

Be the early bird

Digital Asset Custody

An introduction to
crypto markets and assets



AtoS



"Digital Asset Custody is the perfect example of Atos' combined strength in system integration, cloud development and cyber security. On this solid IT foundation, our FS&I experts and our partner ecosystem can quickly rise to the occasion and meet this new market demand."

Philippe Oliva
Co-CEO Atos Group,
CEO Digital, BigData & Security



"It's exciting to see such a nascent ecosystem as crypto assets evolve into a valuable part of the capital market infrastructure. I am proud to say that the global Atos FS&I team is ready to go and help our clients adapt to this opportunity."

Praveen Mahadani
Industry Director
FS&I Capital Markets, Atos



"The work we do on Digital Asset Services is a great example of how Atos combines domain expertise with technology mastery. Our capital market experts and blockchain champions worked together to create a solution our clients can safely rely on."

Daniel Sinni
Global Head of
Blockchain FS&I, Atos



Crypto Asset Regulation: A Sign to Start Taking Digital Assets Seriously!

The crypto-world is still licking its wounds from the recent crypto-crash that started in May 2022. If you follow the crypto world, then you probably know what happened.

In the shortest version: The Terra blockchain was offering TerraUSD (UST) and Luna, two stable coins that proved to be less stable than they appeared and promised. Stable coins are crypto coins that are linked to an external asset, as a guarantee of (minimal) value. Examples could be a gold deposit, a legal tender or even another crypto coin. However, the stability factor behind UST was based on algorithmic behavior rather than actual assets. Luna is directly linked to UST and when an attack on UST caused it to crash, it took Luna with it. As planned, Terra's Bitcoin reserve was sold in order to rebuild stability, but it was too little and too late. The 1.5B USD in bitcoins flooded the market and with an already slight trend down, many crypto investors panicked and ran for the exit – a true bank-run on the crypto marketplace.

This crypto crash hit all crypto investors hard of course, but the impact it created in developing and/or unstable countries has prompted the UN to issue policies¹ on cryptocurrencies warning strongly against investing in these digital assets and outright calling for a global ban of them. Though made with the best intentions, this response is obviously not very feasible, even if a country decides to outlaw (the ownership of) cryptos. A bit more down to earth is the report made by FSB, or The Financial Stability Board, on Regulation, Supervision and Oversight of Crypto-Asset Activities and Markets², where they describe a framework for regulating the crypto capital market, which is likely to be adopted by most major economies in the world. The FSB, consisting of a combined representation of central banks and ministries of finance, essentially advises the global economies to regulate holding and trading in crypto assets similarly as the same non-crypto asset capital market, stating for instance:

"Authorities should, to the extent necessary to achieve regulatory outcomes comparable to those in traditional finance, require crypto-asset issuers to address the financial stability risk that may be posed by the activity or market in which they are participating."

In the document (and the associated landing page on FSB.org), two statements are repeated several times that clearly state this equity principle: The governance framework should be proportionate to their risk, size, complexity and systemic importance. And: Same activity, same risk, same regulation. The importance of this guiding principle should not be understated, as it allows overseers to respect the fact that crypto assets are indeed a small market, with limited scale and risk as compared to the more traditional financial markets. This caveat gives sufficient room to local regulators to allow the nascent DeFi (Decentralized Finance) communities to have some breathing room, allowing the innovative potential of crypto assets to flourish under the strict but fair watchful eye of overseers, tasked with protecting the general population from bad players – without stifling the much-needed innovation of the financial industry in general. Or, as FSB puts it themselves:

"An effective regulatory framework must ensure that crypto-asset activities are subject to comprehensive regulation, commensurate with the risks they pose, while harnessing potential benefits of the technology behind them."

It is in this spirit that the opening of the crypto asset market is best served, for both retail and institutional investors.

¹https://unctad.org/system/files/official-document/presspb2022d8_en.pdf, https://unctad.org/system/files/official-document/presspb2022d9_en.pdf, https://unctad.org/system/files/official-document/presspb2022d10_en.pdf
²<https://www.fsb.org/2022/10/regulation-supervision-and-oversight-of-crypto-asset-activities-and-markets-consultative-report/>

What are Crypto Assets?

Before digging deeper into this emerging crypto asset market, let's take a step back and explore these assets in a bit more detail.

Asset Type Value	Physical	Digital
Intrinsic or perceived	Precious metals (gold)	BC1.0 crypto's, NFTs
Backed	Bonds, Funds, Fiat currency	Stable coins, CBDCs
Functional	Shares	BC2.0, BC3.0 crypto's

In this overview, assets are defined as per the source of the value of the asset.

Assets can have intrinsic value, like gold does. The intrinsic value is determined by the very material the assets are made of, which is determined through regular supply and demand processes, which gives it its steady value over time. In this way, the perceived value of gold is essentially the same as its intrinsic value. In this way, Bitcoin can be seen as a digital variant of gold, in fact it is often referred to as the 'digital gold'. However, its value is not derived from the material it is made of, but by the perceived value of its backers. Philosophically though, the same could be said for gold as well. At any rate, its price is determined by regular supply and demand processes, just like with gold. The same could also be said for Non Fungible Tokens (NFTs) (or 'monkey pictures') though the term 'perceived value' seems a more adequate description here.

If an asset has a backed value, then the asset in question isn't valuable on its own, but it is guaranteed by an external source. A bond is an example of this, as the government issuing the bond will pay out a guaranteed amount when it defaults. Similarly, a bank note holds value due to the central bank backing it and not due to the on which it's printed. In the digital world, stable coins function in a very similar way as they are linked to underpinning assets, like fiat currency, gold or even other crypto's.

Finally, assets with functional value derive their value not from the asset itself, but from the fact that the asset is closely linked to a different source of value. For instance, the value of a share is determined by the performance of the company the share represents. Many cryptos of the second and third generation are typically linked to support functions, like dApps (decentralized applications) such as Decentralized Finance (DeFi) and smart contract applications. Their value is strongly linked to the success the related blockchain implementation has in drawing developers and companies to it, which use their blockchain for their business purposes.

All these digital assets can therefore be said to be not just the digital but also the non-regulated variant of their physical counterparts. And this makes sense, since the digital asset market was created in a private environment, out of reach of the regulators of the financial markets. CBDC (central bank digital currency) is the odd-one-out in this list, since it is the only publicly owned asset and bound to the same rules as any other central bank currency.

And that is where we hit the crux of this story. The unregulated nature of digital assets makes it a high-risk investment target, which is why institutional investors stayed far away from these digital investment opportunities. Now, with the current push for crypto asset market regulation, that is all changing.

Impact on the Retail Investor

Retail investors are people like you and me, dealing in assets on exchanges.

These investors (hopefully) do their homework before they commit their hard-earned savings. To be fair, it makes sense that an organization like the UN would want to protect gullible (or desperate) individuals from losing their life savings. This is true for anyone trying to shore up their pension when other economic means are not living up to expectations, but especially so if there isn't much money to go around in the first place. On the other hand, their very dismissive attitude towards crypto does very little to make the potential rewards accessible to the broader public.

What is the best course of action? Can we prevent crashes like the Terra-crash in the future? Or can we protect the people that decided to jump in this high risk, but potentially high reward investment environment? There is no clear answer to either question, but governments are clearly stepping up to do their part. In the US and most Asian countries, the focus is on money laundering and market transparency. In the EU, the regulator adds regulation of actors in the crypto asset marketplace, essentially creating high barriers for entry of players in the hope to weed out the bad players before they can create harm. MICA regulation (Markets in Crypto Assets) aims to deliver to Crypto market what MiFidD delivers for traditional finance markets. It remains to be seen if this effort will be enough to dampen some of the volatility in the market, but they will certainly make it (much) harder to start trading in crypto assets, which I suppose can be called 'consumer protection', perhaps though in an arguably back-handed way.

The Institutional Investor's Viewpoint

Where the retail investor market is characterized by many investors who all invest a relatively small amount, the institutional investor market is the polar opposite. These investors are typically large institutions like insurance or pension funds, who have sizeable sums of money that are needed to generate yield in order to cover future liabilities. Typically, the AUMs (assets under management) of these firms are counted in billions rather than millions and their entry into the crypto asset market is bound to have substantial impact.

All signs are showing us that the crypto crash has done little to deter large financial institutions from preparing to enter this new investment market. And why should it? Market volatility is as much an opportunity as it is a threat, depending on your investment strategy. In August 2021, BlackRock announced its partnership with Coinbase, to start offering crypto available for their institutional investors. Last May, State Street announced its work on the same with Copper.co and certainly, the other big players will follow suit soon.

Why are institutional investors so excited about entering the crypto market? Is it simply because of the additional market volatility to generate earnings from? No, absolutely not. Digital assets have some unique additional functionalities that traditional, physical assets will not be able to bring. These extra asset-based services allow crypto holders to generate additional return on investment that could potentially (vastly) outweigh the traditional buy-low-sell-high yields. A quick overview:



Short-term: Staking

Where the first generation blockchains (e.g. bitcoin) relied on the rather energy-gluttonous Proof of Work consensus protocol to generate the independent persistence of value of its coins, newer blockchains of the second and third generation have adopted more scalable and sustainable consensus protocols, like Proof of Stake. The how's and why's of this statement might be highlighted in another whitepaper, but it is important to know that Proof of Stake relies on coin holders to participate in the voting mechanism, in order to create the same level reliability as the older Proof of Work protocol generated through copious consumption of energy. This process is cold staking.

As institutional investors become major coin holders, they too can generate the yield that is awarded for staking, creating a new passive flow of income. Staking can be done today, with many Proof of Stake protocols already operational.

Short-term: Payments

Cryptos are increasingly being seen as additional payment currency besides traditional fiat, enabling consumers to pay for physical purchases with cryptos. While the product wrappers for cryptos are not yet as extensive as they are for fiat (which boasts of mind-boggling products covering current/saving/fixed accounts, credit/debit cards and bank transfers), we are seeing increasing collaboration between fiat & crypto players to bridge the gap, allowing consumers to choose between fiat & crypto, at will. Binance's partnership with Mastercard (and FTEX with Visa) to issue crypto debit cards that allow consumers to pay with their crypto balance at traditional offline/online POS, using payment rails from these two giants is just the beginning. For example, what is to stop Pay.UK (that runs UK payment infrastructure including instant payment rails called Faster Payments) from connecting with crypto wallets and use exiting payment rails to enable crypto payments in the physical world? The opportunities are boundless for innovative players in the field of Payments.

Mid-term: DeFi Services

As mentioned earlier, some of the third generation cryptos are focused on offering financial services on the back of the blockchain decentralized trust function. Investing in coins (like in ICOs – Initial coin offerings) that are designed to facilitate DeFi for core banking services like financing, payments, and insurance. Additional use cases like asset management, KYC and identity, derivatives, fractional ownership, et cetera are all showing early proof points that they can be very successful. DeFi is still in its infancy, with some early startup success encouraging its continued development. Expect DeFi to become a viable business model from 2023 on, depending of course on the evolution of the global digital asset regulations, as guided by the beforementioned FSB recommendations.

Long-term: vCommerce

The final opportunity to highlight is more long term. vCommerce, or virtual commerce, is the term used for the new commercial space that is being created in the Metaverse. While currently limited to Metaverse real estate and some early retail NFTs, the full vCommerce space could blossom into so much more. As Metaverse matures into the 3D visualization of the internet, vCommerce could quickly replace much of the current eCommerce and mCommerce marketplaces. NFTs representing virtual goods, avatar personalization, leasing or rental contracts, etc. The list of virtual goods and services (not to mention items that will cross the barrier between physical and virtual) seems endless, explaining much of the high expectations for its future market size, ranging from tens to hundreds of trillions of dollars.

Digital assets are a very exciting, and still moving, area of financial services. There is still much unknown and more exploration is needed before we can fully reap the benefits. For instance, institutional participation in staking creates the risk of Staking Centralization.

DeFi use cases are still mostly offered through start-ups and are heavily scrutinized by market overseers, especially in Europe. Finally, the shape vCommerce will take is still clouded in as much uncertainty as Metaverse itself. All in all, though, it pays to get in early and build your digital asset activities as the market matures. Luckily, through trading, staking, DeFi and vCommerce, there is a natural progression of complexity that can be followed, limiting risk while, at the same time, optimizing rewards. Most importantly, the need for Digital Asset Custody seems clear. The opportunities presented are enticing, to say the least, and investors are looking to their custodians to help reap the benefits. But enabling digital assets isn't a simple

matter of adding a balance to your accounts. Some of the work that comes to mind includes:

- Crypto asset trading requires real-time settlement, which the custodian's back-office needs to support
- Wallets are required to store these assets and to enable staking
- DeFi use cases need to be defined and developed
- Regulations require KYC and KYT (know your customer and transaction respectively) and end-to-end transparency of parties involved to ensure money laundering, terrorism funding and other financial crimes are adequately countered

As imposing as such a list appears, the market appears to be preparing for the regulations to kick-in in the various geographies. All to be able to grab that early-mover advantage.



About Atos

Atos is a global leader in digital transformation with 112,000 employees and annual revenue of c. € 11 billion. European number one in cybersecurity, cloud and high performance computing, the Group provides tailored end-to-end solutions for all industries in 71 countries. A pioneer in decarbonization services and products, Atos is committed to a secure and decarbonized digital for its clients. Atos is a SE (Societas Europaea) and listed on Euronext Paris.

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Let's start a discussion together



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