis indicates there is a slight increase in those percentages through mid-year 2022, but it is not a material increase over the last eighteen months. CipherTrace's 2022 year-end CAML report will further explore and articulate these macro-level trends for 2022 and compare to prior years. In the current edition, we have focused on micro-trend analyses.

Regulatory agencies and lawmakers globally continue their efforts around virtual asset oversight. While the US continues to follow the steps outlined in the March 9, 2022, Executive Order on the Responsible Development of Digital Assets, there is also movement at the state level. California, New York, and Wyoming continue to be active in virtual asset legislative and regulatory matters. The European Union has made a big splash in Q2 with their proposed Markets in Crypto-Assets (MiCA) Regulation that focuses on bringing crypto-assets, crypto-asset issuers, and crypto-asset service providers within a harmonized European regulatory perimeter. It is one of the more comprehensive global frameworks presented to date. Other regions have been very active as well. For example, Nigeria's Securities and Exchange Commission (SEC) issued digital asset custody rules, the Monetary Authority of Singapore partnered with industry to pilot digital asset use cases, Japan's parliament passed a law to regulate stablecoins linked to fiat currency, and Paraguay's Chamber of Deputies approved a bill to regulate crypto trading and mining. At a global level, the Basel Committee of Banking Supervision and Financial Action Task Force continue to be active in virtual asset related matters with consultations and targeted updates.

Major hacks, thefts, and fraud

Review and analysis of historical attacks remains necessary to not only stop the attacks and their frequency, but also to prepare for what is to come. It may not be a surprise to learn that ongoing successful attacks do not serve to deter illicit activity, but rather encourage engaging in such behavior. Investigations and intelligence are designed to evaluate what happened, address the issues, and determine an appropriate response.

From the continued post-mortem of the Ronin/Axie Infinity case to new breaches and exploits, illicit activities continue to impact the virtual asset ecosystem during Q2 2022. In June of 2022, the CipherTrace CAML Report noted the top 10 DeFi hacks (including losses from smart contract errors) of 2021 and 2022 (through Q1) accounted for $2.4 billion. CipherTrace notes that hacks, thefts, and exploits saw more activity in April and June, with a quieter May. A selection of major events in Q2 2022 are discussed below.

Ronin and Axie Infinity - update

Our prior CAML Report introduced the Ronin/Axie Infinity case, providing an update through April 14th. At the time of the illicit activity, the value of this event was approximately $625M and was the largest to date. We ended our last report talking about the Federal Bureau of Investigation's (FBI's) investigation tying the activity to the Lazarus Group and related sanctions designations from OFAC.

On May 6, OFAC continued to expand its sanctions designations for wallets associated with the North Korean terrorist organization, Lazarus Group. In addition, and because of the nature of the activity associated with the Ronin/Axie Infinity heist, OFAC also sanctioned the crypto mixer Blender.io. During the May 6th press release, OFAC defined Blender.io as, "indiscriminately [that] facilitates illicit transactions by obfuscating their origin, destination, and counterparties."

OFAC also stated that Blender.io was responsible for mixing $20.5M of the laundered proceeds from Ronin/Axie Infinity. OFAC also noted that it had identified Blender.io supporting money laundering activities, including but not limited to aiding ransomware groups such as: Trickbot, Conti, Ryuk, Sodinokibi, and Gandcrab. We'll discuss OFAC's Tornado Cash sanctions in the Q3 CAML; until then, this CipherTrace blog will provide a brief summary.

Beanstalk

A Bean (Beanstalks stablecoin) is said to be pegged to one US dollar. On April 17th, the protocol was hacked allowing the attacker to take over $180M in Bean stablecoins, ether, and some other assets. When backing out the frozen tokens from their own platform, the estimated hack was closer to $80 million. A postmortem confirmed that the source of the hack was through a flash loan.

Harmony

On June 24 the team identified a theft on the Horizon bridge of approximately $100 million. The exploit took advantage of the Horizon bridge that allows for transfers between Ethereum and Harmony. The protocol had been scrutinized in the past by Twitter handle @ApeDev. Ape Dev noted that Harmony uses a proof-of-stake consensus whereby two of the four validators could approve transactions without limit, including the draining of the funds.

Maiar Exchange and Elrond

Maiar Exchange is decentralized and was attacked on June 5th. The exploit included a heist of over $110 million. Following the attack, the price plummeted by over 90 percent. This exploit was due to a new virtual machine function that had a flaw; a virtual machine is a computer running on a blockchain that allows smart contracts to interact with one another. This is not a smart contract flaw, but instead an issue within the protocol itself.

Algorithmic stablecoins called into question with Terra collapse

While there is not a defining event that led to the onset of the Crypto Winter, there seems to be a connection between the events of Terra/LUNA and the overall deterioration in virtual asset market capitalization. This is not the result of proven money laundering or illicit activity; however, it is useful in comprehending the Q2 market position.

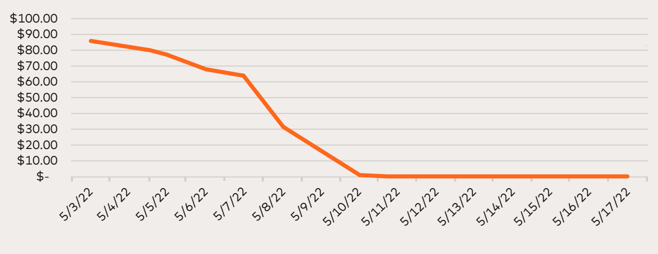
Terra USD (UST) and Terra (LUNA) price collapse

It is important to explain what an algorithmic stablecoin is before diving into the epic crash of Terra and Luna. Whereas the highest volume stablecoins such as Tether and USDC are fully collateralized so that each stablecoin in circulation is backed by what's actually in the possession of the stablecoin issuers, algorithmic stablecoin is backed by an on-chain algorithm that facilitates a change in supply and demand between the stablecoin's value and another cryptocurrency – not actual collateral. Proponents of algorithmic stablecoins state that these are more capital efficient because it does not require assets to sit around in a reserve account unused. However, the risks became quite evident in the collapse of UST and Luna when a "stable" asset has a substantially underfunded liquidity reserve when a cascade of users start trying to redeem the stablecoin.

Terra USD (UST) is an algorithmic stablecoin that operates on the Terra blockchain. The goal for this stablecoin was to keep a value as close to $1 as possible. UST had a sister token, LUNA, which is the native crypto-asset of the Terra blockchain and what acted as the reserve asset for UST. The algorithmic peg focused on growing demand for UST, which would result in the burning of LUNA. LUNA's price catapulted from $6 to $116 in a year. In May, the algorithm experienced turbulence, and starting on May 3rd, the price of LUNA began to drop. Between May 7th and 12th, Terra and LUNA had lost 85% and 99.9% of their values, respectively.

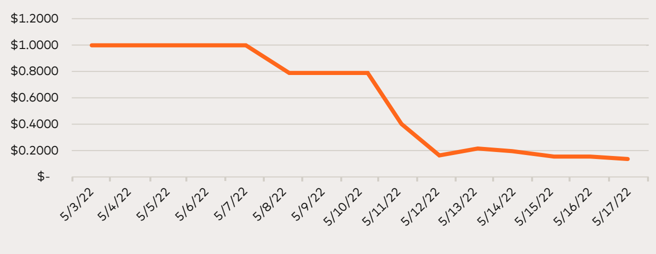
Graphics 4 and 5 below illustrate the massive and swift price declines in LUNA and UST, respectively.

Graphic 4: LUNA Price Chart - May 3rd to 17th



Source: CipherTrace

Graphic 5: UST Price Chart - May 3rd to 17th



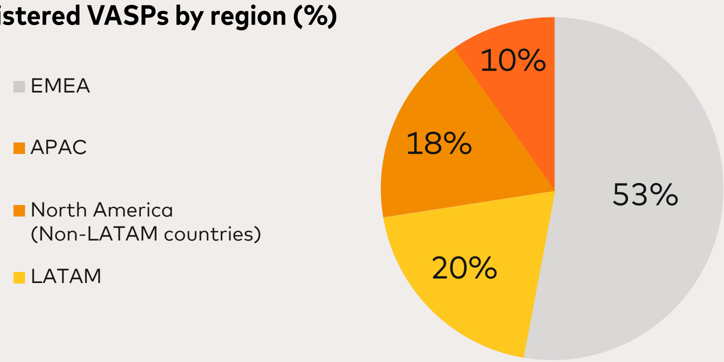
Source: CipherTrace

Regional virtual asset analysis – new in Q2

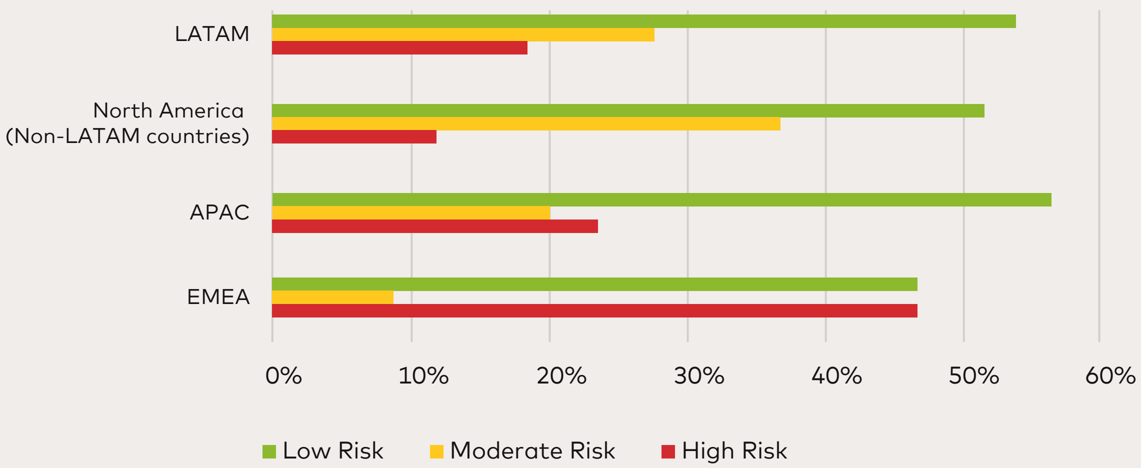
Going forward we are introducing regional and country level analysis as well as highlighting key regulatory and legislative updates and related law enforcement activity around it. Using CipherTrace Armada data, Graphic 6 below illustrates the distribution of VASP registrations by region, while Graphic 7 illustrates the distribution of VASPs by region including levels of Know Your Customer (KYC) risk exhibited by these VASPs.

KYC Risk is directly attributed by CipherTrace personnel who interact directly with these VASPs. Low risk indicates a VASP has strong KYC practices, while moderate risk indicates some gaps or deficiencies in KYC processes, and red illustrates porous KYC practices - all when onboarding a client. Because KYC is a critical element within an AML program, VASPs with higher KYC risk ratings may have heightened susceptibility to Money Laundering/Terrorist Financing risks.

Graphic 6: Registered VASPs by region (%)



Graphic 7: Global VASPs - distribution by KYC risk levels

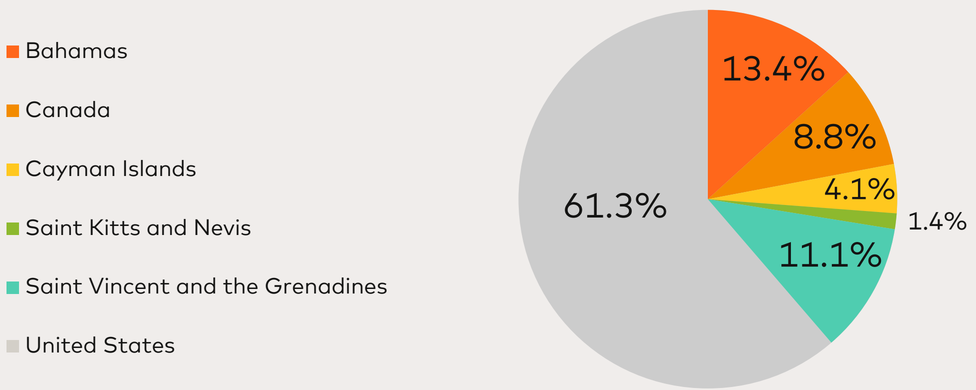


We stated that 56% of VASPs, globally, had high KYC risk (weak practices) in our 2020 Geographic Risk Report. That number is down to 35% at this publication. With the increase in proactive compliance efforts, regulatory evolution, and the emergence on blockchain analytics, it's not surprising to see an improving trend. With that said, there are regions and jurisdictions that continue to lag. Lastly, improved VASP KYC risk ratings in both the United States and United Kingdom had a material, positive impact on overall rates.

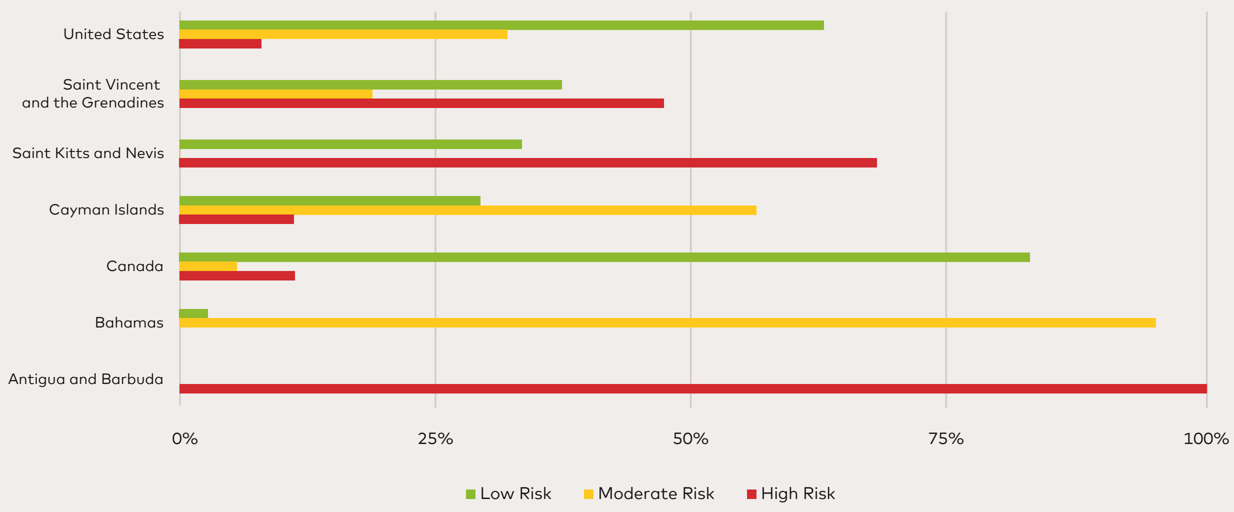
North America (non-LATAM)

The North American region includes the US, Canada, and Caribbean nations that would not be contained within Latin America (LATAM). The United States continues to have the largest volume of registered VASPs in the region; a full distribution by country is depicted in Graphic 8 below. Further, Graphic 9 illustrates the KYC risk for VASPs by country. Generally, the Caribbean nations tend to have VASPs that carry more KYC risk compared to the US and Canada.

Graphic 8: Registered VASPs by country - North America



Graphic 9: North America VASPs - distribution by KYC risk levels



Legislative and regulatory updates

On June 7th, Senators Gillibrand (D-NY) and Lummis (R-WY) introduced a draft bill titled, Responsible Financial Innovation Act. The purpose of this draft bill was to set out a federal regulatory framework for digital assets, with a focus on clarifying primary oversight and supervision among regulatory agencies and defining authorization requirements for stablecoin issuers. It proposed that the CFTC exercise authority over spot market virtual asset transactions (e.g., purchase, exchange and sale of bitcoin, ether), while the SEC would exercise authority to regulate any crypto-asset that meets the criteria of a security (i.e., the Howie or Reves tests). The draft bill also includes the need for registration procedures of VASPs/exchanges, bankruptcy safeguards to protect consumers, and sets out a regulatory framework for payment stablecoins under the authority of the Office of the Comptroller of the Currency. Link

On June 6th, the Department of Justice published a report on how to strengthen international law enforcement cooperation for detecting, investigating, and prosecuting criminal activity related to digital assets. This report was in response to a requirement from the March 9th Executive Order on Ensuring Responsible Development of Digital Assets. Link

On May 26th, the New York Department of Financial Services issued guidance on the importance of blockchain analytics for pertinent virtual asset entities. This specifically noted the use for customer due diligence, transaction monitoring, and sanctions screening policies, procedures, and practices. Link

In remarks on April 7th, US Treasury Secretary Yellen echoed the US Executive Order on responsible development of digital assets while protecting financial stability, consumers, and investors, and mitigating illicit activity. She specifically noted risks associated with Stablecoins. Link

Law enforcement updates

On June 22nd, the Ontario Securities Commission (OSC) issued penalties against KuCoin and Bybit. A panel of the Capital Markets Tribunal of the OSC approved a settlement with Bybit for approximately $2.5M in USD. In a separate matter, KuCoin received an administrative penalty of $2M and prohibition from operating in Canada's capital markets for "failing to comply with Ontario securities law". Link

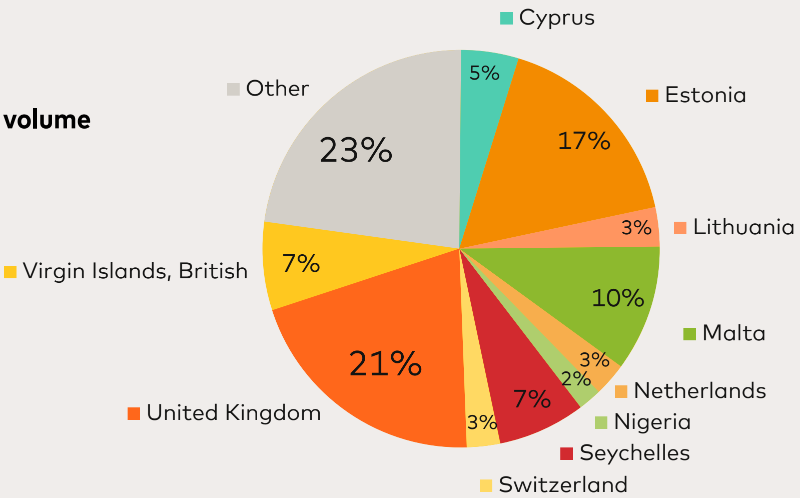
On June 30th, the Commodity and Futures Trade Commission (CFTC) charged a South African CEO and pool operator with $1.7B bitcoin fraud. Last quarter's CAML noted that Johann Steynberg, the executive director of Mirror Trading International. (MTI), was arrested by the Federal Police of Brazil. As a follow-up, the CFTC filed a civil enforcement action on June 30th in Texas charging Steynberg and MTI with fraud and registration violations. Valued at $1.7B, this is the largest bitcoin fraud case charged by the CFTC to date. Link

On June 30th, DOJ announced criminal charges against six defendants in crypto fraud cases involving over $100M. This case involved: an NFT scheme (USA vs Le Ahn Tuan) where defendants were charged with stealing $2.6M worth of Baller Ape Club NFTs through a rug pull; sale of unregistered crypto securities (US vs Pires, Goncalves, and Nicholas) where defendants were charged with fraudulent activities totaling over $100M; fraudulent investment fund that was traded on crypto exchanges (US vs Saffron), and fraudulent initial coin offering (US vs Strollery). Link

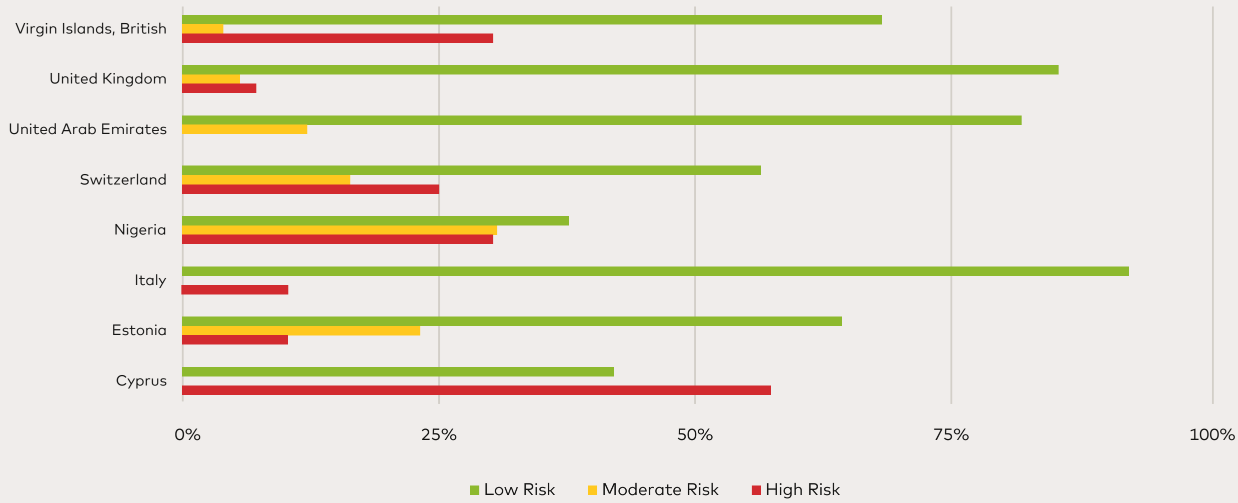
Europe, Middle East, and Africa (EMEA)

The EMEA region is the most expansive of the regional data sets; this is both by geographical distance and country count. The top 10 countries by percentage of registered VASPs within the region are identified in Graphic 10, while a sample of countries and their VASPs' KYC risk distributions are noted in Graphic 11 below. VASP KYC risk levels vary greatly within this region, with Cyprus having both a large volume of VASPs and a large volume of VASPs with high KYC risk levels. Comparatively the UK has the second largest volume of VASPs registered in country, with a substantial differentiation of KYC risk that is more heavily weighted to low levels.

Graphic 10:
EMEA - top 10 countries by VASP volume



Graphic 11: EMEA VASPs - sample distribution by KYC risk levels



Legislative and regulatory updates

On June 30, 2022, the European Union (EU) Council Presidency and the European Parliament "reached a provisional agreement on the MiCA proposal which covers issuers of unbacked crypto-assets, and so-called "stablecoins", as well as the trading venues and the wallets where crypto-assets are held". For more on key takeaways, check out our blog. MiCA applies to crypto-assets, crypto-assets issuers, and crypto-asset service providers (CASPs). Aiming to foster innovation through regulatory clarity, this EU-level framework will harmonize the regulatory rules for crypto-assets across EU member states, which currently each regulate various crypto-asset activities differently . Once adopted (subject to formal approval by Council and Parliament), MiCA likely come into force 18 months following its official enactment. Link

On May 31, 2022, Treasury in the United Kingdom issued a consultation paper that would propose amendments to the Financial Market Infrastructure Special Administration Regime for the purposes of managing the failure of a systemically important digital settlement asset firm. This consultation paper stated that the Bank of England would step in to oversee/direct if a digital settlement asset was in trouble, to ensure and promote financial stability in the UK. The proposal states that the Financial Market Infrastructure Special Administration Regime would be the most appropriate group to regulate nonbank systemic digital settlement asset firms; a primary focus would be on continuity of operations. The proposed approach leaves potential respondents with four questions to consider and allows for comments by August 2, 2022. Link

On May 14th, Nigeria's Security and Exchange Commission (SEC) published new rules on issuance, offering platforms, and custody of digital assets. This would require a VASP license to offer any type of digital asset products/ services in Nigeria or to Nigerian persons. Licensed firms will have several responsibilities, including implementing and maintaining appropriate AML/ CFT controls and issuing clear disclaimers on losses. More specifically for exchanges, they must attain a permit, which will give SEC access to its records. The SEC must issue a no-objection before an exchange can begin trading in a digital asset. Exchanges must also perform real-time market analysis. Additionally, all initial coin offerings (ICOs) would be required to submit applications, supporting forms/documents, and a detailed whitepaper to the SEC. The SEC may determine it to be a security, thus, all securities laws would then be followed by the issuer. Link

A Decentralized Finance (DeFi) discussion paper was issued on April 13th by the Financial Services Regulatory Authority (FSRA) of Abu Dhabi Global Markets (ADGM). It was issued to engage with industry practitioners and other stakeholders and explore the potential opportunities arising from DeFi, associated risks and what a future regulatory framework may resemble. Link

Law enforcement updates

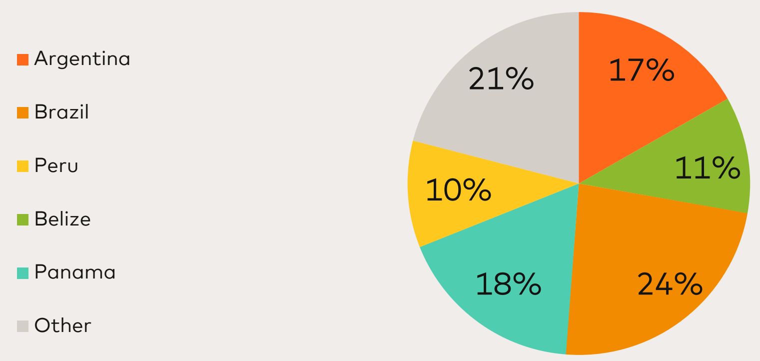
On June 24th, the Metropolitan (MET) Police seized £114m in crypto tied to international money laundering case in London. The case did not disclose the type of assets, nor if the MET was able to gain control of these assets. Link

Belgian and Dutch Police, with support of Europol, stop organized crime group involved in fraud and money laundering. Nine arrests were made in the Netherlands on June 21st as a result. Firearms/weapons were seized along with other assets, including cryptocurrency. Underlying crimes included fraud, drug trafficking, and potential firearm trafficking. Link

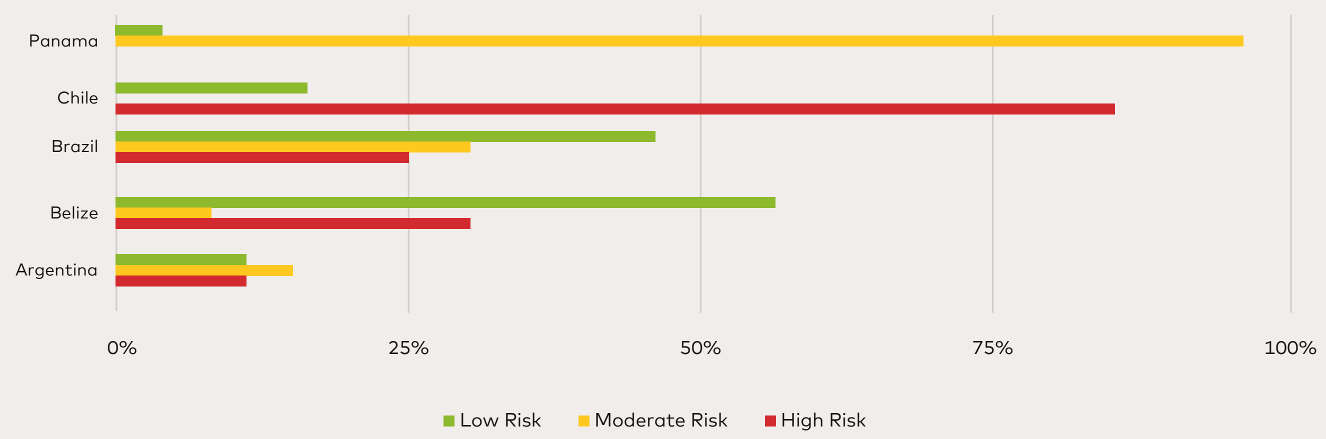
Latin America (LATAM)

LATAM has been very active in 2022 with regards to a variety of virtual asset topics. There are a few dominant countries for VASP registrations within the region, as noted in Graphic 12, while there are a sizable number of countries with one or two registered VASPs. Graphic 13 articulates KYC risk for VASPs registered in a sample of countries. Overall, VASP KYC risk averages tend to be in the moderate risk category. This is heavily influenced both by Panama and balance between low and high KYC risk levels.

Graphic 12: LATAM - top 5 countries by VASP volume



Graphic 13: LATAM VASPs - sample distribution by KYC risk levels



Legislative and regulatory updates

After numerous drafts and the combination of efforts, Brazil's Senate passed a cryptocurrency governing bill during its plenary session on April 26th. The executive branch will now take responsibility for crypto asset rules; the executive branch would also be required to delegate regulatory authority to the Securities and Exchange Commission, Central Bank of Brazil, or a newly created agency. Virtual asset services will follow some guidelines, including but not limited to – adopting good governance practices, prevent money laundering and terrorist financing, and providing quality info-sec and privacy practices. The bill also articulates penalties/punishments will exist for illicit activity and these would be proportional to the dollar amount of an occurrence. Lastly, the bill incentivizes mining that use renewable energy sources. Link

On May 20th, the Banco Central de la Republica Argentina (BCRA) and National Securities Commission (CNV) issued a joint statement warning of risks and implications of crypto-assets. It highlights various risks such as volatility, fraud, limited transparency, and lack of safeguards. Link. Earlier in the month, BCRA banned banks from facilitating crypto asset services for its clients. This announcement occurred a few days after Banco Galicia (largest in-country bank) announced it would let clients invest in cryptocurrencies. Link

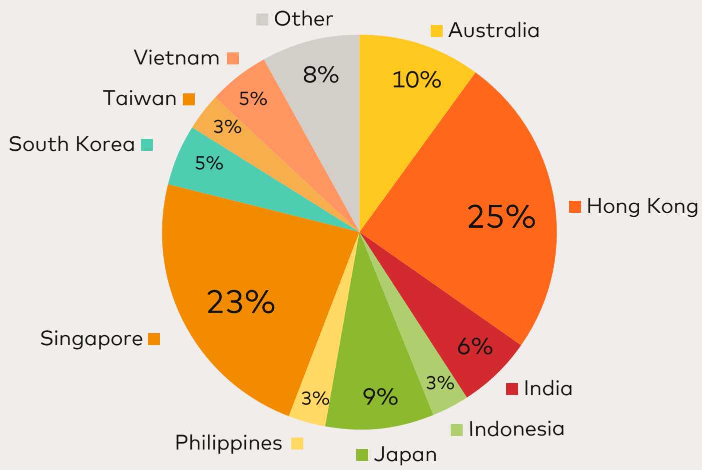
Law enforcement updates

On June 30th, Argentina's Administración Federal de Ingresos Públicos (AFIP) seized over 1200 digital wallets from individuals/entities that were delinquent on their taxes. This occurred as the AFIP was able to attain information from the Argentinian VASPs. This followed a nearly two-year period where the AFIP did not seize citizens' assets as part of a COVID-relief measure. Link

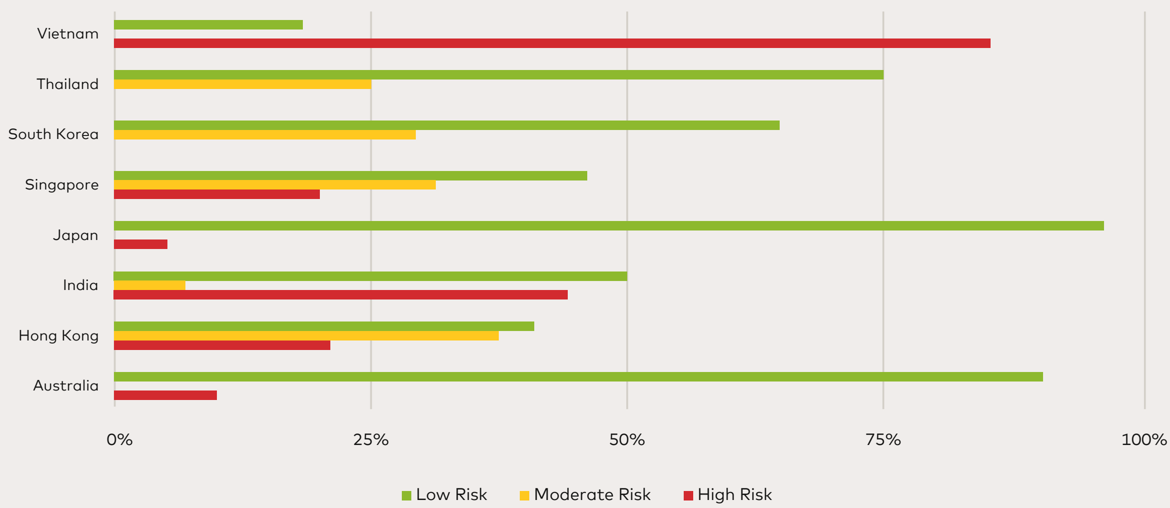
Asia and Pacific Islands (APAC)

The APAC region has an interesting mixture of emerging and mature sub-markets. Multiple jurisdictions have the most stringent AML and Travel Rule requirements across the globe. The top 10 countries by percentage of registered VASPs within the region are identified in Graphic 14, while a sample of countries and their VASPs' KYC risk distributions are noted in Graphic 15 below.

Graphic 14:
APAC - top 10 countries by VASP volume



Graphic 15: APAC VASPs - sample distribution by KYC risk levels



Legislative and regulatory updates
On June 24, 2022, Hong Kong's government produced an amended AML/ Counter Terrorist Financing (CTF) bill to improve Hong Kong's ability to fight money laundering and terrorist financing risks. Within this bill, there was a specific focus on VAs/VASPs (Part 5b) and updating the regime to meet FATF expectations.

The bill proposes to apply customer due diligence and record-keeping requirements to VASPs and clarifies the types of activities that would constitution a VASP or other VA services. Additional considerations include: SFC may impose a license condition(s) (i.e., capital requirements, AML/CFT procedures, etc.) and has authority to revoke a license; Licensed firms must appoint two responsible officers, which require approval by the SFC; these officers are legally accountable for their firm's AML/CTF compliance; and VASPs registering in Hong Kong are also required to maintain a physical and permeant presence in country to be eligible. Link

On June 2nd, Japanese parliament passed a revised Funds Settlement Law, which clarifies the legal status of stablecoins. Under the new law, stablecoins are termed as digital money. Issuers of stablecoins will be restricted to licensed banks, money transfer companies that have asset custody capabilities, and trust companies. Intermediaries such as brokers must be registered as part of a new licensing system and should adopt tougher monitoring and AML measures. The bill states that stablecoins must be linked to the Yen or another legal tender and guarantee holders the right to redeem them at face value, according to the new law. The legislation which will come into force in 2023 does not address existing asset-backed or algorithmic stablecoins. Link

On May 31st, The Monetary Authority of Singapore (MAS) partnered with the industry to pilot use-cases in digital assets. This effort, called Project Guardian, looks to explore potential and value-added, asset tokenization use cases. It will test asset tokenization and DeFi, while also mitigating risks to financial integrity and stability. This is just one aspect of the many activities undertaken by MAS. Link

Law Enforcement Updates
On May 14th, Singapore's Supreme Court blocked the sale of a Bored Aped Yacht Club Non-Fungible Token (NFT), which was offered and used as collateral to borrow a loan on a fully decentralized, permissionless, peer-to-peer community platform. In April, a refinance claim was submitted. The refinancing terms were short-term and led to an inability to repay; this resulted in the foreclosure of the NFT. As a result, a man from Singapore filed for and won an injunction to block the sale/transfer of the asset. Link

Global regulatory trends for crypto-assets

Financial Action Task Force (FATF)

On June 30th, FATF issues a targeted update on the implementation of FATF's standards on Virtual Assets (VAs) and Virtual Asset Service Providers (VASPs). Link

On June 8th, FATF issued its AML/CTF digital strategy for law enforcement, which includes digital considerations for how to combat AML/CTF risks for virtual asset activities. Link

On April 19th, FATF released its Report on the state of effectiveness and compliance with the FATF standards. This included considerations for VAs and VASPs, particularly in supervision. Link

Basel Committee on Banking Supervision (BCBS)

The BCBS published its second consultation on the prudential treatment of crypto assets on June 30th as a follow-up to the initial consultation in June 2021. Link

Bank for International Settlements (BIS)

On May 18th, the BIS released a working paper titled, Banking in the shadow of Bitcoin? The institutional adoption of cryptocurrencies.

G20 and G7 Finance Ministers and Central Bank Governors Meeting Communiqué

The G7 Finance Ministers and Central Bank Governors met May 18-20th. Aside from agreeing on support to Ukraine, Macroeconomic Stability, Global Health, Climate and Environment, the G7 communique also focused on digital assets. Link

Conclusion

The world of cryptocurrency saw tremendous challenges in Q2 2022. Markets were highly unpredictable, a significant stablecoin collapse occurred, and the market capitalization shed over 50 percent of its value since the start of 2021. As noted in our sections on legislation and enforcement, the world's governments have ramped up their efforts to design, implement, and enforce both existing and new laws and regulations.

For those reading this in VASPs, banks, payment processors and both federal and local law enforcement, CipherTrace has considerable expertise and tools to help monitor the movement of cryptocurrency and can assist – get in touch with us at ciphertrace.com. Sign up for email alerts and we'll keep you up-to-date on trends, our latest reports, and significant changes to the industry.

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