SYGNUM

Digital Asset Outlook 2021

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Crypto markets
Bitcoin
Ethereum
DeFi
Adoption
Services
Stablecoins
Tokenization
Regulation

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Welcome to the Sygnum Digital Asset Outlook 2021

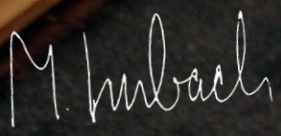
2020 has been a momentous year for the digital asset industry, including cryptocurrencies, stablecoins and asset tokens. From the COVID-inflicted market panic in March to new all-time highs by the end of the year, 2020 has been a year of ground-breaking market firsts, accelerating institutional adoption, increased regulatory clarity in several jurisdictions, but also more rigorous regulatory clamp downs.

The digital asset industry has reached a level of maturity that is hard to ignore, irrespective of whether one is a proponent or critic. As Sygnum's Digital Asset Outlook goes to press, it is fair to assume that digital assets are being discussed in thousands of boardrooms across the world. Stay away or embrace? While four years ago the narrative regularly went along the lines of "Bitcoin is just a bubble, but we like the Blockchain technology", today many decision-makers follow a more in-depth and informed analysis and debate. This itself is a win for the industry.

In this report we set out our bold predictions on where the industry is headed this year, from the crypto markets and its leading protocols as well as trends such as DEFI to stablecoins, tokenization and fast developing digital asset regulations.

Our hope is that by the end of this report, you have a clear sense of the technological and market forces, industry dynamics and breakthrough innovations that will shape the industry in 2021. We are excited to see our vision of Future Finance – a trusted, secure and efficient global finance industry – accelerated and continuously "opened-up" by these developments.

We continue to build this future on the Sygnum code of Trust, Technology, Together. Join us as we empower our clients to invest in the digital asset economy with complete trust, and enjoy the read!



Mathias Imbach
Sygnum Co-Founder and Group CEO

#1 Crypto markets momentum continues

As institutions continue to pour into cryptocurrency, we are seeing a change in how they view this asset class. Rather than shying away from volatility, they are embracing it as part of the game. Regulators are also eyeing the growing digital asset management industry and positioning themselves accordingly. Meanwhile, central banks continue to explore how to integrate digital currencies into their respective monetary systems.

By Dominic Lohberger, Head of Brokerage

Institutional flows gain further momentum

A major difference between the current rally and the bubble of 2017 is institutional participation. As governments and central banks continue to pump money into the economy, institutional investors are increasingly turning to digital assets as safe haven alternatives – especially Bitcoin, which has been likened to the new "digital gold". Even before the current rally, a survey revealed that 36% of institutional investors already owned digital assets[1]. But now, inflows into digital asset funds and exchange-traded products have spiked. Notably, when we compare the magnitude of the increase in inflows between the end of 2020 to 2017 levels, we see it far exceeds the price differentials between the two periods. This supports the assertion that much of the current rally is indeed being driven by institutional flows.

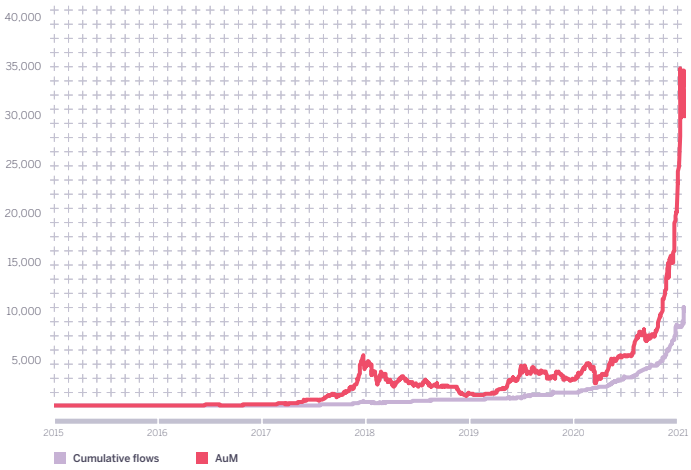
Retail interest has also picked up. This will likely add pressure on firms that have yet to offer access to digital assets, as not doing so may concede a key competitive advantage.

Volatility set to continue

Somewhat counterintuitively, we expect volatility to remain high, even as institutional participation increases. Institutions appear to be embracing the volatility with a full understanding of the risks it entails. Digital assets are also likely the first asset class that institutions sell if the market crashes. Couple this with the lower liquidity – which, although improving, is still far below that of foreign currencies or equities – and you have a classic recipe for volatility.

Then, there is the additional volatility stemming from the leveraged cryptocurrency derivatives market. According to blockchain research firm TokenInsight, for the first 9 months of 2020, transaction volume totalled USD6.9 trillion[2&3] – a yearly increase of over 150%. When you consider all the factors at play, a dampening of the cryptocurrency market's volatility should not be expected.

DIGITAL ASSET FLOWS



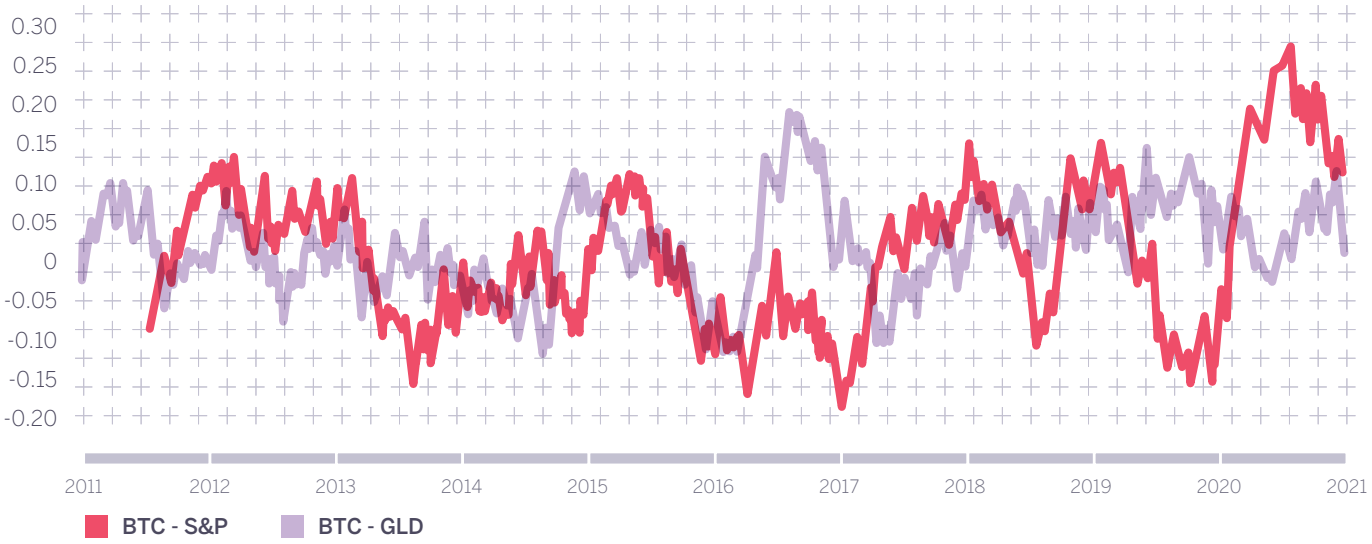
Source: Coinshares.com

Correlations will start to converge

With institutions beginning to realise the value digital assets can bring to diversified multi-asset portfolios, the correlations between digital assets and the conventional asset classes are, ironically, likely to increase. As JP Morgan noted, while Bitcoin can improve long-term portfolio efficiency, greater mainstream adoption will push up its correlations with cyclical assets such as equities, credit, and commodities[4].

The implication of this – in tandem with persistent volatility – means that digital assets are likely to decline the most in "risk-off" market environments.

CORRELATION BETWEEN BITCOIN, GOLD AND THE S&P



Source: Coinmetrics.io

Regulators are gearing up

Originally, the cryptocurrency community was steadfastly against regulations, which were considered an antithesis to Satoshi Nakamoto's – the creator of Bitcoin – original vision. But as the cryptocurrency markets have increased both in value and importance, regulators have inevitably heightened their scrutiny on digital asset-related businesses.

Digital asset regulations are progressing at different paces and vary significantly by jurisdiction. But what is clear is that stronger regulations are coming – in one form or another. Firms that comply with the most stringent regulation as possible ahead of time are thus the best-positioned to leverage on this trend – and avoid costly reconfigurations to make themselves compliant down the track. As for those that think they can continue to operate under the radar, think again. Regulators have equipped themselves with advanced blockchain analysis tools to strengthen their enforcement capabilities.

...and become "pro-digital assets"

More clarity in digital asset regulations is not necessarily detrimental to digital assets. In fact, as participation in digital assets grows, regulators across the globe are realising that they are here to stay – and could present a jurisdictional competitive advantage. This could also spark a "regulatory arms race", as jurisdictions compete to attract the burgeoning digital asset management industry to their domiciles.

Countries like Switzerland, Singapore, Estonia, Malta, and Liechtenstein were in the first wave of these "pro-digital asset" jurisdictions. They will influence the second wave of jurisdictions and help shift the global dynamic toward regulated – yet open – regimes that offer both ease of participation and investor protection. Successful Central Bank Digital Currency (CBDC) projects will support this shift by raising awareness on how to harness the potential of blockchain technology in a regulated environment.

Disinflationary nature becomes big selling point

The primary benefit behind using digital assets as a store of value has always been its disinflationary nature. For instance, Bitcoin has a hard-coded supply limit of 21 million which can never be exceeded. The growth rate of its money supply will also continually decrease – a stark contrast to today's era.

Central banks' response to the economic effects of the pandemic has only amplified Bitcoin's value proposition. The US Federal Reserve's (Fed) balance sheet has swelled from USD4.3 trillion to USD7.3 trillion from March 2020 to January 2021[5]. Meanwhile, the M2 money supply has surged from about USD15.5 trillion to USD19.5 trillion over the same period[6]. And with the market now dependent on the Fed, there is little political will for the Fed to pull back support. Yields will thus remain low, forcing investors into riskier asset classes – including digital assets – in the hunt for yield. The twin forces of an inflationary money supply and persistent low-yields present a highly supportive macro environment for digital assets.

CBDCs move into trial phases globally

In January 2020, the Bank of International Settlements released a survey showing that about 80% of central banks are engaging in research, experimentation, or development of CBDCs. 40% had reached the proof-of-concept stage, while 10% were already running pilot projects[7]. This has had the secondary effect of supporting stablecoin growth.

For 2021, we can expect accelerated developments in this space in the coming months, with the first projects reaching the mainstream. The most notable of these will be China's digital Renminbi, with Beijing, Shanghai, and Guangdong pledging to test the digital currency to support the rollout[8]. The chief scientist at the country's central bank has noted that CBDCs can assist regulators' ability to trace cash flows and enforce financial regulations – a need made more urgent by the pandemic[9].

Big Tech finally enters the fray

Out of the tech "Big Five"– Google, Amazon, Apple, Microsoft, and Facebook – only the social network has thrown their hat into the digital assets ring so far. Facebook's Libra, now known as Diem, will be launched sometime this year as a dollar-backed stablecoin[10]. The other tech giants may not have explicitly moved into launching their own digital assets, but they have certainly entered into related areas.

We would not be surprised if we see Big Tech using acquisitions to make further forays into the digital asset space – especially as the borders between tech and finance continue to blur. The cryptocurrency M&A market is heating up, with 2020 seeing the emergence of larger deals such as CoinMarketCap's acquisition by Binance for a rumoured USD 400 million[13].

- In 2019, **Apple** quietly released CryptoKit, which enables developers to perform basic cryptocurrency graphic operations within its iOS software. This could be the foundation for the use of iPhones as secure mobile wallets[11]
- **Google** has allowed the use of its cloud services to run nodes for blockchain video network Theta[12] "Blockchain as a Service" (BaaS)
- **Microsoft** and **Amazon** are already ahead in the BaaS game, with their Azure Blockchain Service and Amazon Blockchain

#2 Bullish Bitcoin market fuelled by accelerating institutional flow

Bitcoin's fundamentals have been boosted by increased institutional adoption and the spectre of inflation driven by unprecedented levels of monetary stimulus. Despite the size and speed of the recent rally, we expect Bitcoin's positive market re-evaluation and bullish market sentiment to continue in 2021 - albeit with continued high volatility.

By Katalin Tischauser, Head of External Manager Selection, Asset Management

The bulk of Bitcoin's institutional flow still to come

The media has devoted much attention to the positive statements made about Bitcoin by influential investors like Paul Tudor Jones, Bill Miller, and Stanley Druckenmiller. The same goes for the public announcements made by various institutions about their digital asset investments.

But these are just the vanguards – the bulk of the institutional fund flow into Bitcoin is yet to come. Even many of the institutions that have already internally made the decision to invest have not yet pulled the trigger. The catalyst, and the resulting influx, will come when a certain critical mass is reached, after which the institutional rally will likely become self-sustaining. Even institutions are not immune from the herding effect.

Dip-buying will create price floors

The refrain "buy the dip" has been a common rallying cry amid cryptocurrency enthusiasts. But Bitcoin's recent price movement shows that dip-buying is currently widespread[14]. Since the start of the rally before Christmas 2020, every time prices have retreated on profit taking, we have seen buying interest flooding in. Notably, this is both from retail investors, who feel they missed out on lower prices, as well as from institutions that prefer to build up positions gradually during dips.

Add Bitcoin's hard-coded limited supply to the incoming institutional fund flows plus pent-up demand, and only a major realignment of the fundamentals is likely to arrest the rally.

Bitcoin challenges gold mid to long-term

Greater global political and economic uncertainty have bolstered demand for safe haven assets. Gold is the most highly-regarded of such assets, having the longest historical track record. But the price of Bitcoin expressed in gold indicates that Bitcoin is increasingly being viewed similarly. Since September 2020, the price of Bitcoin has more than tripled from about 6 ounces to over 20 ounces[15].

Bitcoin becomes a viable hedge against inflation

A close relation to the safe-haven narrative is the hedge against inflation. Gold is seen as both a safe haven asset and an inflation hedge, and the same is increasingly applied to Bitcoin.

The fiat money system is becoming ever more fragile and overextended as monetary stimulus becomes a standard tool. The Institute for International Finance forecasted global debt levels of USD277 trillion for end-2020 (it was estimated to be USD 272 trillion at the end of the third quarter) – representing a debt-to-GDP ratio of 365%[16]. Bitcoin's disinflationary nature stands out in such an environment, attracting savings as well as economic activity with Bitcoin used as the medium of exchange.

Promise of economic freedom will attract many

Economic censorship – where people can find themselves effectively banned from participating in economic activity – is an eagerly debated topic these days.

The cryptocurrency economy offers an alluring alternative. Being decentralised, it is becoming extremely difficult for any single entity to exert a sufficient effect to economically censor someone. In the future, scrutiny on the kind of power that large economic entities should be allowed to wield may increase. In the meantime, more may flock toward the freedom provided by decentralisation. Decentralised infrastructure like Bitcoin's provides more direct access to ownership and value for everyone.

Clarity on regulations will convince more institutions to get involved

Financial institutions are understandably reluctant to dive into unregulated spaces. However, this barrier is steadily being overcome as regulators clarify the rules surrounding digital assets. This increasing clarity supports more institutional adoption, the primary driver behind Bitcoin's current revaluation.

Although regulation used to be regarded as a negative for the cryptocurrency markets, and may be so again in future, this is not the case at present. In the past, announcements about increased regulation led to negative price action but currently, they are either ignored or are accompanied by further upward moves in the Bitcoin price.

Bitcoin is undergoing a fundamental revaluation as an asset class, a safe haven asset, and as an alternative store of value and medium of exchange versus fiat currencies. But its "market share" compared to fiat currencies and gold is still small, even accounting for the recent rally.

This, coupled with its limited absolute and liquid supply and substantially upgraded industry forecasts, points toward a continued upside. Of course, we are now operating in unchartered territory. But now in the eyes of many, the prospects of a continuation of Bitcoin's 2020 rapid growth throughout 2021 has changed from "extremely optimistic", to merely moderate".

#3 Ethereum 2.0 drives industry-wide innovation

Ethereum 2.0 has launched. Its unique value proposition will not only drive cheaper and faster transactions in the mid-term, but also enable investors to view it from a total returns perspective by staking their deposits and earning yield. The spillover effects from a growing market indicate significant price upside. ***By Gavin Pacini, Head of Blockchain Engineering***

Ethereum's price appreciation driven by 2.0 network upgrade

Once the bulk of institutional investment comes pouring into digital assets, it will likely embrace the entire asset class – beyond just Bitcoin. Ethereum is likely to be the main beneficiary. It serves as a diversifier to Bitcoin, while the launch of its CME futures contract in February 2021 will boost name recognition[17]. And with the backbone of the upgraded Ethereum 2.0 network having already gone live in December 2020[18], the narrative surrounding this digital asset has never been more supportive. Recent data already shows institutional interest gaining steam[19].

However, we see the primary driver behind the continued appreciation of Ethereum's 2021 price to be the significant network upgrade via Ethereum 2.0, the delivery of yield for investors, and the diverse enhancements that the enhanced network is set to enable. Furthermore, Ethereum has firmly established itself as the main DeFi-enabling protocol. As a result, we see the potential for more upside to increase as this major upgrade is rolled-out.

Investors see digital assets from total yield perspective

Ethereum 2.0, with its Proof of Stake consensus mechanism, presents a highly scalable solution for generating yield. By "locking-in" their ETH in smart contracts, essentially acting as validators, people can receive a return on their deposited ETH as a reward. The exact reward varies depending on the total amount of ETH staked in the network, but can reach as high as 9%+.

Yield farming allows investors to finally view digital assets from a total-returns perspective, not just capital appreciation. We foresee this creating friendly competition between different methods of yield generation. This kind of competition can only further improve the yield farming space, a positive outcome for all Ethereum investors.

ETH 2.0 will be tokenized at scale to retain liquidity while generating yield

There is a cost to staking your ETH in Ethereum 2.0 to yield farm – sacrificing your liquidity. Once deposited, those funds cannot be withdrawn until Ethereum 2.0 is fully rolled out (optimistically projected in mid-2022).

One popular solution for avoiding this cost is via tokenized versions of ETH2. This is not an actual protocol token of the Ethereum network (there will only be one ETH, even after Ethereum 2.0 is fully launched). Instead, it is akin to a derivative contract that allows investors to receive yield from staking ETH without sacrificing liquidity. This would also create an associated secondary market, providing real-time feedback on how the market views the tokenized ETH2 relative to the original ETH.

We fully expect to see new and innovative models of tokenizing ETH2 being ported back onto the original Ethereum network. This derivatives model will also boost the innovation in the entire DeFi space, bringing it a step closer to the depth and complexity of mainstream financial markets.

ETHEREUM 2.0 UPDATE STAGES*

- **DEC 20** — **Phase 0 – The Beacon Chain**
  Launch of Beacon Chain and implementation of Proof of Stake (PoS) consensus mechanism
- **2021** — **Phase 1 – The Share Chains**
  Implementation of Shard Chains and Sharding to improve Ethereum network scalability
- **2021** — **Phase 1.5 – Docking Phase**
  Merging of original Proof of Work (PoW) blockchain with new Proof of Stake (PoS) blockchain
- **2022 >** — **Phase 2 – Execution Layer**
  Improvement to Ether accounts, transactions and smart contract executions
- **2022 >** — **Ongoing**
  Regular enhancements to network functionality, scalability and features

*Projected timeline dependent on Ethereum network development

#4 DeFi on the edge of exponential growth

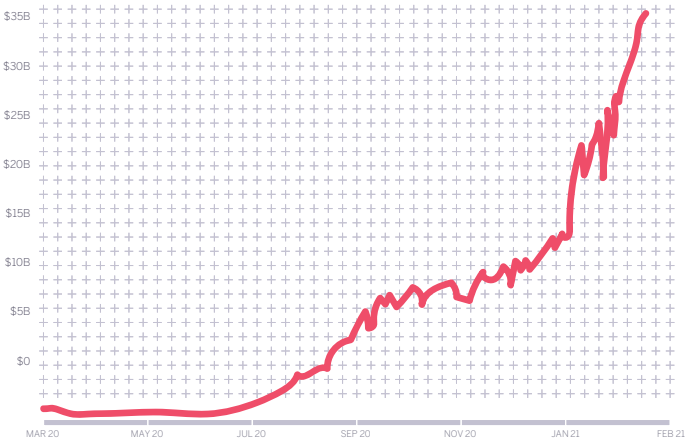
Decentralised finance (DeFi) - the umbrella term for financial applications run on the blockchain - stands on the edge of exponential growth. Ethereum 2.0 will add both scalability and new use cases for DeFi, while the deepening DeFi derivatives market could be rocket-fuel for its growth. But risks remain, and regulators are increasingly paying attention. ***By Martin Burgherr, Chief Clients Officer***

ETH locked up in DeFi continues to accelerate

Most DeFi apps use the Ethereum platform for everything from simple transfers to more complex transactions like lending and yield farming. The roll-out of Ethereum 2.0 – and the massive increase in network scalability it would bring – will enable DeFi to grow exponentially.

Even with Ethereum's current scalability limitations, DeFi has seen tremendous growth. We can gauge this by the amount of digital assets locked in such DeFi apps – called Total Value Locked (TVL surged from USD660 million to USD15.41 billion in 2020 – over 2,300%. The pace accelerated further in January 2021, hitting USD27.89 billion as of January 29, an 81% increase in less than a month[20].

TOTAL VALUE LOCKED (USD) IN DEFI



Source: Defipulse.com

This was equivalent to 7.1 million ETH locked-up in DeFi, and might be only the tip of the iceberg. By making DeFi as frictionless and easy to use as the leading fintech apps are today – but without the drawbacks of centralisation – Ethereum 2.0 could truly unlock DeFi for the masses. Of course, there will be challenges. DeFi apps will have to directly compete with ETH staking in the "battle for yield". But competition drives innovation, and this will likely only force DeFi players to up their game, such as through derivative products.

DeFi derivatives will be a major growth driver

Derivatives, the largest financial market in the world, are the source of much financial innovation. There are downsides, which we saw in the Global Financial Crisis of 2008. Despite this, at the end of June 2020, the global gross market value of OTC derivatives stood at USD15.5 trillion[21] – larger than China's 2019 GDP. The notional value of these contracts is about 40 times that amount.

Out of the USD6.9 trillion in crypto derivatives transaction volume for the first 9 months of 2020, DeFi derivatives captured about 6% of that volume[22]. As the DeFi market continues to innovate, we expect this percentage to rapidly increase as DeFi steals market share from centralised crypto derivatives exchanges. A deepening DeFi market will also help attract the primary users of derivatives – institutions. A good starting point for them would be hedging, which may be the least-risky first step they could take (as opposed to say, staking).

There are still limitations to be overcome. Lack of liquidity, especially in the secondary market, makes pricing difficult, which in turn hinders development of the overall space. The user experience must be vastly improved. Finally, transparency and risk management protocols need to be strengthened – especially as regulators begin circling over DeFi.

Regulators begin to circle over DeFi

Similarities between the current DeFi craze and the 2017/2018 ICO bubble have been raised (and not in a good way). They point to the allure of high yields generating a frothy market with a rapidly increasing number of tokens – all without any clear regulatory guidance. The dilemma on how to best regulate DeFi however is an interesting one. As such apps are decentralised and managed by self-governing code, the question arises, what exactly is there to regulate?

For the DeFi market to truly mature, both regulators and developers must work together to come up with solutions. For example, it may be possible to delegate the authority to freeze funds or block transactions to certain teams if specific conditions are met. Regulatory "sandboxes" are also another way for both parties to experiment with how to balance decentralisation with appropriate regulation, particularly to ensure investor protection.

Regardless of the solutions that are developed, one thing is clear – players who fully comply with mainstream regulations will be the ones able to reap the most advantage from any "DeFi boom". In fact, as counterintuitive as it may sound, regulation could be the key that unlocks the (institutional) floodgates into DeFi.

#5 Digital assets ready to jump the adoption chasm

We believe that digital assets are poised to "jump the chasm" in the innovation adoption life-cycle from the early adopter to the early majority phase. To do so, they must demonstrate reliability and ease of use. As digital assets become increasingly embedded in traditional finance – supported by greater regulatory clarity – this leap could be made sooner rather than later.

By Darius Moukhtarzadeh, Sales & Client Services Executive

Institutional investment continues to gather speed

The number of institutions who have entered the digital assets space is long and growing. A few prominent examples:

- **Fidelity** launching its own Bitcoin fund in August 2020, available to accredited investors[23]
- 170-year-old insurer **MassMutual** directly purchasing USD100 million in Bitcoin for its general investment fund in December 2020[24]
- **Guggenheim Partners** reserving the right to invest up to 10% of its USD5.3 billion Macro Opportunities Fund in Bitcoin in November 2020[25]
- Publicly-listed tech company **MicroStrategy** holding over 70,000 BTC in its treasury[26]
- **Square** purchasing over 4,700 BTC, representing about 1% of its total assets[27]

Institutional adopters can be broadly divided into two types – those that make large direct investments into digital assets, and those that integrate digital assets into their offerings. Other than Fidelity, most of the above were of the former type.

The second type will be the asset managers offering regulated retail investment products that enable digital asset exposure. Financial advisors will invest more of their clients' money into these products – likely under instruction. Pension funds and endowments will also begin to (cautiously) add allocation to digital assets, turning digital assets from an alternative to a mainstream asset class in the mid-term. Although the asset managers currently offering such digital asset products are still few, we expect this to start increasing in 2021.

Industry network effects drive adoption

Retail and institutional demand feed off each other. Retail investors are the customers of institutional investors, so retail demand also supports institutional demand. At the same time, institutional demand lends confidence to the investment narrative, which helps boost retail demand.

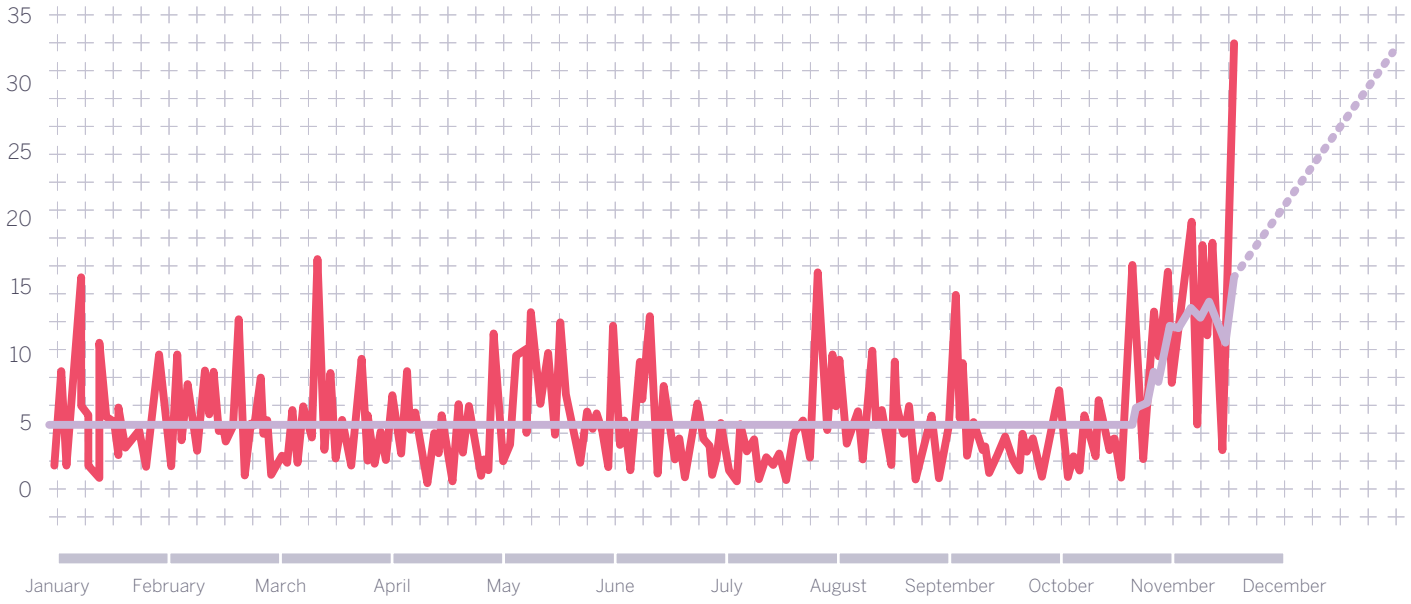
But there is also another aspect to how institutional participation can promote retail demand – providing ease of access. A common barrier to mass adoption has always been the knowledge and effort required to purchase and store digital assets. As more fintech and payment companies enable frictionless digital asset transactions, retail participation and demand will rise; see examples of these below.

There is already evidence that the opening of these gateways has had a noticeable effect on the price of digital assets, thanks to new users snapping them up. One digital asset hedge fund estimates that Cash App users have accounted for 40% of all new Bitcoin purchases since its cryptocurrency functionality launched. And within three weeks of PayPal's launch, its clients were already buying about 70% of the new supply of Bitcoin.

- In October 2020, **PayPal** announced that US users will be able to buy, sell, and hold Bitcoin, Ethereum, Litecoin, and Bitcoin Cash – directly from their PayPal accounts[28]
- **Square's** Cash App users could buy Bitcoin in late 2019. In May 2020, they automated[24] Bitcoin purchases and enabled them to get Bitcoin back on every purchase
- Fintech unicorn **Revolut** enabled its US customers to buy, hold, and sell digital assets on its platform from July 2020
- Cryptocurrency lender **BlockFi** partnered with Visa to launch a Bitcoin-backed credit card in 2021 to allow users to spend in dollars, but earn rewards in Bitcoin[26]

The power of this network effect should not be underestimated. It is worth noting that the retail attractiveness will only be further enhanced by the types of opportunities that will be made available.

PROJECTED PAYPAL PURCHASED OF BITCOIN (USDM)



Source: Bitcoin.com

Retail commercial digital asset applications arrive

Many cryptocurrency applications have moved from the proof-of-concept stage to commercial use. This is especially the case in DeFi, which offers a wide variety of interesting and innovative finance applications. A few good examples are opposite:

- **PoolTogether** is a no-loss lottery hosted on Ethereum that helps users gamify savings. All users can keep their initial investments, but the lottery winner gets the accumulated yield earned by lending the "jackpot"[29]
- **AAVE** is a digital asset lending app where users can deposit tokens and earn real-time interest from other users who borrow these tokens. This is also hosted on Ethereum, like most DeFi applications
- **Kava** is another DeFi lending platform, except that loans are offered in stablecoins – essentially protecting borrowers from volatility. Depositors, however, can deposit and earn interest on a variety of digital assets
- **Augur** a global prediction market where users can bet on global events, markets, and sports. Unlike other betting markets, Ethereum's smart contracts remove the element of foul play that often affect the betting industry

When you factor in the persistent "hunt for yield" theme, which applies to both retail and institutional investors, the interest in DeFi is likely to rise exponentially. As innovation percolates, it could only be a matter of time before some of these DeFi applications become breakout products that win mass-market support and benefit from the network effects we see in the major fintech players today.

#6 Digital asset companies become more like banks

Institutional adoption has pushed market values of digital assets to new heights. But as market values have risen, so too has regulatory scrutiny. These dual forces mean that to enable the next significant step in adoption, digital asset services companies must increasingly strive to become the very thing they used to rail against – regulated banks. ***By Fabian Dori, Head of Asset Management***

Rapid upgrades to match bank-grade infrastructure and processes

Institutional involvement entails institutional requirements and responsibilities. Infrastructure improvements were needed to establish secure and trusted brokerage and custody solutions, as well as to support larger market capitalisations and trading capacity. Institutional players often act as fiduciaries of funds managed by third parties, and thus must fulfil strict due diligence requirements.

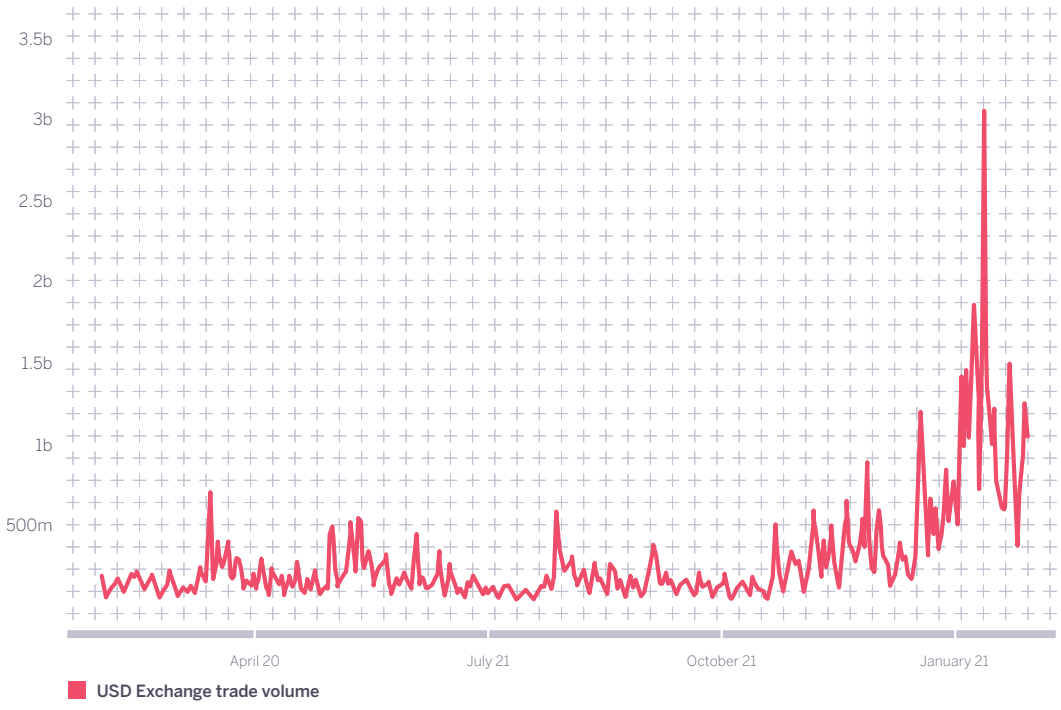
Another dimension of the requirements for financial intermediaries and asset managers is establishing certified process and control frameworks to ensure proper operational setup and robust risk management. These frameworks are also needed to help account for ever-deepening regulatory limitations and guidance, such as applying established know-your-customer and Anti-Money-Laundering (AML) requirements to the digital asset space (or to the technical specifications of a dedicated blockchain).

Regulated institutions attract bulk of institutional investment volume

As a result, we predict trading volumes in 2021 significantly moving from centralised, yet insufficiently regulated exchanges, to either licensed liquidity providers – such as OTC brokers, traditional exchanges, and banks like Sygnum – or to innovation-oriented decentralized trading venues. This trend may also reduce the relevance of self-hosted wallets for custody purposes. These will increasingly clash with security questions surrounding hardware wallet solutions and potentially run afoul of compliance requirements.

The increased adoption of digital assets by traditional institutional investors will hence be directed towards digital asset services players that can meet all these demands. The likely result is a wave of digital asset-related companies applying for traditional license models, thereby embracing what they (at least partially) aimed to replace when initially embarking on their journey.

TOTAL USD TRADING VOLUME ON MAJOR BITCOIN EXCHANGES



Source: Blockchain.com

Digital asset services need to evolve now or become extinct

This shift will by necessity lead to the sorting of the sheep from the goats within the digital asset services industry. Above all, players that may have innovative technological solutions – but are still saddled with legacy business models – will be challenged. We therefore expect a significant pick up in M&A activities across traditional financial intermediaries and digital asset-oriented fintech companies. This could very well happen in both directions – would a takeover of a listed bank by an innovative cryptocurrency exchange, assuming regulators would allow it, surprise you?

In 2021, and in the short to mid-term, we can still perhaps expect the traditional players try to capture their share of the ever-increasing client demand through acquiring innovative startups. But in the coming years, when additional market depth and scalable infrastructure solutions call for a leap in client and user-loading, this may no longer be the case. Darwinian law very much applies here – *evolve now, or become extinct.*

#7 Stablecoins reinvent cross-border payments

The stablecoins market has witnessed explosive growth in the year 2020, with assets growing from less than USD5 billion at the beginning of 2020 to over USD35 billion by the end of January 2021[30]. This can be largely attributed to the popularity of DeFi, where stablecoins have enabled a variety of its use cases. The next move – cross-border payments. ***By Jaya Bhatia, Product Manager***

Stablecoins reduce cost, time, and complexity

In 2019, cross-border payments totalled USD130 trillion and generated payments revenues of USD224 billion31. Those fee revenues come directly from the pockets of the transacting companies and represent a "value loss" during payment – making the sector ripe for disruption by stablecoins.

2021 could be the year when stablecoins change the game for cross-border payments and settlements – for both commercial and retail transactions.

In the past, a commercial cross-border payment may have worked as follows:

- Company A wants to make a payment of EUR2 million to Company B
- Company A must tell their bank to move the 2 million from their account to Company B's account, which may be in a different country that does not use Euros

This transfer would then depend on the international banking system and most likely leverage SWIFT. Company A would then incur:

- Fees from both banks
- Another cut from the currency conversion (where the rate offered is likely much less favourable than market rates)
- A waiting time of days or more for the funds to reach Company B's account

This expensive and lengthy process can be radically optimised with the use of stablecoins. In the new world, Company A can just buy EUR2 million worth of stablecoins and pay it directly to Company B.

In this case, Company A would have to withdraw Euros from their bank to make the initial purchase. Company B would have to convert the stablecoins into their own country's fiat currency when they move it off the exchange or platform.

PRIMARY PHYSICAL LOCATION OF STABLECOIN TEAMS

Source: Blockchain.com - State of Stablecoins report

But other than that, the entire process is seamless and does not incur the delays and fees imposed by the traditional cross-border payments model. And once we reach a world where stablecoins have become a widely accepted form of payment, companies will perform these conversions less often, and opt for maintaining higher balances in stablecoins instead.

These inefficiencies play out on the retail front too. Currently, cross-border retail payments and remittances attract fees of around 7%. They are often characterised by long processing times as they involve multiple steps with several intermediaries. Further, prices are not always transparent.

Contrast this with the use of stablecoins. Here, transactions are instant, peer-to-peer, and available 24/7. Their decentralised nature, whereby transactions are validated by the network, means there is no need for intermediaries. This not only strengthens trust, but also reduces the exorbitant fees and payment delays that intermediaries create.

Increasing use by exchanges and banks

So, it is no surprise that organisations ranging from stock exchanges and banks alike are adopting stablecoins to deliver faster and cheaper payments. Regulators have also been supportive. For instance, in January 2021, the US Office of the Comptroller of the Currency allowed the use of stablecoins for bank payments[32].

Data suggests that the need for such a solution is already increasing in certain corridors. One such example is the corridor between Latin America and East Asia. There, merchants are already using cryptocurrencies to settle transactions, completely bypassing the traditional banking rails in the process[33].

For these reasons, we believe that 2021 might well herald the start of a new era in cross-border payments enabled by stablecoins.

KEY FACTS

- 32 live stablecoins
- 34 pre-launch stablecoins
- 77% have asset-backed stability
- Listed on 50 exchanges globally, with Tether (USDT) on 46
- 60% built exclusively on Ethereum

#8 The promise of tokenization starts to unfold

Tokenization – the act of issuing a token on the blockchain that digitally represents ownership and associated rights in a financial or real asset – has been a buzzword for quite a while. Many believe it has the potential to unlock trillions of dollars in tokenized assets, support greater liquidity and make transactions faster and cheaper[34,35]. But beyond the trillion-dollar dreams, we must first look at where we stand on the ground.

By Thomas Eichenberger, Head of Business Units

All major financial institutions will experiment with tokenization

Many of the big players have started to experiment with tokenization. Some have talked about it more publicly than others, for instance:

- French bank **Société Générale** tested a EUR100 million tokenized bond on the Ethereum blockchain in April 2019[36]
- **Santander** issued a USD20 million tokenized bond in September 2019, also on Ethereum[37]
- **Standard Chartered** and the **UnionBank** of the Philippines completed a PHP9 billion tokenized retail bond in December 2020 on its own blockchain-backed platform[38]

Other banks may wish to attract less publicity. But in the end, almost all banks are experimenting out of a fear of being left behind in this global race. However, the approaches and the use of underlying blockchain protocols vary significantly across the different players. Besides the ongoing debate on whether to use public or private blockchains, we are far from establishing a common consensus as to which blockchain protocol, if any single one, will become the industry standard.

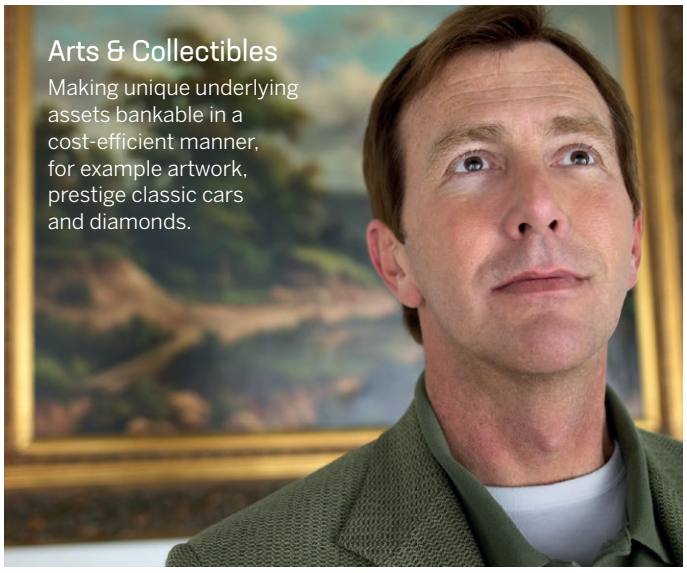
But this consensus is essential to kick-start the disruption of today's global financial market infrastructure in earnest, which relies on a number of powerful intermediaries to ensure reconciliation and establishment of trust among all market participants. Switching the underlying trusted network to a blockchain would require almost unanimous consensus.

It is only once major players agree on a common direction that we will we see accelerated progress towards harnessing the full potential of tokenized assets on a global scale. In the meantime, the experimentation by the major players will be interesting to watch.

Adoption will only accelerate if true client pain points are being solved

The current efforts of the large financial institutions appear very much driven by their internal innovation departments – and not (yet) by their clients. Tokenization is thus a means to experiment and explore, but not necessarily to address any specific pain points or needs of their clients.

In other words, innovation departments appear to be competing against other innovation departments for prestige and status – rather than to improve the business. As long as this persists, there will always be a gap between what the innovation departments create and what actual clients want or need, regardless of the benefits of tokenization mentioned earlier. Any overlap would thus probably be more incidental than deliberate.



Innovation will be driven by challengers (funded by major financial institutions)

The long-established financial institutions may be facing difficulties in obtaining the buy-in needed to drive true innovation across the entire organisation. Such is the nature of most large corporations, where bureaucratic structures ensure that "playing it safe" – i.e. waiting until a solution has been thoroughly tested and vetted by all departments – is the de-facto policy.

But there are several emerging players stepping in who can drive innovation independently outside the corporate guardrails. Unsurprisingly, many of the established names are at least co-sourcing, if not outsourcing, their innovation to these players by providing financial backing. One example is Securitize, which counts Nomura, MUFG, and SBI amongst their investors. Another one is Tokeny, which is, among others, funded by Euronext.

These and other emerging players have proven capable of building sophisticated technical solutions. Yet, they still face two major challenges:

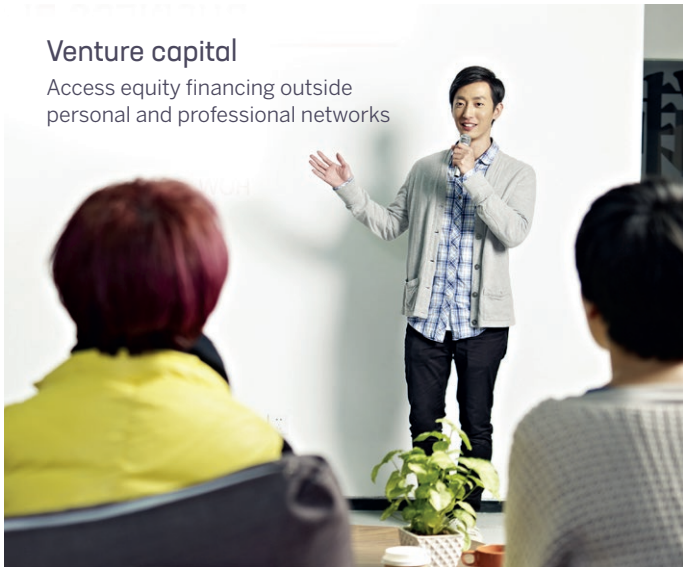
- Their solutions often only cover a selection of elements in the entire tokenization value chain, meaning the issuer or the bank they want to partner with has to source the other elements from one or multiple other providers. At the current stage of maturity and interoperability of tokenization solutions, this added effort is often deemed as failing the cost-benefit test.
- These solutions cannot yet be integrated into existing banking technology infrastructure and processes in an easy and cost-efficient manner. The upfront investments required to develop a fully integrated solution typically tends to deter decision-makers in traditional banks.

Despite these challenges, we will still see many banks trying to collaborate with these emerging players in 2021. The potential of tokenization is simply far too great to ignore, and progress – uneven though it may be – will continue to be made.

Integrated and regulated end-to-end solutions will win in 2021

In 2021, we will see the promise of tokenization most effectively realised by players who have developed fully integrated, regulated tokenization solutions covering the entire value chain – from legal structuring, issuance and trading to settlement and custody. Only these players will be able to turn their full focus to solving their clients' pain points and meeting their unmet needs – rather than being concerned about technical feasibility, sourcing, integration or a lack of regulatory clarity.

These solutions could then serve as lighthouse projects – tangibly showcasing the benefits of tokenized assets, pushing global awareness, and giving people a vision of what the financial world could look like if the tokenization promise truly unfolds. And these projects could very well involve more "alternative assets", such as the tokenization of a famous piece of art as an underlying asset.



#9 Regulation kick-starts scalable asset tokenization

Significant changes in both legal and regulatory frameworks have been, or soon will be, implemented across the globe. These changes are a positive force, paving the way for further institutional entry into digital assets. Legal and regulatory clarity provides the foundation of trust – a key requirement to drive mass adoption of asset and payment tokens. We see this as a powerful driver for asset tokenization.
By Gino Wirthensohn, Head of RegTech

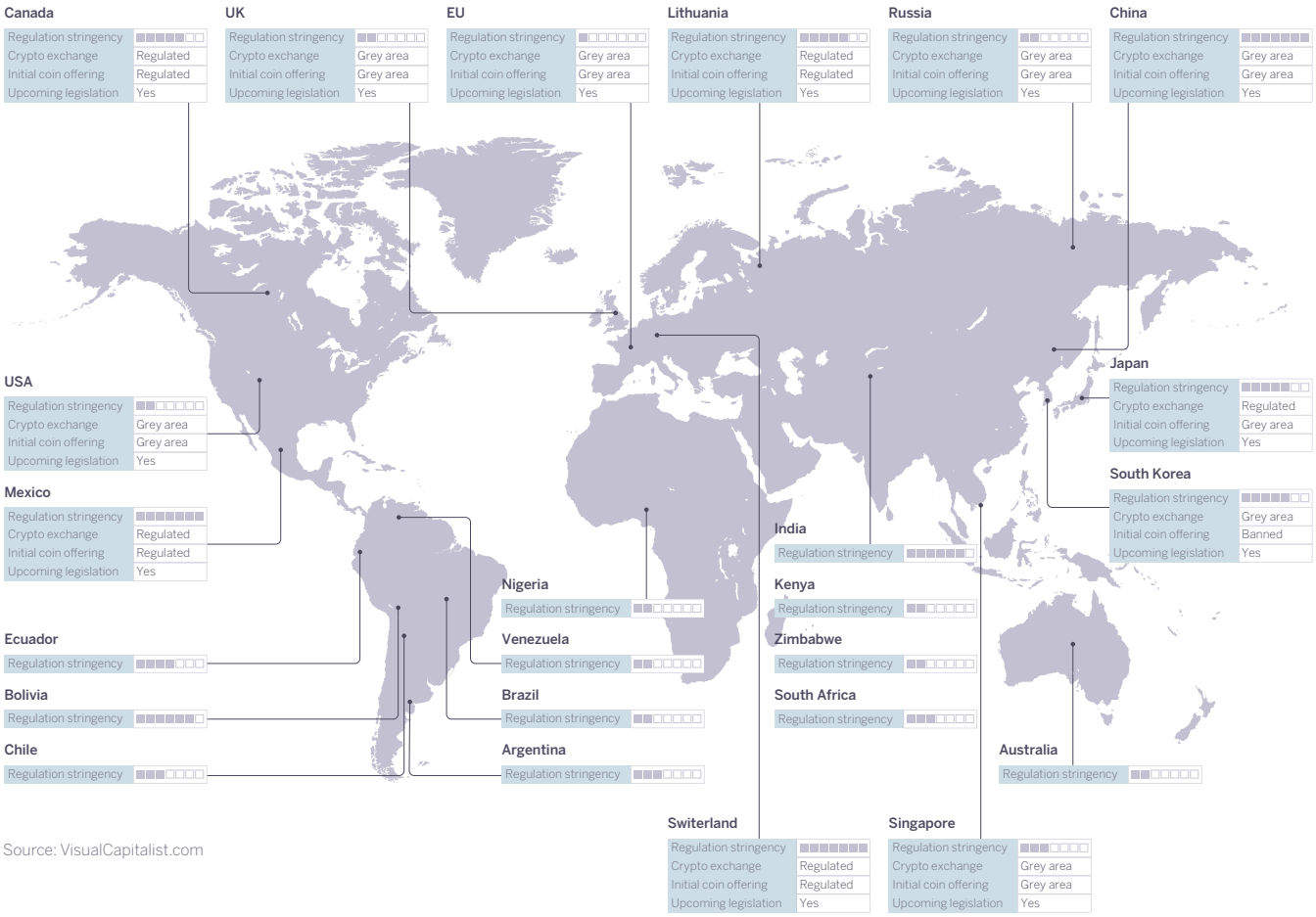
Regulatory clarity green-lights more high-value tokenization projects

In 2018, regulatory uncertainty was identified as the biggest barrier for mass adoption of blockchain technology[39]. Three years later, the landscape is notably different. Many of the legal and regulatory foundations for enforcement mechanisms have now been laid. Consider that, from a civil law perspective, a robust legal design is required to ensure that legal ownership of the underlying assets is transferred alongside the token.

This can present added legal complexity – and thus greater legal risks and costs. But this can be substantially reduced if the tokenization is based on native digital securities. In such cases, the records on the respective distributed ledgers would already be considered legally binding. To put it in another way, the token will not represent the underlying asset (such as a company share). Rather, the token will *be* the asset, and no additional legal setup will be required to synchronise the two components. This is a game-changer.

The new legal framework permits this. A recent amendment to the Swiss Code of Obligations (CO) introduces the so-called "ledger-based security" and enables the legally robust creation and transaction of digital uncertificated securities based on distributed ledger technology (DLT).

DIGITAL ASSET REGULATIONS AROUND THE WORLD



Source: VisualCapitalist.com

Secondary market will open-up higher volumes

The Swiss Financial Market Infrastructure Act (FMIA) does more than just recognise "ledger-based securities" (as defined in the CO) as regular securities. As a complement to the amendments to the CO, it is also introducing the new concept of "DLT securities" as well as a new type of trading venue license to enable the trading of these securities.

Unlike regulated exchanges and multilateral trading facilities, which can only admit regulated participants like banks or securities firms, these so-called "DLT trading facilities" may admit non-regulated participants. This enables a true B2C model that directly serves individuals and entities – democratising investment opportunities, which in turn helps increase trading volumes.

Payment tokens enter regulated environments

The increased attention of regulators, which includes both enforcement actions as well as greater clarity on regulatory requirements (e.g. the German Cryptocurrency Custody License), is pushing players toward regulated environments. We see previously unregulated players, such as cryptocurrency exchanges, entering the regulated market and even traditional financial services providers extending their offerings into the digital asset space.

This greater regulatory clarity, especially pertaining to digital asset Anti-Money-Laundering (AML) transaction monitoring, coupled with the rising number of regulatory technology (Regtech) solutions are further lowering compliance barriers. One example is how Regtech company OpenVASP[40] is helping companies comply with the Financial Action Task Force's Travel Rule. The result is more efficient compliance which leads to a better customer experience and the ability to optimize the processing time of payment tokens. This will increasingly enable scaleability in such regulated environments.

Meet the authors

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Dominic leads Sygnum's trading desk where he is building the next generation of financial market infrastructure, allowing clients to profit from a rising new asset class while managing their risk. He has expertise in investment advisory, derivatives sales and building algorithmic trading infrastructure.

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Head of External Manager Selection

At Sygnum, Katalin manages investment funds and other investment products. Katalin has over 20 years' experience at Goldman Sachs, UBS Warburg, and other major investment banks in trading, sales, and investment research. Katalin has held startup Board, CEO and Advisor roles across a variety of sectors, with a focus on the blockchain space since 2015.

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Gavin manages Sygnum software teams and leads the design, research and development of cutting-edge blockchain-based technical solutions. He has expertise and experience in core blockchain research and development, applied blockchain, information security, backend financial systems and cryptography.

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Chief Clients Officer

Martin manages the Sales and Client Services Teams at Sygnum. He combines his traditional finance background with a deep understanding of blockchain technology to deliver trusted, innovative services to Sygnum clients and strategic partners.

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Fabian heads the asset management division at Sygnum and helps to further advance the joint venture Custodigit with Swisscom and SIX/SDX as a member of the board of directors. He has expertise and experience in quantitative investment strategies, discretionary managed and advisory mandates, risk management, digital asset custody and brokerage as well as applied information technology.

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Thomas leads the Sygnum business units, driving the product strategy and implementation to meet clients' needs. He has deep experience in strategy for financial institutions, insurance companies and private equity funds acquired as a strategy consultant and from working in top-tier Swiss banks.

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At Sygnum, Gino leads innovation projects at the intersection of financial market regulations and Distributed Ledger Technology (DLT) to shape future financial products. He has deep knowledge and experience in legal, compliance and risk management acquired in banking, consulting and via a FinTech/RegTech start-up.

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Our clients use their deposited CHF, EUR, SGD and USD to securely buy, trade and hold an expanding range of digital assets, all integrated in one account. These include Bitcoin, Ethereum, Tezos, Bitcoin Cash and other leading cryptocurrencies, a Digital CHF token for instant settlements and a diverse range of asset tokens.

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Sygnum provides a range of high-quality digital asset investment products, including a Multi-Manager Fund and Sygnum Platform Winners Index ETP, which offer diversified exposure to the emerging digital asset megatrend.

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