

Feature

KEY POINTS

- Digital bonds raise new challenges for lawyers, whether working from a primary or secondary markets perspective, including the treatment of disruption events affecting the underlying technology.
- Although specific “blockchain-friendly” securities legislation has been adopted in several jurisdictions, existing legal and regulatory requirements constrain digital bond liquidity.
- However, there are good reasons to think that the allure of digital bonds – in particular, their promise of disintermediation, transparency, and settlement speed – will lead to increased activity in this area.

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Something in the ether? The allure of digital bonds

Digital (or crypto) assets are currently attracting considerable scrutiny from global regulators and generating voluminous copy for the world’s media. However, the digital assets spectrum is incredibly wide. Although using the same type of underlying technology as cryptocurrencies, digital bonds are strikingly different: they are (typically) regulated instruments, supported by new legislation in key jurisdictions and by some high-quality issuers. In this article, the authors consider both the allure and the challenges of digital bonds.

WHAT IS A DIGITAL BOND?

There is currently no universally accepted definition of digital (or crypto) assets, or digital bonds. In practice however a digital bond is simply a debt security with at least some digital elements. In time, a digital bond may come to mean what is now referred to as a “native” digital security, ie a digital token, the legal title to which passes directly on a digital ledger, with payments made automatically (by “smart” contracts, either in cryptocurrency or other tokens) directly by the issuer to investors, and corporate actions carried out through a blockchain. In other words, digital bonds hold out the promise of disintermediating many of the parties (central securities depositories, custodians, and paying agents) who currently interpose themselves between issuers and end investors.

CASE STUDIES

World Bank

In August 2018, the International Bank for Reconstruction and Development (World Bank) launched an AU\$110m, two-year digital bond. Marketed as “bond-i” (blockchain operated new debt instrument), a further AU\$50m was raised a year later in a tap issuance. A digital platform managed key elements of the bond’s lifecycle, including book-building, allocation, and secondary trading. This platform was based on a private

(“permissioned”) version of the Ethereum blockchain. The platform’s architecture, security and resilience were reviewed by Microsoft.

European Investment Bank

In April 2021, the European Investment Bank (EIB) launched a €100m, two-year, zero coupon digital bond. Although investors purchased the bond using traditional fiat currency, the lead managers settled the underwriting against the EIB using a central bank digital currency, which was specifically created for the transaction by the Banque de France. The principal will be repaid at maturity in fiat currency. The public (“permissionless”) Ethereum blockchain was used for the registration, transfer and settlement of bonds. The terms of the bond are governed by the laws of France, taking advantage of “blockchain-friendly” securities legislation.

Six Digital Exchange

In November 2021, SIX Digital Exchange launched by issuing – and listing – a tokenized bond. The issuance comprised two exchangeable parts: a CHF100m digital bond, listed and traded on SDX Trading, with SIX Digital Exchange as central securities depository; and a CHF50m traditional bond, listed and traded on the original SIX Swiss Exchange and centrally held by SIX SIS (the Swiss national central securities depository).

SIX said this innovative dual approach was intended to ensure “the link between the digital and traditional worlds”.

WHAT THESE DIGITAL BOND CASE STUDIES SHOW

The significance of these digital securities is not their size. Taking the World Bank as an example, its AU\$160m digital bond is dwarfed by its annual bond issuance of US\$50-60bn. The significance is that a growing number of institutions are engaging, in a variety of capacities (digital platform development, issuance, underwriting, and secondary trading) with digital bonds. Moreover, the sheer borrowing power and market influence of the World Bank and the EIB make the continued development of digital infrastructure for the capital markets more likely.

ARE DIGITAL BONDS REGULATED INSTRUMENTS?

Global regulators have adopted different approaches to cryptocurrencies such as bitcoin and Ether. For example, although China once held a dominant position in bitcoin trading, a series of crackdowns culminated in an announcement last year, by China’s central bank, that all cryptocurrency transactions were illegal. In the UK, the Financial Conduct Authority (FCA) considers that many of these “exchange” (or “payment”) tokens fall largely outside the regulatory perimeter (except for purposes of money laundering and (shortly) financial promotions), while a subset of them (the sale of certain crypto-derivatives to retail consumers) have been banned outright. In contrast, digital bonds tend to be regulated instruments, although the answer for any particular bond will depend on its terms and the jurisdiction in question.

Biog box

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In its “Guidance on Cryptoassets” (Policy Statement PS19/22, July 2019), the FCA defines “security tokens” in broad terms, as instruments providing “rights and obligations akin to specified investments”, as set out in the Regulated Activities Order. Security tokens are within the UK regulatory perimeter; and we would expect most digital bonds to fall into this category. (In this sense, the UK regulatory regime can be seen as technology neutral.) Issuers of security tokens in the UK will therefore need to comply with requirements relating to authorisation and financial promotions under the Financial Services and Markets Act 2000, in the same way they would if issuing traditional bonds.

There are however areas of regulatory overlap. For example, firms carrying on cryptoasset exchange, issuance or custody activity in the UK need to comply with anti-money laundering (AML) rules, including a registration requirement. For this purpose, a cryptoasset is defined as “a cryptographically secured digital representation of value or contractual rights that uses a form of distributed ledger technology and can be transferred, stored or traded electronically”. Digital bonds would appear to fall within this definition. It is likely that most potential issuers of digital bonds in the UK will already be registered for AML purposes but will not be registered under the cryptoasset regime. This overlap is an area that will need clarification as the market develops.

In France, a specific “Blockchain Order” was passed into law (Order 2017-1674 of 8 December 2017). It was this legislation which the EIB took advantage of in its issuance of April 2021. The law allows unlisted securities to be settled through a DLT platform, without having to be recorded in an account with a central securities depository.

Luxembourg has also adopted “blockchain-friendly” legislation. In February 2019, Bill 7363 was passed into law, providing greater legal certainty in relation to the use of distributed ledgers or blockchain technology in securities transactions.

In Switzerland, blockchain/distributed ledger technology laws were introduced in 2021. These laws: permit the recognition of electronic registration of rights on a

blockchain (characterised in a similar way to negotiable securities); provide for the segregation of cryptoassets on the occurrence of certain bankruptcy events; and create a new authorisation category for “DLT trading facilities” (ie crypto exchanges).

The conclusion that digital bonds are currently regulated is important, because it provides certainty for both issuers and investors. Moreover, certain flagship legislation – for example, the EU’s proposed Regulation on Markets in Crypto-assets (MiCA) – will only apply to cryptoassets which are not *already* subject to EU legislation. In contrast, there is considerable uncertainty at the other end of the digital assets spectrum, with regulators scrutinising certain cryptocurrency and stablecoin activities. Regulated entities may be reluctant to commit resources to such activities until more is known about their regulatory treatment. Similar observations may be made about the proposed prudential treatment of cryptoassets (see Box 1 below), where digital bonds are likely to be treated much more favourably than other types of digital asset.

BOX 1: PRUDENTIAL TREATMENT

The Basel Committee on Banking Supervision proposed (in its June 2021 Consultative Document) a 1,250% risk weighting for cryptocurrencies, as well as punitive trading book capital requirements with no allowance for netting long and short positions. In contrast, digital bonds may be treated as equivalent to traditional debt securities for regulatory capital purposes, provided they confer “the same level of legal rights” as ownership of traditional bonds (for example, rights to cash flows, claims in insolvency). Digital bonds can meet these requirements.

WHAT ARE THE PRACTICAL CONSIDERATIONS FOR LAWYERS TO BEAR IN MIND?

The type of documentation produced for a digital bond issue should look familiar. However, its content will include some important differences. Whether approaching these questions from a primary or secondary markets perspective, lawyers and market

participants will need to understand and evaluate some idiosyncratic issues which arise because of the underlying digital technology. These include:

- **Disruption events:** If bond ownership and transfers are recorded on, and effected through, blockchain, how do the terms of the bond solve disruption events such as forks (where two or more branches of a digital ledger arise), cyber-attack, and vulnerabilities with smart contracts or private keys? Is there a continuity plan which allows the issuer to transfer the bonds outside of the relevant blockchain and into a central securities depository? Does that plan also enable the issuer/ registrar to prove who holds title, based on a completely off-chain record?
- **Mining activity:** In order to validate each new transaction, some blockchains rely on computer nodes (“miners”) solving complex cryptographic problems, in return for a fee. Bondholders need to understand who will pay these fees, as well as the risk that if miners cease their activity, new blocks would not be created.
- **Credit ratings:** It is worth checking whether the issuer’s rating is applicable to the particular issuance, or whether there is something about the digital bond which precludes this. There was no such asymmetry in the case of the EIB bond, which Fitch rated “AAA”, stating that “the use of a block chain technology to register the notes does not bring additional credit risk compared with a traditional bond issuance”.
- **Environmental impact:** There are concerns around the high energy consumption of some blockchain technology (see Box 2 below). Parties involved in digital bond issuance will need to consider whether the environmental impact is correctly described and consistent with their regulatory, contractual and/or reputational requirements.
- **Private placements:** Although digital bonds tend to be regulated instruments, and therefore in-scope for licensing requirements related to, for example, underwriting and dealing, they may nonetheless escape certain other requirements, if they are privately placed

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(as the EIB bond was). Under EU and UK legislation, there are significant repercussions of an instrument not being traded on a regulated market, multilateral trading facility or organised trading facility. Such “non-ToTV” securities (ie securities which are not traded on a trading venue) fall outside the scope of pre- and post-trade transparency (public disclosure of quotes and executed transactions). Under the EU market abuse regime, prohibitions on certain actions (including market manipulation and insider trading) only apply to financial instruments traded on EEA trading venues (the UK has an equivalent, on-shored regime). Similarly, securities will fall outside the scope of the EU Prospectus Regulation if there is no offer to the public.

BOX 2: ENERGY USE

It is often argued that bitcoin and other cryptoassets are not environmentally sustainable because the type of proof-of-work consensus protocol they use is computationally intensive. But not all blockchain protocols are the same. For example, it is anticipated that the Ethereum network will convert to proof-of-stake verification (which uses significantly less energy than proof-of-work). Energy use is explored in Global Digital Finance’s 2021 report, “Digital Assets: Laying ESG Foundations: Exploring the path to sustainability”. In November 2021, the Solana protocol released an Energy Use Report stating that a transaction on its network used 0.00051 kilowatt-hour (kWh) of energy (compared to an average internet search which uses 0.0003 kWh of energy).

WHAT IS THE ALLURE OF DIGITAL BONDS, AND WHY ARE THERE NOT MORE OF THEM?

At the launch of its digital bond, the EIB cited these advantages: “a reduction of intermediaries and fixed costs, better market transparency through an increased capacity to see trading flows and identity of asset owners, as well as a much faster settlement speed”. The EIB issuance did reduce the number of intermediaries, because there was neither custodian nor central

securities depository involvement. As for transparency, as we have already noted, there is no obligation to provide transparency on this privately placed bond under the MiFID II/MiFIR regime (or the UK equivalent). However, there is a different type of transparency provided on Etherscan, which publicly discloses the timestamp and size of every trade in the EIB digital bond, linking this data to the holder’s “public address”. To almost the whole world, this “public address” is merely a string of random characters, but to a small number of entities (issuer, registrar, and investor) the characters can be tied to a particular legal person. This information (although it excludes the price) has real value to the issuer, lead managers, as well as current and prospective investors.

Settlement speed appears to be a clear advantage of digital bonds, and will be measured in minutes or even seconds, compared to existing settlement cycles of two days or longer. Digital ledgers also make it possible for a range of corporate actions (for example, shareholder voting and dividend payments) to be carried out “on-chain”, based on a snapshot of the ledger at the relevant time. Digitalisation also permits the “democratisation” of capital markets, by allowing more investors (and different types of investor) to participate.

There are however certain challenges currently faced by prospective issuers of, and investors in, digital bonds. Liquidity is one such challenge. In order to increase liquidity, securities are often admitted to trading on a regulated market or other multilateral platform. However, the EU Central Securities Depositories Regulation requires that, where a transaction in transferable securities takes place on a trading venue, the relevant securities must be recorded in book-entry form in a central securities depository. The EIB bond was not caught by this requirement (it was not admitted to any trading venue); but to increase liquidity, a solution to this conundrum will need to be found. The EU’s proposed DLT Pilot Regime offers a potential solution, but it is not expected to go live until 2023. Moreover, not all bonds will be in-scope of the pilot regime: size thresholds apply to all bonds, and sovereign bonds are excluded entirely.

For digital capital markets to develop further, support will be required from

policy-makers, regulators, central banks, industry associations, trading venues, buy- and sell-side institutions, and of course technology firms. An example in the derivatives markets has recently been provided by the publication of contractual standards (see Box 3 below); in our view the same work is required for digital bonds. The maturity and sheer size of the capital markets mean it will require this sort of combined support for digital bonds to flourish.

BOX 3: DERIVATIVES

ISDA’s December 2021 Contractual Standards for Digital Asset Derivatives consider: a framework for dealing with disruption events (including forks and cyber-attack) affecting derivatives transactions; valuations, including circumstances when valuations cannot be obtained; and digital assets’ interaction with the ISDA documentation.

CONCLUSION

Despite these challenges, there are good reasons to think that the allure of digital bonds – in particular, their promise of disintermediation, transparency, and settlement speed – will lead to significantly increased activity in this area. The involvement of institutions like the World Bank and the European Investment Bank, as well as the preparedness to innovate by central banks like the Banque de France, seem to support this conclusion. With careful design, pilot schemes will also encourage the growth of digital bonds. Perhaps, therefore, there really is something in the ether. ■

Further Reading

- Moving towards digital capital markets: the EIB’s public blockchain bond (2021) 8 JIBFL 554.
- Tokenisation and digital assets: blockchain in capital raising (2020) 1 JIBFL 57.
- LexisPSL: Financial Services: News: European Investment Bank launches digital bond issuance on a public blockchain.