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Legal considerations in the minting, marketing and selling of NFTs

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The increased popularity in recent years of people consuming and collecting digital content has presented a vexing problem; how does one establish that a certain version of a digital work is the “original” given that it can be easily and quickly replicated into identical copies? This problem also creates distinct challenges to developing a “digital ownership economy” in which consumers own a digital work (be it music, text, video, or graphics) as opposed to a “digital license economy” in which consumers license such works from a platform, and “lose” their works when their subscription terminates or the platform ceases to operate. The solution to this issue may lie with Non-Fungible Tokens (commonly known as “NFTs”), which leverage blockchain technology to identify an original digital work, track its provenance, reward creators, and open up new business opportunities, such as by providing owners of an NFT unique access to digital or real-world content and experiences. Depending on the source, NFT sales in 2021 exceeded \$25 billion to over \$40 billion. The momentum continued through 2022 but has slowed since 2023 as the cryptocurrency industry has broadly faced headwinds compounded with a general economic downturn. This chapter describes what NFTs are and how they function, and provides an overview of some of the interesting legal issues and challenges that they present under U.S. law.

What is an NFT?

An explanation of NFTs might best start with the somewhat unusual name used to describe these digital ownership markers. In general, when blockchain technology is used as a means to generate coins or tokens, the resultant digital assets are “fungible,” meaning that they are identical and interchangeable 1:1. For example, each Bitcoin is identical to all other Bitcoins. Fungible tokens would therefore be ill-suited as a means to identify and distinguish an “original” digital work. As its name implies, the idea behind “non-fungible” tokens is to generate tokens that are unique, thereby enabling one to use these tokens to identify a digital good as the original or one of a limited series of originals. “Tokens” are also somewhat of a misnomer, as NFTs are actually pieces of computer code, known as smart contracts, that reside on blockchains and include “metadata” that, among other fields, includes: an NFT’s unique ID; a short description of the work associated with the NFT; and, in most cases, a pointer to an off-chain location where the work associated with the NFT is stored.¹

Various stakeholders, including creators, rights holders and brands, have exploited NFTs in different ways in a number of different sectors. As the NFT market has grown and evolved, we have seen that most NFTs generally fall into one or more of the following categories.

Digital art

In its simplest form, NFTs are associated with digital works created by artists. This has ranged from artists who are just getting started in their careers and can use NFTs as a means to connect directly with potential fans and collectors, to well-known digital artists who already have significant followings. The growing market for art NFTs has led the major auction houses to embrace this space and create their own NFT divisions.

Fan engagement and collectibles

Traditional intellectual property rights holders, including entertainment companies and sports leagues, are using NFTs to create and market digital collectibles as a means to build fan engagement both for existing and potentially new fans. This has included everything from pure collectibles to digital cards featuring game moments and clips that can be used for fantasy leagues.

In the music industry, NFTs are being used by artists to connect directly with fans by selling new music or merchandise. For example, a never-before-heard demo recording of Whitney Houston at age 17 was auctioned for \$999,999, and in March 2022, rapper Snoop Dogg released a set of songs as an NFT mixtape on OpenSea.² In December 2022, DJ Armin van Buuren released a collection of digital art NFTs that grant token-holders early access to unreleased music, access to fan meetup events and monthly giveaways.³ More recently, in 2024, the owner of the only copy of Wu-Tang Clan's album *Once Upon a Time in Shaolin* struck a deal with the hip-hop group: for every dollar earned from the sale of the album NFT, the 88-year waiting period for the album's full public release will be shortened by 88 seconds.⁴

Gaming

Both new and legacy gaming companies are looking at ways NFTs can be implemented to allow players to own in-game assets that they purchase and potentially transfer those assets in other games. This ownership structure would also allow players to sell, trade, and even rent out in-game assets that they have acquired.

PPF project NFTs

"Profile Picture" or "Picture-as-Proof" NFT initiatives typically involve the minting of thousands of NFTs at once of characters (e.g., animated pandas, apes, cats), often algorithmically generated with slightly different traits or attributes (e.g., wearing a different hat or expression). Owners of the NFTs associated with these graphic images can typically interact with a custom-built environment or community and unlock certain user experiences.

Brand-driven NFT projects

Retail brands have also embraced NFTs as a means to engage with their consumer base more directly and more deeply. These NFTs can be digital versions of the brand's products or other types of collectibles. The NFTs can "reward" consumers of legacy products, promote new products or services, or raise awareness for, and help fund, certain charitable causes. In some cases, these NFTs grant holders early access to product benefits, access to a community discussion forum, or the ability to participate in live or virtual experiences.

Future uses

As the potential use cases for NFTs continue to develop, a number of projects are experimenting with using NFTs as a source identifier for both tangible and intangible goods and services. This might include school transcripts and professional certificates, proof of identity, and ways to record ownership of specific assets.

Key stakeholders in the NFT market

There are a number of stakeholders in today's NFT sector:

- *Technology Providers.* There are numerous technology providers that provide services to clients related to minting, developing, storing and selling NFTs. Such providers can create white-labelled platforms or storefronts for clients looking to create their own NFT offerings and marketplaces.
- *Marketplaces.* NFTs are commonly purchased and sold through marketplaces. Some of the marketplaces only offer "curated" content in which the marketplace vets the individual digital creator who wants to list their works for sale, or has written agreements with large rights holders (e.g., a sports league or team, an entertainment company). Other marketplaces merely provide open platforms in which anyone can post an NFT for sale. Finally, some marketplaces provide both a "curated" and an "open" section.
- *Creators and Rights Holders.* As has been noted, NFTs are typically being developed and minted by individual creators or by larger rights holders.
- *Owners of NFTs.* The owner of an NFT, which is typically an individual, but could also be a Decentralized Autonomous Organization ("DAO").⁵

Technology background

In order to understand the legal issues raised by NFTs, it is important to understand some of its technology underpinnings. NFTs are bought, sold and transferred on blockchains. A blockchain is a peer-to-peer decentralized network of computers that allows for transactions to be transparently recorded.⁶ Blockchain transactions are also transparent such that anyone can observe all transfers of an asset from its point of creation, with each participant represented on-chain by their blockchain address (a string of alphanumeric characters). Because each block of transactions on a blockchain is cryptographically based on the previous block, blockchains are immutable; meaning that for all practical purposes, historical records cannot be altered or deleted. A blockchain therefore provides a compelling technology solution to creating and perpetually storing immutable digital certificates of ownership that can be tracked from their creation or "minting."

Although NFTs enjoyed mainstream adoption starting in late 2020, the idea of NFTs on a blockchain dates back to 2014. They became more widely adopted within the blockchain community in 2018 with the release of a common standard (ERC-721) for NFTs minted on the Ethereum blockchain.⁷ While Ethereum remains a popular blockchain for minting and storing NFTs, other blockchains that sometimes offer increased transaction speeds and lower transaction costs have gained traction, thereby expanding the options for NFT issuers. In addition, "Layer 2" and "Layer 3" protocols have proliferated, which essentially function as blockchain networks that overlay and are connected with underlying "Layer 1" networks. Typically, transactions can be bundled on Layer 2 and then recorded on Layer 1, offering potential scalability solutions to problems such as congestion, and high gas fees, on Layer 1. While both Layer 2 and Layer 3 solutions aim to scale the blockchain network, Layer 3 further expands the capabilities and reach of blockchains by providing additional functionality and interoperability to the blockchain infrastructure. Technological developments are also fueling new developments in NFT adoption. The Ethereum standard ERC-1155 allowed a developer to combine the token standard for fungible tokens (ERC-20) and NFTs (ERC-721) in a single smart contract. This enabled the efficient transfer of multiple different fungible tokens and NFTs in a single transaction, thereby facilitating faster network speeds and lower transaction costs for participants. The Ethereum standard ERC-6551 assigns Ethereum smart contract addresses to NFTs, creating a "token-bound" account. These token-bound accounts enable NFTs to perform transactions, hold assets and interact with applications, spurring novel future use cases for NFTs.

A key technological development in 2023 was the introduction of NFTs on the Bitcoin blockchain. While the Bitcoin blockchain does not offer the same range of functionality as the Ethereum blockchain, developers were able to replicate the NFT experience on the Bitcoin blockchain through the use of “ordinals.” The ordinals protocol allows individual satoshis, the smallest unit of Bitcoin currency, to be assigned a unique identifier and transacted, including with additional data such as images or video appended.⁸ This unique identifier meant that satoshis could be treated as non-fungible digital assets, along with the image or video attached to them, thereby creating an NFT ecosystem on the Bitcoin blockchain. A critical feature of ordinal NFTs is that, in contrast to NFTs on most other blockchains, the actual NFT content is itself stored on-chain, thereby eliminating a number of risks with other blockchains where storage on-chain is not feasible and content is stored in an off-chain location and made available via a pointer in the NFT metadata.

A key market feature of NFTs results from the fact that it is a programmable piece of computer code. This allows developers to include, for example, a programmable royalty (or resale) function that automatically transfers a specified amount of cryptocurrency from the sale price of an NFT to the on-chain wallet of the one or more creators, rights holders, or participants in a project each time an NFT is sold on-chain. This technology opens up numerous new opportunities to reward those involved in an NFT project. There is a royalty payment standard (ERC-2981) that standardizes the manner of signifying royalty information in ERC-721 tokens, but it still has its limits, as all parties to the transaction are still required to honor and enforce the royalties. Due to the current lack of standardization for programmable royalties, typically NFT marketplaces are required to overlay additional smart contracts at the platform level to facilitate the collection and distribution of royalties. As a result of the fragmentation, there may be inconsistencies with respect to how royalties are collected across platforms and uncertainty as to whether royalties will be honored as NFTs are transferred across platforms. In 2022, competition among NFT marketplaces generated a trend towards marketplaces enforcing limits on royalties or announcing either that they will not honor royalties or that royalties are optional for NFT purchasers to pay. In response, certain NFT issuers and marketplaces blocked resales of NFTs on marketplaces that do not honor royalties.

Legal issues presented by NFTs

The widespread adoption of NFTs has raised a number of interesting questions under U.S. law, some of which are traditional legal questions that arise in the creation of any creative work, and some that are questions of first impression.

Who has the right to mint an NFT?

Copyright considerations

Anyone minting an NFT, be it an individual creator or a rights holder with a library of intellectual property assets, will need to determine whether they have the appropriate rights to do so. Given that NFTs have only been adopted as a means of identifying digital goods in recent years, it comes as no surprise that many contracts involving the creation of, and rights to, digital goods – be it art, music, memorabilia, or other goods – make no reference to who owns the right to create or “mint” an NFT associated with the digital good. While clauses addressing NFT rights may be added to many such agreements (as discussed below), until that point, those analyzing who has the right to mint an NFT must rely on a standard intellectual property analysis and also look at whether there are clauses in agreements that could be construed to sweep in NFTs.

Under U.S. copyright law, a creator owns the copyright in a creative work upon the creation of that work and its fixation in tangible form, regardless of the medium. The copyright holder enjoys a “bundle of rights” with respect to the work, including the exclusive right to reproduce, prepare derivative works of, publicly perform and publicly display the work.⁹ This “bundle of rights” can be held or licensed by the copyright holder in whole or in part, but critically, unless each of the rights are expressly assigned or licensed away, they will remain with the creator, or, in copyright parlance, “author,” of the work.¹⁰

Those minting an NFT will also need to take into account whether there are joint authors who have applicable legal rights that could impact the minting of an NFT. The issue of what constitutes joint ownership is nuanced, and those minting an NFT will want to understand who might be able to claim they have a joint ownership right in a work.

Musical works present their own unique set of issues. Generally, each piece of recorded music has a compositional copyright in the music itself (the musical composition and lyrics) and a master copyright in the sound recording that is the particular expression of the composition, as created by performing or recording artists. The master rights are held by the artist or, more typically, by a label. If a third party wants to create a derivative work of a composition or a master recording by combining a musical work with a video clip, they will require a “sync license” to use the composition and a master use license to use the master recording. Creating an audio-only recording of a composition requires a “mechanical license.” Depending on the circumstance, performing the composition may require a “public performance” license.

Given the foregoing, it is not clear where this leaves a party seeking to mint an NFT of a digital work. Where a party seeking to mint an NFT holds the entire bundle of copyright rights, this is a non-issue. However, in cases where the bundle of rights has been dispersed among multiple parties, including through exclusive license arrangements, the answer may be less clear. Minting an NFT often requires at least some exercise of copyright rights: for example, a digital work linked to an NFT is generally displayed by the seller, such as on a marketplace, so that the purchaser knows what they are acquiring. Video clips and music offered as NFTs may trigger performance rights. In most cases, the parties will need to look back at agreements that memorialized the allocation of rights to determine who can authorize the creation of an NFT, keeping in mind that this might entail approval from multiple parties. These parties will also need to consider the commercial terms of these arrangements. For example, many agreements concerning creative works include broad “sweep” clauses, such as a broad right to “commercialize” a work or exploit a work in connection with future technologies. Whether such clauses can be interpreted to include the right to mint NFTs will require a case-by-case analysis, although courts have interpreted these clauses to include new technologies.¹¹

Those seeking to mint or exploit an NFT must also consider the moral rights of the author of the associated work. The scope of moral rights will depend on the applicable jurisdiction, but generally will protect certain non-economic rights of the author. While, in the United States, such rights are limited to visual works under the Visual Artists Rights Act of 1990 (“VARA”) and extend only to right of attribution and integrity, in other jurisdictions, moral rights may include an author’s control over whether and in what way their work is displayed and how it is used.¹² Whether an author can seek to invoke their moral rights to prevent the creation of an NFT associated with their work remains to be seen, but is an issue that should not be discounted.

Many NFT marketplaces seek to protect themselves from issues of copyright ownership by requiring those minting NFTs to represent that they have the appropriate rights, and by disclaiming any liability to purchasers if that proves not to be the case.

Two cases in the NFT space illustrate these copyright issues. In June 2021, Roc-A-Fella Records, Inc. (“RAF”) sued Damon Dash (a co-founder of RAF) after Dash’s alleged attempt to auction off the copyright to Jay-Z’s debut album, *Reasonable Doubt*, as an NFT. RAF argued that the album and its copyright were assets belonging to RAF, and Dash could not sell such rights as an NFT or otherwise. The parties settled in June 2022. In late 2021, Quentin Tarantino launched an NFT collection of digital images of his handwritten screenplay for *Pulp Fiction*. Miramax, which owns the copyright to the film, sued Tarantino, alleging copyright infringement on the basis that Tarantino had sold Miramax those versions of his screenplay as well, and therefore did not have the rights to mint NFTs to the screenplay. Miramax highlighted the catch-all language in its contract with Tarantino that stated it owned “all rights . . . now or hereafter known . . . in all media now or hereafter known.” The parties settled the lawsuit under terms that were not disclosed.

Trademark considerations

Those minting NFTs also need to be aware of issues surrounding trademarks (to the extent incorporated into an NFT without the permission of the trademark owner) and rights of name, image and likeness (“NIL rights”).

Both the Lanham Act and corresponding state laws provide protection against the unauthorized use of trademarks in a manner that is likely to cause confusion among consumers.¹³ Moreover, the use of any name, symbol, image, or device that is likely to cause mistake as to the source, affiliation, or sponsorship of a good or service is also prohibited.¹⁴ Accordingly, the use of trademarks or colorable imitations of trademarks in NFTs may implicate a third party’s trademark rights. Moreover, if the underlying trademark is famous and distinctive, rights under the state and federal dilution statutes may be implicated.

A few NFT-related lawsuits highlight the unique trademark issues that can be presented by NFTs. In 2021, luxury brand Hermès sued Mason Rothschild for minting and selling “MetaBirkins” – NFTs of faux-fur digital renditions of the classic Hermès Birkin handbag – alleging that Rothschild infringed on the company’s trademarks. Rothschild claimed that MetaBirkins are a form of artistic expression and protected as free speech under the *Rogers v. Grimaldi* test.¹⁵ According to the test, artistically expressive uses of trademarks may be protected by the First Amendment, and therefore do not constitute trademark infringement “unless the [use of the mark] has no artistic relevance to the underlying work whatsoever, or, if it has some artistic relevance, unless [it] explicitly misleads as to the source or the content of the work.”¹⁶ In May 2022, the court denied the parties’ cross-motion to dismiss. In February 2023, in the midst of trial, the court issued a formal opinion clarifying its position, noting that the *Rogers* test applied to the case and instructed the jury to assume that the MetaBirkins were, in at least some respects, works of artistic expression and that Hermès was required to establish, by a preponderance of the evidence, that Rothschild’s use of the trademarks was “intentionally designed to mislead potential consumers” into believing Hermès was associated with the project.¹⁷

The jury ultimately sided with Hermès in January 2023, finding that Rothschild was liable and not shielded by the First Amendment, and soon thereafter, in June 2023, the court issued a permanent injunction preventing the artist from, among other things, minting, selling, distributing, promoting or otherwise disposing the MetaBirkins. The dispute was closely watched for its potential to set precedent on the application of trademark law to NFTs; however, the fact that the MetaBirkins were linked to NFTs ultimately proved not to be dispositive to the jury’s decision-making. Hermès argued that Rothschild’s use of the “BIRKIN” mark referred to and promoted the tokens themselves, which held value separate and apart from any associated images that may be protected artistic works. However, Judge Rakoff found undisputed evidence in the record that consumers understood they were purchasing exclusive ownership of the digital image associated with the NFT and were not viewing the token purchase as separate from the digital image purchase. He also reasoned that, because NFTs are simply code pointing to where a digital image is located, such an associated digital image does not automatically turn into a commodity without First Amendment protection. However, the court’s rationale should not be taken to mean that all digital images associated with an NFT are *per se* protected by the First Amendment, as in a footnote in the May 2022 order, the court noted that Rothschild appeared to concede that the *Rogers* First Amendment protection may not apply if NFTs were attached to a digital image of a virtually wearable Birkin bag; in such a case, the use of the MetaBirkins mark would refer to a non-speech commercial product.¹⁸

MetaBirkins returned to the headlines in early 2024 when Rothschild sought clarification from the court regarding whether he could permit a Swedish museum to display the MetaBirkins in an upcoming exhibit. Rothschild argued that the June 2023 injunction should not prevent him from publicly showcasing the digital artworks in an artistic setting, contending that any such restriction would be inconsistent with both trademark law and the First Amendment. Judge Rakoff ultimately approved Rothschild’s request, allowing the NFTs to be exhibited so long as both Rothschild and the museum prominently disclose the outcome of the 2023 jury decision to museum visitors.

In June 2022, Yuga Labs, the creator behind the Bored Ape Yacht Club (“BAYC”) NFT collection, sued Ryder Ripps and additional defendants for their use of the BAYC trademarks in connection with the marketing and sale of their “RR/BAYC NFT” collection, which are allegedly identical copies of Yuga Labs’ Bored Ape NFTs. Yuga Labs asserted that the defendants used the BAYC trademarks and logos to promote their infringing RR/BAYC NFTs and intentionally misled consumers into believing that the infringing NFTs were legitimate. Yuga Labs claimed common law trademark infringement, false designation of origin and false advertising under the Lanham Act, among other claims, and seeks injunctive relief to bar defendants from using the BAYC trademarks, as well as monetary relief. The court decided in Yuga Labs’ favor in April 2023, by granting Yuga Labs’ motion for summary judgment with respect to its common law trademark infringement, false designation of origin, and cybersquatting claims. Notably, the court rejected Ripps’ argument that the RR/BAYC NFTs should be protected as First Amendment artistic expression under *Rogers*, noting that the “[d]efendants’ sale of RR/BAYC NFTs [was] no more artistic than the sale of a counterfeit handbag, making the *Rogers* test inapplicable.”¹⁹ The court also granted Yuga Labs injunctive relief. However, in February 2024, when Ripps was due to comply with the injunction, he revealed that he had destroyed some of the keys to the wallets holding the NFTs such that he could not comply with the injunction. Yuga Labs moved for sanctions.²⁰

In March 2024, Ripps appealed the district court’s decision to the Ninth Circuit contesting the Lanham Act and cybersquatting issues.²¹ On appeal, Ripps argued that his use of Yuga Labs’ asserted marks constituted normative fair use and was protected by the First Amendment, that Yuga Labs did not use their own asserted marks lawfully and abandoned ownership rights to them, and that NFTs do not constitute “goods” under the Lanham Act for which trademarks may be registered. This appeal is pending at the time of this chapter.

Right of publicity considerations and the evolution of intellectual property rights

Those minting NFTs also need to be aware of issues surrounding rights of name, image and likeness (“NIL rights”). Incorporating an individual’s NIL likeness into an NFT without authorization risks infringement of that individual’s right of publicity. The right of publicity is a right protected by state law. It gives an individual the exclusive right to control the commercial use of his or her persona, meaning one’s NIL. Over 35 states currently recognize an individual’s right of publicity. Although the scope of protection varies across jurisdictions, infringement typically occurs when a third party exploits the subject’s likeness for a commercial purpose without permission.

In January 2022, rapper Lil Yachty filed a lawsuit against Opulous and Ditto Music for alleged malicious use of his name and likeness in connection with Opulous’ NFT project, which ultimately raised over \$6.5 million in venture capital funds. In his complaint, Lil Yachty alleged that he did not receive any financial benefit from the raise, despite use of his likeness. The parties ultimately settled in April 2023.

One can expect that the application of traditional concepts of intellectual property law to NFTs will continue to evolve, especially as NFTs expand into the developing “metaverse” and gaming industries. In July 2022, in response to a letter from two members of the Senate’s intellectual property subcommittee, the U.S. Copyright Office (“USCO”) and the U.S. Patent and Trademark Office (“USPTO”) announced that they will conduct a joint study to examine intellectual property issues related to NFTs to provide legal clarity amid rising questions and legal disputes centered around this technology.²² In January and February 2023, the offices held public roundtables and collected public comment in furtherance of its joint-study efforts.

In January 2023, the Nice Classification, an internationally recognized system used to classify goods and services for the registration of trademarks and service marks, provided guidance with respect to the classification of goods and services related to digital assets. Specifically, a few of the classifications were updated to include references to blockchain-based digital assets, such as NFTs, as well as metaverse activities and cryptocurrencies. This is anticipated to provide clarity for practitioners looking to register trademarks in connection with these activities.

In addition to providing guidance to practitioners, additional regulatory clarity may help resolve the intellectual property disputes in this space and provide participants with guidance as they navigate uncharted waters.

USPTO and USCO report to Congress

In May 2023, Congress requested the USPTO and USCO to report on the implications of NFTs on the intellectual property rights framework in the United States. In response, in March 2024, the USPTO and USCO delivered a report to Congress titled Non-Fungible Tokens and Intellectual Property. The report assesses how NFTs may implicate intellectual property law across the areas of trademarks, copyrights, and patents. While the report did not find that changes in any of these legal frameworks were necessary to address NFTs, the report did find that NFTs pose unique challenges to the infringement and enforcement of copyrights and trademarks. In addition, the report found an opportunity for NFTs to function as a management tool across the trademark, copyright, and patent ecosystems as well as to strengthen the brands associated with trademarks.

Trademarks

With respect to trademark protection, the report finds that NFTs offer an opportunity for brands to strengthen their right through identification and authentication. However, the report acknowledges that this opportunity has been challenged by commonplace trademark infringement issues posed by the use of third-party brand trademarks in connection with NFTs that are not affiliated with that brand.

NFTs as a means for authentication

According to the report, NFTs provide an important means by which brands can track and verify the authenticity of the goods and services they offer. The report cites as examples the fact that some luxury brands have minted NFTs to function as unique identifiers for “real-world” luxury or costly goods, such as handbags or sneakers, allowing customers to confirm that the goods are authentic and not counterfeit, and to track the chain of ownership. The report notes that NFTs are a more secure means of authentication compared to traditional paper certificates, which can be more easily forged.

The report also acknowledges that brands are expanding the scope of their trademark portfolios to cover digital goods and services associated with NFTs. The USPTO has already started to modify the trademark registration framework to accommodate this shift, establishing multiple new classes of NFT-related goods and services for use in trademark applications, such as downloadable image files authenticated by NFTs. Furthermore, some brands are expanding their trademark portfolios by registering their existing trademarks in classes for physical goods and services as new marks in classes for digital versions of similar goods and services that are associated with NFTs. This trend has allowed brands to extend the scope of trademark protections over physical assets to analogous NFT-associated digital assets.

Challenges to trademark protection

The report also highlights some challenges that NFTs present to trademark protection. For example, those seeking to trademark the name or brand associated with their NFTs may struggle with providing the specimens of use required to file a trademark application (i.e., examples of how the trademark is used in connection with the goods and services identified in the application). On a going forward basis, the report also acknowledges concerns expressed by some in the NFT space that trademark holders may have difficulty demonstrating a continued use in commerce for “limited edition” NFTs, which often fall out of use once sold or discontinued.

The report also cites some legal uncertainty as to whether trademarks covering certain classes of physical goods (e.g., a trademark for apparel) would also extend to NFT-associated digital versions of those goods (e.g., a digital version of the apparel secured through an NFT). The report also notes the potential uncertainty in infringement cases since it is not clear whether a consumer would confuse the same

mark used for both real-world goods and digital goods using the same mark. The *Hermès International v. Rothschild* case discussed above is an example of the uncertainty surrounding the issue of confusion.

Copyrights

With respect to copyright protection, the report found that NFTs offer moderate opportunity to enhance copyright management through smart contracts and other recordkeeping functions. However, the report also identifies substantial copyright infringement and enforcement issues stemming from NFTs minted to reference already-copyrighted assets.

NFTs as a means to enhance secondary royalties

According to the report, NFTs offer unique opportunities to expand royalty payments arising from the resale of copyrighted works since, in theory, smart contracts could be used to pay out royalties to one or multiple parties each time an NFT is sold. However, the report acknowledges the reality that, currently, most secondary royalty payments are not automated and instead creators must rely on NFT marketplaces to pay out these royalties. While initially most NFT marketplaces championed and enforced secondary royalties, the report notes that competition among marketplaces for NFT listings has resulted in marketplaces ignoring royalty payments so they can maximize the revenue for their own customers.

NFTs as a recordkeeping tool

The report notes that NFTs could function as a recordkeeping tool for copyright information. For example, NFTs can create immutable records (i.e., of ownership, contributors, licenses, etc.) or verify contribution histories, which may ultimately facilitate registration and recordation processes in a way that reduces transaction costs. However, the report concludes that, presently, this recordkeeping function likely cannot substitute for that of the USCO because the immutability of blockchain-based records prevents the correction of errors. The report cautions that many common practices, such as the minting of NFTs by persons other than the owner of the associated assets or anonymous persons, would complicate a blockchain-based recordkeeping system. The report also expresses concern that there is less incentive to enter correct information onto blockchains than onto documents filed with the USCO given the lack of penalties for providing false information or the presence of a governing authority to make accuracy determinations. The report concludes that while NFTs can aid in copyright recordkeeping, they likely cannot facilitate a primary platform for recordkeeping.

Copyright challenges posed by NFTs

The report states that NFTs may infringe on a copyright insofar as the asset to which they are associated has already been copyrighted. According to the report, if an NFT is minted to reference a copyrighted asset itself or a copy of a copyrighted asset, that associated asset may constitute a derivative work or a reproduction of the original work, and render the minter liable for infringement. These issues are not present when the NFTs are associated with works that are not copyrightable or whether the minter of the NFT is also the creator of the associated digital work. The report cautions that while there are certain deterrents to minting NFTs to reference copyrighted works for which the minter has no right (e.g., terms and conditions of marketplaces, reps and warranties required by the minter, and on- and off-chain contracts), there is no technological barrier to minting NFTs to reference copyrighted works. According to the report, as a result, there have been substantial copyright infringement issues stemming from the minting of NFTs associated with copyrighted works.

The report also states that once an NFT is minted with reference to a copyright-implicating asset, the storage, marketing, and transfer of that NFT may further infringe on copyright protections. Most mechanisms for storing assets, including on-chain storage and off-chain storage on decentralized servers, involve making further copies of the asset. Additionally, common marketing practices within marketplaces, such as the use of thumbnails to display associated assets or the preview of associated sounds, may further implicate rights

of reproduction, distribution, and display. These post-minting infringement issues, according to the report, are further complicated by the fact that the scope of liability for sellers and marketplaces is often not legally well defined. Consequently, copyright infringement issues may persist beyond the minting of the NFT.

Copyright infringement may also arise from the failure of NFT consumers to distinguish between transfer in ownership of an NFT associated with a copyrighted asset and transfer in ownership of that copyrighted asset itself. As the report explains, the transfer of an NFT does not necessarily transfer the copyright to the underlying associated asset; a fact that consumers might not appreciate. Indeed, many NFTs are sold with the explicit disclaimer that ownership of the NFT does not constitute ownership in the copyright to the underlying asset. Moreover, even if a seller of an NFT had the rights to assign the copyright in the underlying digital work, it is not at all clear, according to the report, that the common means of transferring an NFT (e.g., through a smart contract) would constitute a proper assignment of copyright rights in the underlying work.

Finally, the report notes that NFTs may pose unique copyright enforcement issues, particularly with respect to applying the Digital Millennium Copyright Act (“DMCA”) notice-and-takedown system. First, many minters and sellers of NFTs remain anonymous, making it difficult to identify infringers. Second, given the immutable nature of blockchain, NFTs and their associated assets remain on the blockchain in perpetuity even once removed from a marketplace.

Patents

The report finds that the largest role for NFTs in the patent context is to serve modest management functions for patent data. As a management tool, NFTs may facilitate the immutable storage of and access to patent agreements, tracking or automation of royalty payments, and fractionalization of patent ownership. However, the report cautions against NFT-based management as a wholesale substitute for the USPTO’s existing patent database to avoid redundancy and the aforementioned accuracy challenges associated with blockchain-based recordkeeping.

According to the report, in contrast to the trademark and copyright contexts, NFTs likely do not challenge the existing patent rights framework given that they do not pose unique infringement or enforcement challenges. NFTs are likely not patent-eligible concepts given that NFTs themselves would not meet the criteria for utility or design patents. Instead, only NFT-related inventions, such as mechanisms for associating NFTs with assets, systems for the creation and management of NFTs, or interfaces in decentralized storage platforms for associated assets, may be patent-eligible. For this same reason that NFTs are unlikely to be patent-eligible, NFTs themselves are also unlikely to be patent-infringing. Therefore, NFTs have relatively fewer implications for the patent rights framework than for the copyright and trademark rights frameworks.

Incorporating NFT rights into agreements

Whenever a new technology is introduced, ranging from CD-ROMs to streaming, there is always a rush to incorporate that technology into the grant of rights sections of agreements. One can expect similar treatment of NFTs in a variety of agreements, such as: freelance agreements; agreements pursuant to which a copyright holder grants rights to a third party to exploit or commercialize their work; and agreements between talent (e.g., musicians, actors, athletes, or influencers) and an agency or representative. However, merely adding “NFTs” to a litany of rights will likely fall short of addressing the underlying complexities of what NFT rights actually mean, where the NFT and associated content will be stored, and the growing number of ways NFTs can be structured. Contractual obligations to use commercially reasonable efforts to police and enforce a rights holder’s intellectual property rights are also more complicated in the context of NFTs, given, as discussed below, the limited ability to take down unauthorized or infringing works linked to the NFTs. The parties will also want to consider the inclusion of blockchain-specific disclosures and risk factors.

If a licensor seeks to grant a licensee rights to mint an NFT, explicit language should be included that outlines the scope of rights and the parameters of the minting (i.e., is all of the intellectual property or only a subset permitted to be minted; is there a limitation on the type of marketplace used; will only one NFT be permissible per work or could there be a limited supply (i.e., five originals, much like how there may be multiple limited editions of a print); what rights can the licensee grant to purchasers of the NFT; can an NFT subsume assets that are outside the scope of the agreement, etc.). This will ensure that the licensor does not inadvertently grant overly broad rights that do not align with its objective and will help to avoid issues of breach of contract or infringement down the road.

Issues of persistence

Critically, while an NFT is stored on a blockchain, in most cases the work associated with the NFT is not (i.e., it is “off-chain”). This is because most blockchains are programmed to assess a fee (known as a “gas fee”) for storing or transferring files, and for the large files that comprise most digital works associated with an NFT, that cost would be prohibitive. Instead, most NFTs include a metadata field with a pointer or link to an off-chain resource where the associated work is stored. Thus, while the NFT might itself be immutable, the off-chain work may not have that same persistence. For example, an NFT might include a pointer to an online location, such as a URL, where the underlying work can be observed. The risk of location-based pointers is that the file at that location could be changed, much the way a website can change from one visit to the next. In a well-publicized case, a digital artist known as “Neitherconfirm” highlighted this persistence issue by changing the computer-generated portrait images associated with the NFTs the artist had sold on the OpenSea NFT marketplace into photos of carpets (simulating a scam known as a “rugpull”).

One solution is to use file storage systems that rely on content identification, instead of location-based pointers, such as the InterPlanetary File System (“IPFS”), a peer-to-peer distributed file system. In a content identification system, files are identified through a Content ID (a cryptographic “hash” of the content) as opposed to where the file is located. If someone sought to modify the digital work, the modified work would generate a new Content ID, while the original file linked to the NFT would remain. While systems like IPFS are superior to location-based systems for NFTs, there is not necessarily a guarantee that a work will exist forever. While IPFS is designed for multiple computers to hold a copy of a work, if there is only one copy on IPFS and it is being stored by one particular computer that goes out of business, that work could be lost.²³ In addition, for data to persist on IPFS, it must be “pinned” to a node. Third-party pinning services run multiple IPFS nodes and allow users to upload, pin, and retrieve data from such nodes for a fee. If the user stops paying for the third-party pinning service, the uploaded data may be lost entirely.

An NFT is therefore only as valuable as the persistence of its underlying work. For NFT purchasers this is a commercial risk issue. For creators, rights holders, and NFT marketplaces, persistence is an important technical point that may affect a myriad of provisions in NFT-related agreements, such as risk factors to be disclosed and limitations on, or disclaimers of, liability.

The issue of persistence becomes particularly important for rights holders if the platform on which their NFTs are marketed ceases to operate. Rights holders will want to make sure in their agreements that they have the right to take over the storage of the NFTs. This may involve contractually requiring the counterparty to update the metadata for the NFTs such that the pointer in the NFTs resolves to a different location, such as a proprietary server where the rights holder is hosting the images. Alternatively, rights holders can ensure that they have the right to take over the servers on which the works are stored, either through taking over physical control, or more likely, taking over the contract governing the use of that server. In the case of works stored on IPFS, rights holders may want to make sure the work will continue to be preserved if the now-defunct platform was hosting the work on its own gateway. While rights holders could mint new NFTs for their works and provide them to then-current NFT holders, such a solution would defeat one of the fundamental benefits of an NFT – demonstrating its provenance from when it was first created.

Issues of authentication

A common misconception is that an NFT automatically provides an immutable certification of authenticity. In reality, while an NFT allows one to view the blockchain address of its original creator, some independent means of verification is required to know that the person or entity associated with that address is who they claim to be or had the appropriate rights in the associated work. This may require direct interaction with the minter of the NFT (a solution that may not be scalable) or use of a trusted third party to authenticate that party. In all cases, those within an NFT ecosystem need to be cautious about explicit claims or legal representations of “authenticity.”

What rights are being acquired in the underlying work?

Purchasing an NFT does not provide the purchaser with intellectual property rights, particularly copyright rights, in the associated work. As noted above, under U.S. law, the “bundle of rights” is held by the author of a work unless they are expressly assigned or licensed away. In this respect, purchasing an NFT is no different from purchasing a piece of physical art. While the purchaser of a painting or sculpture may own the physical work, they typically do not acquire any intellectual property rights in such work (e.g., they cannot create and sell posters of the painting they purchased).

The rights that an NFT purchaser receives are therefore generally governed by the license provided by the marketplaces that offer the NFTs for sale. That could be general terms that apply unilaterally to all NFTs offered for sale on the marketplace or bespoke license rights that apply to the works of individual creators or rights holders.

Most current marketplaces grant an NFT purchaser a non-exclusive and non-transferable license to use, copy and display the creative works underlying the NFT for personal use. For example, some marketplaces provide a limited license to display the work solely to promote the purchaser’s “purchase, ownership, or interest” in the underlying work (e.g., through social media), promote discussion of the work, display the work on third-party marketplaces or exchanges to sell or trade the NFT, or display the work within decentralized virtual environments. In the instance where the marketplace terms of use are silent on license rights, the NFT purchaser would likely not have any intellectual property rights in the creative work, and would likely only have an implied license to display the work for personal use. In the early days of the NFT boom, the right to commercialize works associated with NFTs was expressly carved out or was allowed for only limited purposes. For example, Dapper Labs, the company behind the early-stage CryptoKitties NFTs and NBA Top Shot, proposed a form of NFT license for the industry to use (NFT License 2.0) that would allow a purchaser to commercialize a work up to \$100,000.²⁴ Yuga Labs was one of the first projects that granted NFT holders the right to commercialize the creative work linked to the NFT; each Bored Ape NFT holder was granted a license to use the underlying art for the purpose of creating derivative works, such as merchandise.²⁵ BAYC triggered a wave of NFT projects that granted similar commercialization rights and, over time, many NFT projects have opted to grant purchasers even broader permitted commercialization rights.

The typical NFT terms and conditions also set forth certain restrictions on how the creative work underlying the NFT may be used. For example, a number of license agreements prohibit use of a creative work in connection with media that depicts hatred, intolerance or violence, or that otherwise infringes upon the rights of others.

Given that the purchaser of an NFT is typically getting a license to the work associated with the NFT, each NFT sale therefore has two components: the “sale” of the actual NFT (which the purchaser owns outright); and a limited license to the work. The distinction between a sale and license can have important ramifications under U.S. law.

Under the first sale doctrine, the “owner of a particular copy” may “sell or otherwise dispose of the possession of that copy” without the authority of the copyright owner.²⁶ For example, one may resell a physical book they purchased without infringing the copyright holder’s distribution right. “Once the

copyright owner places a copyrighted item in the stream of commerce by selling it, he has exhausted his exclusive statutory right to control” the distribution of that particular item.²⁷ Purchasers of NFTs may conclude that this doctrine provides comparable rights with respect to NFTs. However, the USCO and at least one court have concluded that the first sale doctrine does not necessarily apply to digital works.²⁸ The rationale is that the first sale doctrine is only a narrow exception to the right of distribution. However, when a digital work is transferred, a new copy is electronically created, thereby infringing on the copyright owner’s exclusive right to make copies. In addition, the first sale doctrine does not apply to works that have been licensed, as opposed to sold.²⁹ Creators and rights holders should therefore be careful to clarify that while a purchaser may be *buying* the NFT, they are only *licensing* the associated digital work.

Whether terms and conditions “travel” with an NFT

When NFTs are first minted and offered for sale or otherwise distributed, there are several ways the NFT creator or issuer may grant rights, or purport to grant rights, in the underlying artworks to NFT purchasers, assuming they themselves have the appropriate rights to do so. Most often, NFT issuers make the NFTs available for initial sale or distribution through the issuer’s own website platform or a platform offered by their business partner. In these cases, the NFT issuer can rely on a “click-wrap” agreement pursuant to which purchasers must affirmatively “click” to agree to the applicable terms and conditions in order to obtain an NFT. Alternatively, the NFT issuer might include a link to the terms and conditions on the website hosting the initial launch (often on the bottom of the page) that the user is not directed to review, let alone affirmatively agree to, prior to purchasing the NFT. These “browse-wrap” agreements sometimes state that mere use of the website constitutes assent to the terms and conditions. In other cases still, commercial rights are granted through posts to online NFT-community fora (such as Twitter or Discord) or through an FAQ or roadmap on the NFT issuer’s website.

To determine whether such terms and conditions are binding on the initial purchasers of an NFT, the same analysis would be used that has traditionally been applied to online contracts. Courts consider whether purchasers (i) were on notice of the terms, and (ii) actually or implicitly assented to them.³⁰ Applying this framework, courts generally enforce click-wrap agreements because they require purchasers to physically manifest assent (e.g., clicking an “I accept” button that explicitly indicates assent to the terms of use).³¹ In contrast, since browse-wrap agreements do not require explicit physical assent, courts typically will only find them enforceable if they are presented in a clear and conspicuous manner.³² This can be a high bar, as courts have refused to enforce terms placed on a submerged screen,³³ located exclusively at the bottom of a website,³⁴ situated among many other links,³⁵ or even in a link included on every page of a website near other relevant user prompts.³⁶

The Ninth Circuit’s recent dicta in a concurring opinion in *Berman v. Freedom Financial Network, LLC* about the enforceability of different online contracts is instructive. There the court found that the font size and format of a website’s contractual terms were not conspicuous enough for a reasonable consumer, and that clicking a large green “continue” button placed near these terms did not manifest unambiguous assent.³⁷ Guided by two internet contract formation cases decided by the California Courts of Appeal,³⁸ the concurring opinion took the analysis further, asserting that, under California law, click-wrap and scroll-wrap agreements (i.e., agreements where users must physically scroll to the bottom to click an “I accept” button) are presumptively enforceable,³⁹ while browse-wrap agreements are *per se* unenforceable.⁴⁰

Thus, simply placing the terms and conditions that apply to an NFT, including any commercial rights being granted, on a link accessible at the bottom of the NFT issuer’s website may not bind the initial NFT purchaser in all cases. Similarly, folding terms and conditions into the registration process for an NFT purchase or “allow list” (i.e., pre-registering for access to purchase NFTs) through a sign-in wrap agreement does not necessarily give rise to an enforceable contract in all jurisdictions. General online statements in social media or in FAQs, without more, may also not be enforceable. The issue with granting rights through social media statements is also exacerbated by the fact that, in many cases, the poster of

the statement may not have the authority to even grant such rights (e.g., a third-party moderator on an NFT issuer's channel).

The issue of whether terms and conditions are binding on the owner of an NFT becomes far more complicated with respect to downstream purchasers of NFTs. To the extent a purchaser is buying an NFT on the same marketplace where it was first sold, there should be no issue in assuming that the future purchaser has also agreed to be bound by the marketplace's terms. However, one of the strengths of NFTs is that they are often transferable outside of the platform where they were first offered. In these situations, a future purchaser may not be aware of the license terms and restrictions that attach to the associated work. That is because there currently is no effective and generally accepted mechanism for legal terms to "travel" with an NFT. While secondary marketplaces typically have their own terms and conditions, these relate to the use of the marketplace, not the individual NFT. Thus, even assuming the best-case scenario where the initial purchaser agreed to the terms through a click-wrap or scroll-wrap agreement, it is far from clear how a downstream purchaser would be aware of, let alone agree to, the terms of such an agreement.

To date, there have been a number of approaches to address this issue, each of which presents its own shortcomings, and none of which have been universally adopted. Including a link to the license terms of the metadata of the NFT may not solve the issue since the purchaser may not look at the metadata before making a purchase, and even if the purchaser did, the NFT sale/transfer process may not include a step where the purchaser manifests their assent to the terms. Some companies are developing technology solutions where an NFT is "wrapped" in a legal agreement to which the purchaser must consent before the NFT can be transferred. However, such a solution would require widespread adoption and implementation across platforms to effectively ensure that terms and conditions are traveling with the NFT as it transfers between platforms.

Enforcement by rights holders

New technologies to commercialize intellectual property rights also inevitably yield cases of infringement and piracy, and NFTs are no exception. Companies with robust intellectual property libraries may want to push out statements that any NFTs associated with their properties are unauthorized unless originating from the company, and educate their employees and freelancers about whether they have the right to mint NFTs of works they created for the company.

If an NFT is minted without the authority of the rights holder, the rights holder likely has a claim for copyright infringement, since a number of their exclusive rights would have been violated (e.g., the right to copy, distribute, display, and perform the work). However, enforcing even clear claims of infringement may be challenging in a decentralized ecosystem where identifying the infringing party may be difficult. A rights holder may have the most success focusing on the centralized touch points of the ecosystem, such as NFT marketplaces. Many NFT marketplaces allow copyright holders to submit takedown notices under the DMCA if they believe their work is being infringed by NFTs available on such marketplaces.⁴¹ However, a successful takedown likely only means that the NFT listing and images of the work displayed on the marketplace will be removed. It does not mean that the infringing work will be deleted from whatever platform or server it may be stored on. It also means that if the NFT has been sold already, the NFT likely still exists in the wallet controlled by the owner of the NFT, as the marketplace would have no ability to access that NFT. The rights holder would need to seek to take down the work from the system it is stored on, which leads to another complicating factor when applying the DMCA to NFTs.

As discussed above, the digital work associated with an NFT may be stored in a variety of different ways. In some cases, the marketplace may store these works on its own proprietary servers or may store them on the servers of a cloud provider. In these cases, the marketplace could take the additional step of removing the infringing work from the storage system it owns or controls. However, if the digital work is stored on a decentralized file system, such as the IPFS file storage system, as noted above, there are limited practical ways for a copyright owner to track down each server where an infringing work might be stored and get

it taken down. The IPFS file storage system, for example, includes its own DMCA takedown process, but a rights holder would need to approach each IPFS “gateway” and have them take down the infringing work. Importantly, while a DMCA takedown notice may result in removal of displays of work or even removal of the work itself, the NFT itself will likely remain given the immutability of blockchains. However, rights holders may take some comfort in the fact that an NFT pointing to a work that has been removed will likely have little value.

The DMCA also provides a mechanism for a rights holder to serve a subpoena along with its takedown notice that requests certain identifying information about the infringer.⁴² Such a subpoena may prove to be a useful tool in the blockchain context.

In some cases, a rights holder may have a claim against the marketplace for contributory infringement if it can show that the marketplace was aware of the infringing activity, and induced, caused, or materially contributed to the infringing activity.⁴³ Given the active role that many marketplaces play in the minting and offering of NFTs, the second prong could be easy to establish.⁴⁴ However, most NFT marketplaces are likely unaware of infringing activity taking place on their platforms. In order to establish knowledge, a plaintiff would need to demonstrate knowledge of “specific infringing material” that is available to purchasers.⁴⁵

Remedies for NFT purchasers

In the event that a work associated with an NFT is taken down due to copyright infringement or otherwise, the remedies that may be available to the then-current NFT owner may be significantly limited. As an initial matter, locating the person or entity that minted the infringing NFT may be difficult if the person or entity that minted the infringing NFT is only identifiable through their blockchain address, since blockchains only list alphanumeric public keys of blockchain participants and the person could be located anywhere in the world. In addition, most NFT marketplaces are careful to disclaim any liability for the authenticity or legitimacy of the NFTs offered on their sites and make abundantly clear that the purchaser is acquiring the NFT at their own risk. Some marketplaces, such as those that curate the creators whose works they offer, have mechanisms in place to try and minimize the risk on the purchaser.

A purchaser’s strongest claims may be in cases where they are able successfully to assert that they were misled by the marketplace or rights holder. Clear disclosures of any limitations on the purchaser’s right, and clear disclosure of any fees or resale royalties that may be extracted from any future sale, are essential.

Disclaimers of liability

NFT marketplaces, like most providers of services matching sellers and buyers, disclaim any liability in connection with providing the platform. Additionally, marketplaces will typically disclaim any liability in connection with the ability to use, access, or transfer the NFTs themselves.

The terms of use commonly state that the marketplace, as well as the NFTs, are made available on an “as is” and “as available” basis and the provider makes no warranties that the marketplace or NFTs will be available on an uninterrupted basis or that they will be accurate, reliable or safe. Purchasers should also expect that the platform providers will not guarantee that the marketplace or NFTs will be free of viruses or other harmful components.

In addition to stating that the marketplace and NFTs are provided on an as-is basis, NFT marketplace or platform providers often apprise the user of a number of disclosures and risk factors, many of which are unique to blockchains. These disclosures may cover, for example:

- the risk that bad actors may hack or exploit systems and steal NFTs or may otherwise act in a malicious manner;
- the risk that NFTs may compete with other digital assets, and this competition may negatively impact the price of NFTs;
- the risk that the business or organization issuing the NFTs may declare bankruptcy or cease operations;

- the volatility of blockchain and digital assets, and that the market for NFTs is new and volatile and the price of NFTs may decrease over a short period of time;
- the uncertainty of tax treatment for NFT transactions;
- clarification that the platform provider does not store, send or receive the NFTs, and that this takes place on a blockchain the platform might not control;
- risks that the asset associated with the NFT may become inaccessible;
- risks arising from a hard fork in the blockchain on which the NFT is stored;
- risks arising from the uncertain regulatory environment surrounding blockchain technologies and cryptocurrencies, including legislation or regulation that could be adopted that negatively impacts the use, transfer, exchange or price of NFTs; and
- risks relating to hardware, malicious software and unauthorized actors.

Those minting, selling or purchasing NFTs should be aware of, and understand, these disclosures, and companies building out NFT platforms should carefully consider what disclosures they want to make.

Jurisdiction and applicable law

The foregoing issues are further complicated given that it may not be clear which jurisdiction's laws should apply. One must factor in that NFTs are offered on a decentralized blockchain ecosystem, generally paid for in cryptocurrencies, and can be transferred from one party to another without either party revealing any geographic-identifying information such as a shipping or billing address. Although the terms of use for most NFT marketplaces include a governing law provision, that law would likely only apply to disputes arising between the user and the marketplace itself and would not itself determine the governing law under which to assess rights in the work associated with the NFT. As the use of NFTs and blockchain technology expands, it will likely take a series of court cases, at least in the United States, to establish a framework around how these issues are to be resolved, similar to the jurisdictional case law that developed during the early days of domain name adoption. We may also see NFTs develop such that the metadata specifies the applicable governing law for the NFT and its associated work and that NFT purchases are contingent on acceptance of that law. NFT issuers must also consider that by issuing NFTs that are available for purchase globally, they may be availing themselves of the laws of other jurisdictions and may become subject to additional legal requirements in such jurisdictions.

Anti-money laundering considerations

Since late 2021, the Financial Action Task Force ("FATF") – an intergovernmental organization that develops standards to combat money laundering and terrorism financing – and the U.S. Department of the Treasury ("Treasury")⁴⁶ have issued statements regarding the regulatory treatment of NFTs and potential implications for certain NFT market participants under anti-money laundering ("AML") regulatory frameworks. In October 2021, FATF issued updated virtual asset guidance⁴⁷ addressing the potential regulatory treatment of NFTs. While FATF is not a regulatory agency, its membership comprises 37 countries, including the United States, and two regional bodies, and it has played an active role in proposing a regulatory framework for virtual assets. In its updated guidance, FATF took the position that "collectible" NFTs will generally not be considered "virtual assets" as defined by FATF,⁴⁸ and therefore persons that deal in such NFTs are generally not subject to AML obligations on that basis alone. FATF noted, however, that "it is important to consider the nature of the NFT and its functions in practice and not what terminology or marketing terms are used." In other words, if used for payment or investment purposes, an NFT could be viewed as a "virtual asset." For this reason and because of the fast pace of development of digital assets, FATF recommended that countries consider the application of FATF standards to NFTs on a case-by-case basis. FATF reaffirmed its guidance on the regulatory treatment of NFTs in a June 2022 update regarding virtual assets.⁴⁹

While FinCEN has not provided specific guidance as to the application of current U.S. AML laws and regulations to NFTs, in February 2022, Treasury discussed NFTs in the context of its Congressionally mandated “Study on the Facilitation of Money Laundering and Terror Finance Through the Trade in Works of Art” (the “Treasury Artwork Study”) and offered some insight into broader departmental thinking on NFTs and NFT platforms.⁵⁰ Consistent with the FATF Guidance, the Treasury Artwork Study stated that, “[d]epending on the nature and characteristics of the NFTs offered, these platforms may be considered virtual assets service providers (VASPs) by FATF and may come under FinCEN’s regulations.”⁵¹ In further accord with FATF, the Treasury Artwork Study stated that, while “collectible” NFTs would generally not be treated as FATF-defined “virtual assets,” service providers of NFTs or other digital assets that are used as means of payment or investment could meet the FATF definition of VASP.⁵² Moreover, Treasury clarified that certain parties involved in the transferring of virtual assets (e.g., virtual currencies) in the course of the purchase or sale of NFTs may be considered money services businesses (“MSBs”) under FinCEN’s regulations if they are doing business in the United States and have corresponding AML regulatory requirements.⁵³

MSBs are required to register with FinCEN and must comply with extensive requirements under the Bank Secrecy Act (“BSA”), including implementing a risk-based AML compliance program, filing suspicious activity reports and maintaining certain records. Foreign-located companies that do business as an MSB wholly or in substantial part within the United States are also required to register with FinCEN and comply with the BSA’s requirements. Violation of these obligations can result in substantial civil and criminal penalties.

Risks in art trade

Growing concerns by regulators regarding money laundering and sanctions evasion risks in the art trade could have potential implications for persons that deal in NFTs, to the extent regulators perceive similar financial crime risks in digital art. FinCEN issued guidance in March 2021 emphasizing that financial institutions with existing BSA obligations “should be aware that illicit activity associated with the trade in antiquities and art may involve their institutions.” The Office of Foreign Assets Control (“OFAC”) similarly issued an advisory in October 2020 highlighting the sanctions risks associated with dealings in high-value artwork involving sanctioned persons. In OFAC’s view, the opacity of the art market can make it especially vulnerable to money laundering and sanctions violations.

Although participants in the art trade currently are not subject to the BSA on the basis of their dealings in art, recent legislative developments suggest that this has the potential to change in the coming years. Specifically, as part of the Anti-Money Laundering Act of 2022, Congress commissioned the Treasury Artwork Study, in which the Secretary of the Treasury was required to review how trade in artwork facilitates money laundering and the financing of terrorism. Although the Treasury Artwork Study did not recommend any immediate changes to U.S. AML laws or regulations regarding the treatment of digital art, it noted that NFTs can be used to conduct “self-laundering” where, prior to selling to an unwitting third party, criminals who purchase NFTs with illicit funds may first transact with themselves in an effort to create a transaction record.⁵⁴ The study also pointed out that digital art is more susceptible to money laundering than traditional art, as it can be transferred easily (i.e., no physical transfer is required) and quickly. More recently, in February 2023, FATF echoed similar concerns related to the AML risks related to the trade in NFTs.⁵⁵

Recent AML developments

The U.S. Department of Justice, Treasury, and FATF have all recently highlighted the risks that NFTs can be used to further fraudulent schemes, the proceeds of which may be subject to money laundering.⁵⁶ In May 2024, Treasury published the Illicit Finance Risk Assessment of Non-Fungible Tokens, which finds that NFTs are “highly susceptible” to abuse in fraudulent schemes, and can be used by illicit actors to launder proceeds from predicate crimes.⁵⁷ The assessment concludes that some NFT firms and platforms “lack appropriate controls to mitigate risks to market integrity, money laundering and terrorist financing, and

sanctions evasion.”⁵⁸ Although it does not explicitly call for new regulations to mitigate these risks, the report recommends that “[r]elevant authorities should further consider regulations or guidance specific to NFTs and assess opportunities to provide additional clarity on existing obligations for applicable NFT platforms,” among other recommendations to mitigate risks using existing authorities.⁵⁹ These additional recommendations include a call for U.S. regulatory agencies to continue to take enforcement actions in appropriate circumstances against actors in the NFT sector that fail to comply with applicable obligations, including with the respect to BSA and sanctions compliance.⁶⁰ Previously, the U.S. Department of Justice released a report supporting “amendments to the BSA and its implementing regulations to make clear that its key AML/CFT provisions—including the obligations to have customer identification programs and report suspicious transactions to regulators—apply to NFT platforms, including online auction houses and digital art galleries.”⁶¹ Furthermore, the U.S. government has not taken action to amend the BSA to impose these requirements on NFT platforms, and it is unlikely that such changes will be forthcoming in the coming year. In June 2023, FATF released an update on the implementation of its standards on virtual assets and VASPs, which found that NFTs continue to present money laundering risks, jurisdictions approach the regulation of NFTs differently, and, as a general matter with respect to virtual assets and VASPs, “global implementation is relatively poor and compliance remains behind most other financial sectors,” and “jurisdictions continue to struggle with fundamental requirements.”⁶²

Securities law considerations

The programmability of NFTs also allows the creator to easily fractionalize ownership of the NFT among multiple parties. One aim of fractional NFTs (“F-NFTs”) is to provide a broader group of buyers with the ability to take part in the purchase of rare or expensive digital assets. Although there are a variety of ways of doing this, one involves using a “smart contract” program that issues a pre-set number of fungible cryptocurrency tokens (often called “shards”), which function as fractionalized interests in the underlying NFT. These fungible shards might be made available for purchase or sale on secondary exchanges, including through decentralized platforms.

Under the Supreme Court’s *Howey* test, an offering or sale of an asset may constitute an “investment contract” (and thus qualifies as a “security”) when it represents a transaction involving (1) an investment of money, (2) in a common enterprise, (3) where profits are reasonably expected to be derived from the managerial or entrepreneurial efforts of others. Over the years, courts (including the Supreme Court) have refined the *Howey* analysis, clarifying that a given offer or sale may fall outside the “investment contract” definition when the underlying asset is acquired primarily for personal use rather than passive investment. Moreover, where the “profits” sought by purchasers are based on their own efforts or market forces of supply and demand, the *Howey* test may not be satisfied.

Applying the *Howey* test to the offer and sale of NFTs that represent rights to digital collectibles and artwork, there are strong grounds to conclude that such transactions would not be considered investment contracts under *Howey*. Because each NFT is a unique, one-of-a-kind digital asset, there is arguably no “common enterprise” involved in the NFT’s purchase or sale. Furthermore, many purchasers of NFTs buy them because of their consumptive value – that is, the buyers enjoy owning them in their own right, not because of any potential profit that ownership might bring. And even though some buyers of NFTs may seek to profit based on the possibility that they appreciate in value in the future, like comic books, baseball cards and traditional artwork, such value appreciation is likely to be more closely tied to its rarity and market forces than any ongoing managerial or entrepreneurial efforts of the sellers. Given the fact- and circumstance-specific nature of the *Howey* test, each NFT should be assessed on its own to determine whether the investment contract label might apply to its offer or sale.

Moreover, an analysis of an NFT itself does not necessarily end the inquiry. Most cases applying *Howey* have involved an underlying asset that, in and of itself, is indisputably not a security. Nevertheless, courts have held that the manner in which the underlying asset is promoted to purchasers – including all of the

concomitant promises made by the seller – may give rise to an investment contract under *Howey* if they create a reasonable expectation of profits based on the managerial efforts of others. Accordingly, one should look to all of the facts and circumstances surrounding an NFT’s offer and sale. This comports with the now-famous speech by former SEC Director William Hinman, who, in the context of opining that the cryptocurrency Ethereum should not be considered a security, emphasized that “the analysis of whether something is a security is not static and does not inhere to the instrument” itself – but rather to the way in which it is offered and sold. That position has been adopted by some courts as well. See, e.g., *SEC v. Payward, Inc.*, 23-cv-6003-WHO, ECF No. 90 (N.D. Cal. Aug. 23, 2024); *SEC v. Ripple*, No. 20 CIV. 10832 (AT), 2023 WL 4507900 (S.D.N.Y. July 13, 2023); *SEC v. Telegram*, 448 F. Supp. 3d 352 (S.D.N.Y. 2020). Even where an NFT is itself not a security, however, it may be possible for it to be sold as an investment contract under certain facts and circumstances.

As a result, one should consider all of the circumstances of any offer or sale of NFTs to assess whether they could be considered an investment contract under *Howey*. This includes assessing the ways in which the NFTs are marketed to potential buyers, as well as the promoter’s ongoing role with respect to the NFTs before and after they are sold.

The SEC has brought charges against multiple NFT creators. For example, in August 2023, the SEC resolved charges against Impact Theory, LLC for conducting an unregistered offering of NFTs called “Founder’s Keys.” The SEC concluded that Founder’s Key purchasers were led to expect profits from Impact Theory’s efforts and that purchasers invested in a “common enterprise” based on public statements in which the company allegedly “invited potential investors to view the[ir] purchase as an investment into the business.” For instance, Impact Theory allegedly proclaimed that “[o]ur goal is to make sure that as Impact Theory is enriched, as [its founders] are enriched, . . . that you guys are also enriched.”

Then, in September 2023, the SEC resolved charges against Stoner Cats 2 LLC for allegedly offering and selling NFTs in securities transactions. The SEC focused on a marketing campaign that allegedly “emphasized [Stoner Cats’] expertise as Hollywood producers, its knowledge of crypto projects, and the well-known actors involved in the web series,” which, according to the SEC, led “investors to expect profits because a successful web series could cause the resale value of the Stoner Cats NFTs in the secondary market to rise.”

A number of lawsuits have been filed by private plaintiffs alleging that NFTs were offered and sold as unregistered securities, and decisions in those cases may provide further guidance on these issues. See, e.g., *Friel v. Dapper Labs*, No. 21 CIV. 5837 (VM), 2023 WL 2162747 (S.D.N.Y. Feb. 22, 2023), and *Harper v. O’Neal*, No. 23-cv-21912 (S.D. Fla.). For example, on February 22, 2023, Judge Victor Marrero of the U.S. District Court of the Southern District of New York issued a novel decision applying the *Howey* test to the offer and sale of NFTs for the first time. The question before the court was whether the plaintiffs adequately alleged that “Top Shot Moments” NFTs (“Moments”) constituted investment contracts and therefore securities. Moments were offered and sold on the Top Shot platform, which was alleged to be owned and operated by Dapper Labs. The plaintiffs claimed that, prior to the launch of Moments, Dapper Labs developed and later exclusively controlled a private blockchain to, among other things, offer support for Moments by hosting the Top Shot platform, record sales transactions that occurred on a secondary marketplace that was part of the Top Shot platform (“Marketplace”), and facilitate the validation of Marketplace transactions.

The defendant moved to dismiss the complaint as a matter of law. The court held that, at the pleading stage and accepting all allegations as true, the plaintiffs had adequately alleged violations of Sections 5 and 12(a)(1) of the Securities Act of 1933 by offering Moments without a registration statement. Essential to the court’s reasoning was the allegation (assumed as true for purposes of the motion) that Dapper Labs controlled the Marketplace where Moments could be bought and sold, which was alleged to have “significantly, if not entirely, dictate[d] Moments’ use and value.” Calling the case a “close call,” the court acknowledged that its decision was narrow and based on the specific facts as alleged. The court also emphasized that *Howey* analyses are often circumstance-specific, and each NFT project “must be assessed on a case-by-case basis.” The case later settled.

Similarly, in *Dufoe v. DraftKings, Inc.*, a federal judge in the District of Massachusetts held that the plaintiff had adequately alleged that transactions in DraftKings NFTs were investment contracts. The NFTs at issue traded on the Polygon blockchain that “exists independently of [defendant] DraftKings.” The *Dufoe* court held that the plaintiff plausibly alleged that all trading took place through a “Marketplace” controlled by DraftKings and that DraftKings could prohibit transactions outside the Marketplace at its sole discretion, thus plausibly giving rise to an expectation of profits based on the defendants’ managerial efforts.

Most recently, the court in *Harper v. O’Neil* denied a motion to dismiss a putative class action complaint brought on behalf of purchasers of NFTs called “Astrals.” There, a judge in the Southern District of Florida concluded that the *Howey* test was satisfied where “the creation of the Astrals metaverse,” a “story-driven, virtual reality role-playing game” where purchasers could use their Astrals as virtual avatars, “depended on the initial funding from the tokens.” In addition, the court credited the plaintiffs’ allegations that the failure or success of the enterprise “hinge[d] on Defendants’ managerial efforts” because the defendants allegedly sought to reinvest proceeds to develop and grow the Astrals operation, touted the investment prospects of the NFTs, and controlled the platforms on which the NFTs transacted.

All of the above decisions involved motions to dismiss at the pleading stage, where the courts were required to accept the plaintiffs’ allegations as true for purposes of determining the motions. As these lawsuits highlight, securities-related questions involving NFTs may hinge on the specific facts and circumstances surrounding their creation, promotion, offer and sale.



Endnotes

- 1 As discussed further below, the digital work associated with an NFT is typically not stored on a blockchain.
- 2 See Crystal Koe, *An Unreleased Recording of Whitney Houston Singing at 17-years-old Has Sold as a \$1 Million NFT*, MusicTech, Dec. 16, 2021, <https://musictech.com/news/music/an-unreleased-recording-of-whitney-houston-singing-at-17-years-old-has-sold-as-a-1-million-nft>; Will Gottsegen, *Snoop Dogg’s NFT Mixtape Invites Remixes. Does It Authorize Them?*, CoinTech, Mar. 22, 2022, <https://www.coindesk.com/layer2/2022/03/02/snoop-doggs-nft-mixtape-invites-remixes-does-it-authorize-them>
- 3 See *Armin’s All-Access*, <https://aaa.arminvanbuuren.com>
- 4 See Ime Ekpo, *Wu-Tang Clan’s “Secret” Album Now Available As \$1 NFT*, *Forbes*, June 16, 2024, <https://www.forbes.com/sites/imeekpo/2024/06/16/wu-tang-clans-secret-album-now-available-as-1-nft>
- 5 Generally, DAOs are blockchain-based entities that operate based on a set of pre-defined rules or protocols governed by smart contracts. DAOs leverage blockchain technology to decentralize the organizational structure of a corporation by providing mechanisms to record interests in a transparent and decentralized manner and to permit certain processes to be automated, such as transferring assets or decision-making capabilities.
- 6 Importantly, there is not a single “blockchain” the way one might speak of a single internet. Rather, blockchain is a type of technological approach, and not all blockchains can necessarily interact with one another.
- 7 All updates to Ethereum go through the Ethereum Improvement Proposal (“EIP”) process. “ERC” stands for Ethereum Request for Comments, and is a type of EIP focused on standards for Ethereum applications, a category that includes tokens.
- 8 There are 100 million satoshis in a single Bitcoin.
- 9 17 U.S.C. § 106.
- 10 As a general matter, under U.S. law, copyright vests in the creator of a work with two exceptions: if a work is created by an employee in the course of their employment, copyright vests in the employer; and for certain limited categories of works, if the work is created by an independent contractor under a “work made for hire” agreement, copyright vests in the commissioning party. 17 U.S.C. § 101. In these cases, the employer or the commissioning party enjoys the “bundle of rights” with respect to the work.

- 11 See, e.g., *Rooney v. Columbia Pictures Indus., Inc.*, 538 F. Supp. 211, 223 (S.D.N.Y. 1982), *aff'd*, 714 F.2d 117 (2d Cir. 1982).
- 12 17 U.S.C. § 106A.
- 13 See, e.g., 15 U.S.C. § 1114.
- 14 See, e.g., *id.* § 1125.
- 15 *Rogers v. Grimaldi*, 875 F.2d 994, 999 (2d Cir. 1989).
- 16 *E.S.S. Ent. 2000, Inc. v. Rock Star Videos, Inc.*, 547 F.3d 1095, 1099 (9th Cir. 2004) (alterations in original) (citation omitted); see also *Rogers*, 875 F.2d at 999.
- 17 *Hermès Int'l v. Rothschild*, 22-CV-384 (JSR) (S.D.N.Y. Feb. 2, 2022).
- 18 *Hermès Int'l v. Rothschild*, 22-CV-384 (JSR) (S.D.N.Y. May 18, 2022).
- 19 *Yuga Labs, Inc. v. Ripps*, CV 22-4355-JFW(JEMX), 2023 WL 3316748, at *12 (C.D. Cal. Apr. 21, 2023).
- 20 *Yuga Labs, Inc. v. Ripps*, CV 22-4355-JFW(JEMX) (C.D. Cal. Mar. 8, 2024).
- 21 *Yuga Labs, Inc. v. Ripps*, CV 22-4355-JFW(JEMX) (9th Cir. Mar. 1, 2024).
- 22 Letter from Thom Tillis, U.S. Senator, and Patrick Leahy, U.S. Senator, to Kathi Duval, Under Secretary of Commerce and Director of the U.S. Patent and Trademark Office, U.S. Patent and Trademark Office, and Shira Perlmutter, Register of Copyrights and Director, U.S. Copyright Office (June 9, 2022), <https://www.copyright.gov/laws/hearings/response-to-june-9-2022-letter.pdf>; Letter from Kathi Duval, Under Secretary of Commerce and Director of the U.S. Patent & Trademark Office, U.S. Patent and Trademark Office, and Shira Perlmutter, Register of Copyrights and Director, U.S. Copyright Office to Thom Tillis, U.S. Senator, and Patrick Leahy, U.S. Senator (July 8, 2020), <https://www.copyright.gov/laws/hearings/response-to-june-9-2022-letter.pdf>
- 23 The Filecoin protocol that complements IPFS seeks to address this situation by rewarding nodes on the network that maintain redundant copies of files.
- 24 *Introducing the NFT License*, NFTLicense.org, <https://www.nftlicense.org/> (last visited Aug. 16, 2020).
- 25 *Ownership*, Bored Ape Yacht Club, <https://boredapeyachtclub.com/#/terms> (last visited Aug. 16, 2020).
- 26 17 U.S.C. § 109(a).
- 27 *Quality King Distribs., Inc. v. Lanza Rsch. Int'l, Inc.*, 523 U.S. 135, 152 (1998).
- 28 *Capitol Recs., LLC v. ReDigi Inc.*, No. 16-2321 (2d Cir. Dec. 12, 2018).
- 29 17 U.S.C. § 109; *Apple Inc. v. Psystar Corp.*, 658 F.3d 1150, 1155 (9th Cir. 2011).
- 30 *Specht v. Netscape Commc'ns Corp.*, 306 F.3d 17, 35 (2d Cir. 2002).
- 31 *Sgouros v. TransUnion Corp.*, No. 14 C 1850, 2015 WL 507584, at *4 (N.D. Ill. Feb. 5, 2015).
- 32 *Nguyen v. Barnes & Noble, Inc.*, 763 F.3d 1171 (9th Cir. 2014).
- 33 *Specht* at 19.
- 34 *Hines v. Overstock.com Inc.*, 380 F. App'x. 22, 2010 U.S. App. LEXIS 11265 (2d Cir. N.Y. 2010).
- 35 *In re Zappos.com Inc.*, 893 F. Supp. 2d 1058, 2012 WL 4466660 (D. Nev. 2012).
- 36 *Nguyen* at 1179.
- 37 *Berman v. Freedom Fin. Network, LLC*, – F.4th –, No. 20-16900, 2022 WL 1010531 (9th Cir. Apr. 5, 2022).
- 38 *Long v. Provide Com., Inc.*, 245 Cal. App. 4th 855, 200 Cal. Rptr. 3d 117 (2d Dist. 2016), and *Sellers v. JustAnswer LLC*, 73 Cal. App. 5th 444, 289 Cal. Rptr. 3d 1 (4th Dist. 2021), *petition for review filed*, No. S273056 (Cal. Feb. 8, 2022).
- 39 *Berman* at 12.
- 40 *Berman* at 14.
- 41 Under Section 512 of the Copyright Act, “provider of online services or network access, or the operator of facilities therefor” are themselves not liable for copyright infringement by third parties using their services where such services are providing “information location tools” (e.g., search functionality). Most NFT marketplaces offer DMCA takedown language to take advantage of this safe harbor.

- 42 17 U.S.C. § 512(h).
- 43 See, e.g., *A&M Recs., Inc. v. Napster, Inc.*, 239 F.3d 1004, 1019 (9th Cir. 2001).
- 44 A plaintiff could analogize today's NFT marketplaces to those of the swap meet operator in *Fonovisa, Inc. v. Cherry Auction, Inc.*, 76 F.3d 259, 264 (9th Cir. 1996). According to the Ninth Circuit, the infringing activity (sales of counterfeits) could not have taken place without all the infrastructure offered by the swap meet provider.
- 45 *Perfect 10 v. Amazon.com, Inc.*, 508 F.3d 1146, 1171 (9th Cir. 2007).
- 46 The Financial Crimes Enforcement Network ("FinCEN") is the Treasury Department bureau responsible for administering and enforcing the Bank Secrecy Act ("BSA") – the main AML legislative and regulatory framework applicable to U.S. financial institutions.
- 47 FATF, "Updated Guidance for a Risk-Based Approach, Virtual Assets and Virtual Asset Service Providers," October 2021. A "virtual asset" is a "digital representation of value that can be digitally traded or transferred and can be used for payment or investment purposes." FATF Guidance.
- 48 FATF Guidance.
- 49 FATF, "Targeted Update on Implementation of the FATF Standards on Virtual Assets and Virtual Asset Service Providers," June 2022.
- 50 See U.S. Department of the Treasury, "Study of the Facilitation of Money Laundering and Terror Finance Through the Trade in Works of Art," February 2022, https://home.treasury.gov/system/files/136/Treasury_Study_WoA.pdf (hereinafter "Treasury Artwork Study").
- 51 Treasury Artwork Study at 26.
- 52 Treasury Artwork Study at 26.
- 53 Treasury Artwork Study at 26.
- 54 Treasury Artwork Study at 27.
- 55 FATF, "Money Laundering and Terrorist Financing in the Art and Antiquities Market," February 2023, ¶¶ 50–51.
- 56 See U.S. Department of Justice, "The Report of the Attorney General Pursuant to Section 5(b)(iii) of Executive Order 14067: The Role Of Law Enforcement In Detecting, Investigating, And Prosecuting Criminal Activity Related To Digital Assets," September 6, 2022, 11–12, 18; FATF, "Money Laundering and Terrorist Financing in the Art and Antiquities Market," February 2023, ¶¶ 50–51; and U.S. Department of the Treasury, "Illicit Finance Risk Assessment of Decentralized Finance," April 6, 2023, 22–23.
- 57 U.S. Department of the Treasury, "Illicit Finance Risk Assessment of Non-Fungible Tokens," May 29, 2024, 1.
- 58 U.S. Department of the Treasury, "Illicit Finance Risk Assessment of Non-Fungible Tokens," May 29, 2024, 21.
- 59 U.S. Department of the Treasury, "Illicit Finance Risk Assessment of Non-Fungible Tokens," May 29, 2024, 21.
- 60 U.S. Department of the Treasury, "Illicit Finance Risk Assessment of Non-Fungible Tokens," May 29, 2024, 21.
- 61 U.S. Department of Justice, "The Report of the Attorney General Pursuant to Section 5(b)(iii) of Executive Order 14067: The Role Of Law Enforcement In Detecting, Investigating, And Prosecuting Criminal Activity Related To Digital Assets," September 6, 2022, 42–43.
- 62 FATF, "Targeted Update on Implementation of the FATF Standards on Virtual Assets/VASPs," June 2023, 2, 33.



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