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# Metaverse and regulation

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The Digital Regulator



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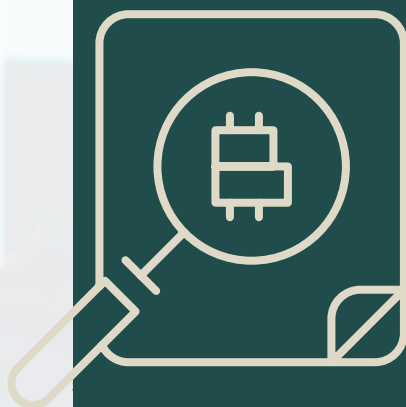
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## Executive summary

The Metaverse is the latest step in the overall digitalisation of social activities and, specifically, the marketplace. It differs from the traditional marketplace in that it lacks the space dimension, is accessible 24/7, is essentially still unregulated and, being a digital construct, may feature artificial intelligence (AI)-driven characters. The virtual nature of this marketplace contrasts with the reality of the associated economic transactions: Its worth is estimated to reach USD 8 trillion by 2025.

The virtual overlay to the traditional marketplace adds specific regulatory issues to the Metaverse marketplace. First, its essentially digital nature subjects its actors to an unprecedented scale and depth of data collection, storage, analyses, and utilisations to potentially influence behaviours. Second, the absence of the space dimension and unlimited accessibility characterising the Metaverse marketplace challenge competition rules and the geographical notion of jurisdiction. In the Metaverse, actors may operate simultaneously across marketplaces in a multi-tasking mode, anytime and anywhere. Therefore, the Metaverse marketplace compounds the consumers' risks characterising of the traditional marketplace (frauds, manipulations, and lack of transparency, among others) with new regulatory gaps concerning data protection, competition rules, and enforcement ability/reference jurisdiction.

The expansion of the Metaverse is expected to involve a growing number of users, making the noted regulatory gaps increasingly evident. Regulators may soon face the challenge of promoting a sustainable and universal new marketplace while sensibly mitigating consumers' risks, ensuring fair competition and effective enforcement of rules. In recent years, the regulatory process for cryptocurrencies and cryptofinance has shown that a globally coordinated expectation management may lend stability to technologically-driven innovation. The growth of the Metaverse offers an opportunity to implement lessons learned.

Notable recent regulatory developments include the release of a discussion paper on Central Bank Digital Currency (CBDC) by the US Fed, further progress in the testing of CBDC globally, the imminent formal US government task to federal agencies for regulating cryptocurrencies, stablecoins, and Non Fungible Tokens (NFTs), and numerous initiatives around the world to protect retail investors from cryptocurrency investment risks.

Confronted with the rapid expansion of the Metaverse, regulators face the challenge to promote this new marketplace sustainably by mitigating old and new risks to consumers, ensuring fair competition and an effective enforcement process.

## 1. The Metaverse and its Regulatory Challenges

The Metaverse is a 'work in progress', yet sufficiently advanced to anticipate what it may become and, on this basis, investigate its regulatory challenges. In this section, we first trace back the origin of the Metaverse as a marketplace and survey various definitions offered by analysts. We then highlight the essence of the Metaverse and its elements of continuity and discontinuity with the traditional marketplace. We use this distinction to investigate future regulatory challenges.

### Origins

The Metaverse is the latest step in digitalising social activities, particularly economic activities. It builds on the internet of things (IoT), which has connected an increasing number of social elements (objects, processes, and individuals). The IoT has built on the pervasive digital connection amongst individuals allowed by devices such as smartphones. The generalised use of the internet that followed the introduction of the worldwide web has allowed a high level of interconnectivity. Current challenges related to the Metaverse include improving user-friendliness, reducing the hardware cost, and mastering the software's sophistication and data processing capabilities. It is only a matter of time until the developing technology underpinning the Metaverse will support its mass adoption.

### Definitions

There is no universally accepted definition of the Metaverse. Below are some compelling definitions proposed in the literature. The Metaverse is an:

- 'alternative economy or world in which users can interact with other users within a persistent computer-generated environment ... accessible through technological devices';
- 'interconnected, experimental, three-dimensional virtual worlds where people located anywhere can socialise in real-time to form a persistent, user-owned, internet economy spanning the digital and physical worlds';
- 'expanse of digital space where users can interact with each other in real-time and get similar experiences to what they experience in the real world';
- 'online environment where people can interact in real-time as avatars ... meet each other, buy and sell digital art or properties, or participate in live concerts';
- 'advanced iteration of the internet ... apply[ing] real-world characteristics to the digital world, and digital characteristics to the real world ... a fully functioning economy across both physical and digital platforms'.

### Essence

In our view, the Metaverse extends societal activity into a virtual realm that lacks the space dimension and the conditions it typically carries.

- Today, one must displace to enter shops/marketplaces, game-fields, concert halls, and events, among others. We are subject to obvious restrictions when moving from one shop to another, from one concert or event to another. These limitations include, for instance, an activity's opening/working hours and various circumstances that may occur while travelling (for example, bad weather and traffic congestions) to reach a place of interest. We cannot switch from one place to another in seconds, and we cannot be active in different locations simultaneously (multi-tasking).
- In the Metaverse, we can visit and move between shops/marketplaces, games, concerts, and events anytime without restrictions and potentially unexpected events characterising the space dimension. We can switch from one place to another in seconds or be active in many locations simultaneously (multi-tasking). Being entirely digital, the Metaverse may be populated by AI-driven characters, with which we can interact as peers, such as employees, colleagues, staff, and participants, among others.

## Economics

From an economic transaction perspective, nothing differentiates the Metaverse from the traditional marketplace. Users pay for their consumption and market activities in the Metaverse (e.g. events, transactions in virtual stores/shops, and games) as if they were in the traditional marketplace, irrespective of how the transactions are monetised (fiat money or cryptocurrencies). While the experience is virtual, investment and consumption are real. As mentioned above, research reports by leading institutions such as Goldman Sachs, Morgan Stanley, and Bank of America predict that the Metaverse may grow into a USD 8 trillion market by 2025. However, the lack of a spatial dimension, 24/7 accessibility, fundamental lack of regulation, and its digital nature, which allows interactions between AI-driven characters and humans or human-driven avatars, determine crucial economic differences between the Metaverse marketplace and the traditional marketplace.

## Regulatory

The Metaverse marketplace faces regulatory gaps in data protection, competition rules, and enforcement ability, exposing consumers to additional risks compared to the traditional marketplace.

- In the Metaverse, consumers are typically exposed to the same transaction risks they face in the traditional marketplace. Typical risks include safety issues and frauds, manipulations, legitimacy, transparency, and authenticity of the information. Therefore, the Metaverse should be subjected to the same regulations governing economic activities in the traditional marketplace.
- The fully digital nature, absence of the space dimension, and 24/7 accessibility characterising the Metaverse configure new regulatory needs.
  - The digital nature of the Metaverse implies widespread, all-encompassing possibilities for collecting, storing, and analysing data. This phenomenon raises the typical data-handling issues faced in the traditional marketplace to a new scale and depth. In the Metaverse, consumers are exposed to the collection of unprecedented amounts and types of personal data (movements, actions, focus, duration, facial expression, vocal inflexion, and vital signs, to cite a few), which may be analysed through AI and used to influence behaviours (e.g. through AI-driven characters). Data protection regulation and its implementation in the Metaverse present new challenges and require adjustments, including mitigating the risk of market manipulation.
  - The absence of the space dimension and unlimited accessibility characterising the Metaverse re-define competition and challenge the traditional notion of jurisdiction. Consumers in the Metaverse can operate across virtual locations in a multi-tasking mode, as multiple businesses may communicate and cooperate with each other. Competition regulation and its implementation will demand various adjustments to address new issues. The Metaverse is a potentially universal dimension and requires globally-defined rules. While rules may be fine-tuned to reflect the peculiarities of geographical jurisdictions, their enforcement will need to be global in reach.

The growth of the Metaverse is technologically-driven and, as the history of digitalisation has shown, somewhat unstoppable. Digitalisation carries potential benefits to society. However, its growing adoption will expose the general population to the noted regulatory gaps, which need immediate consideration to mitigate consumers' risks and ensure fair competition and effective enforcement. Overcoming these challenges is crucial to provide a sustainable and universal new marketplace. Regulators should learn from the regulatory challenges recently experienced with digital innovations such as cryptocurrencies and crypto-finance and tackle the regulatory gaps characterising the Metaverse, mindful of the importance to manage expectations and lending stability to the digitalisation process.

## 2. Other noteworthy developments

**Material developments from the US government and federal regulators aimed to gain control over the expansion and the opportunity represented by cryptocurrencies and crypto-finance.**

- The [US government](#) holds cryptocurrencies, stablecoins, and NFTs as a matter of national security and has anticipated the release of an executive order tasking federal agencies with regulating the industry.
- The [US Securities and Exchange Commission](#) (SEC) has rejected the bitcoin spot ETF application by Fidelity's Wise Origin Bitcoin Trust [and](#) First Trust Advisors & SkyBridge. The [US SEC](#) has also postponed the decision on NYDIG bitcoin spot ETF. Lastly, the agency has [reportedly](#) considered expanding the definition of exchange to limit DeFi by [subjecting](#) crypto trading platforms to its investor protection scheme.

**Mixed signals from international policymaking bodies, with the International Monetary Fund (IMF) asking El Salvador to discontinue Bitcoin's legal status, the Bank for International Settlement (BIS) focusing on CBDC and DeFi, and European Securities and Markets Authority (ESMA) suggesting to curb mining.**

- While the [IMF](#) has urged El Salvador to discontinue Bitcoin's status as legal tender and [asked](#) for a coordinated global regulatory framework to address the growth of the crypto asset class, the [BIS](#) Innovation Hub has announced the intention to focus on CBDC, payments, DeFi, and green finance in 2022, and [ESMA](#) has urged the EU to prohibit the proof-of-work mining model.

**Several jurisdictions negatively view cryptocurrencies, particularly as they concern retail investors.**

- The Monetary Authority of [Singapore](#) has issued guidelines targeting retail crypto promotions that led various Bitcoin ATMs to cease activity. [Spain](#) has restricted and regulated the promotion of crypto assets to the retail segment. In a similar vein, the UK [Financial Conduct Authority](#) will limit the marketing of cryptos to consumers.
- More resolutely, the [Bolivian](#) Central Bank has banned cryptocurrencies, [Pakistan](#) has outlawed cryptoassets, and the [Indonesia](#) financial market regulator has proscribed crypto trading for all financial services providers.

**Central Banks experiments with CBDCs continue.**

- Over the last few weeks, the [BIS](#), Swiss National Bank, and five commercial banks have announced the successful conclusion of the experiment to demonstrate the feasibility of integrated wholesale CBDC. The Central Bank of [Bahrain](#) has successfully completed a DLT-based digital currency test, the Central Bank of [Jamaica](#) has completed its retail CBDC, and the Central Bank of [India](#) has proposed to begin testing a basic version of CBDC to ensure acceptance and user-friendliness. Furthermore, [Iran](#) has announced the intention to launch a CBDC pilot, [Malaysia](#) has communicated the desire to actively assess CBDC opportunities, and [Israel](#) has released information about its ongoing effort to create a viable CBDC. Lastly, the Central Bank of [South Korea](#) has reported successfully completing the first phase of its CBDC test.
- The [US Fed](#) has issued a discussion paper on CBDC, suggesting that a potential CBDC would have to ensure privacy, be widely transferable and identity-verified.

### 3. Conclusion

Technological progress has guaranteed considerable benefits to society and has proven unstoppable. Digitalisation is no different. The Metaverse is the latest step in the process of digitalisation of social activities, particularly economic activities. It extends the customary marketplace to an environment characterised by the absence of the space dimension, unlimited accessibility, and digital features allowing interactions between AI-driven characters and humans or human-driven avatars. Yet, transactions are far from virtual, and the sector is estimated to reach USD 8 trillion worth by 2025. The digital layer over the traditional marketplace carries new risks. It subjects actors to an unprecedented scale and depth of data collection, storage, analyses, and utilisation to potentially influence behaviours. The absence of a space dimension and the unlimited accessibility also challenge competition rules and the geographical notion of jurisdiction. Regulators need to tackle these risks sensibly and issue regulations that promote the Metaverse in a sustainable, value-enhancing way.

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