CLIFFORD

CHANCE

THE DIGITAL FUTURE OF SYNDICATED LOANS

JUNE 2021

THE DIGITAL FUTURE OF SYNDICATED LOANS

Loans and Tech – now and in the future

The outbreak of coronavirus or Covid-19 in late 2019 and 2020 has been an accelerator for digitalisation for many aspects of our lives. Is this the case for the syndicated loan market?

In recent years, there has been significant focus on the development of technological solutions (such as distributed ledger technology (DLT) and smart contracts) for the syndicated loan market with the aim of improving the negotiation, execution, administration and trading of loans – ideally through the adoption of single platform solutions. In practice, it appears that the syndicated loan market is adopting technology step by step by investing in various technological solutions which address specific points in the loan life cycle.

A survey conducted in November 2020 by the Loan Market Association (LMA) on the outlook for the syndicated loan market in 2021 shows that 17.7% of the members surveyed is using or looking to use blockchain (a type of DLT) and smart contracts. However, 60.4% of members surveyed are using or looking to use electronic platforms for document negotiation and/or transaction management. These statistics are also largely consistent with an earlier LMA Fintech survey conducted in May 2020. Interestingly, this is not dissimilar to the adoption of DLT by businesses – according to a 2020 Forbes Insights report, only 36% of businesses surveyed are using or exploring the use of DLT, this being the lowest compared to the use or exploration of the use of other technologies but this could also indicate greater room for growth as out of 36%, only 7% are currently using this technology.

Notwithstanding this, financial institutions are using or trialling a range of technology tools in all phases of the loan life cycle, from origination to secondary trading, and in key functions such as loan servicing and risk management. In this article, we explore the benefits and opportunities, as well as the legal, regulatory and practical challenges, of some of the potential technical solutions for the syndicated loan market under consideration.

At a glance

In this article, we will explore the use of technology (including DLT and smart contracts) in areas such as automating a loan, signing a loan electronically, KYC and secondary loan trading and also compare the use of DLT in the syndicated loan market with that of the trade finance, bond and derivatives markets.

Use of blockchain and smart contracts by the syndicated loan market

A November 2020 LMA survey shows that 17.7% of the members surveyed is using or looking to use blockchain and smart contracts whilst 60.4% of members are using or looking to use electronic platforms for document negotiation and/or transaction management.

Automating loans

What do we mean by automation?

In this section we focus on automated performance under loan agreements by way of smart contracts on DLT platforms.

Smart contracts could make loan servicing more efficient and provide a more seamless customer experience. A key benefit is their ability to automate data and payment flows more highly. For example, a borrower could submit a utilisation request electronically and a smart contract-based facility agreement could check that the request complied with relevant terms (such as minimum amount, currency, availability period). If so, it could execute instructions, e.g. automatically deducting participations from lenders' open credit lines and initiating the payments.

A smart contract could also check compliance with certain undertakings, e.g. delivery of financial statements and compliance certificates or compliance with financial covenants.

In order to complete a task, a smart contract may require information (data) from an external source, known as an "oracle". For example, in order to calculate an interest payment, it may request a reference rate from an external body (such as the sterling overnight index average (SONIA) displayed on the appropriate screen referencing that rate).

Automation can also be used at a much earlier stage and transform the drafting process. The use of tech tools to assist in the creation of documentation (whether an initial draft or in final form) is not new (and in fact the LMA plans to launch shortly a documentation automation platform in respect of certain LMA recommended form documents) and it is increasing, bringing the benefits of speed, efficiency and quality control. These tools can be combined with DLT so that the negotiation process and the final agreed terms are stored on a blockchain platform.

Can loans be fully coded and performance automated?

The answer depends upon the facility agreement and the software. A short low-value facility agreement with little optionality will be easier to code and automate. A long high-value syndicated facility agreement, running to hundreds of pages, with complex clauses and many negotiated (i.e. non-standard) terms will be harder to code and automate.

The spectrum of automatability of common clause types is set out opposite. The operation of simple conditional actions ("if x, then y") are more straightforward to automate. For example, the borrower shall repay the loan on the date specified as the termination date: or, to put it another way, if the termination date occurs, then the borrower shall repay the loan.

A simple conditional clause may not operate in isolation and other clauses of the facility agreement may need to be taken into account and built into the coding. Using our example, automation should ensure that if the termination date occurs, then the borrower shall repay the loan and pay any accrued interest, tax gross up or indemnity. Another example would be where a lender is obliged to pay a borrower but that lender may first set off any amounts due to it from that borrower.

The operation of complex clauses is more difficult to automate, particularly where there is ambiguity or assessment required. An example would be "material adverse effect" (MAE). The definition of MAE can be heavily negotiated but it will be some variant of the following: MAE means, in the reasonable opinion of the majority lenders, a material adverse effect on the business of the borrower or the borrower's ability to perform its obligations or the validity and enforceability of security or other remedies. The deliberately general wording gives lenders flexibility in unforeseen circumstances while the borrower has the protection of a "reasonableness" test (which has been tested in the courts). Removing such generality and flexibility may not be a route that market participants want to take.

Automatability

Simple to complex

Monetary transaction:
"Transfer £1 from A to B 12:00 GMT on 1 May 2021"

Asset ledger transaction:
"Transfer ownership to asset X from A to B"

External input:
"Add interest at compounded SONIA +2%"

Participant input:
"Unless A and B otherwise agree, perform X on 1 May 2021"

Dispute resolution:
"If A and B do not agree, C shall decide"

Meta-clauses:
"If any term of this contract is held to be unenforceable, the remaining terms of the contract will remain in effect to the extent they are not invalid or unenforceable"

Automation on a large scale will be easier if terms are standardised. While the LMA recommended forms for syndicated loans go a long way towards standardisation, they are only a starting point for negotiations and LMA documents are dynamic, changing in response to legal and market developments. Furthermore, borrowers may not use these "standard" forms. In particular, large corporate groups and private equity sponsors are likely to have their own preferred documents.

Partial rather than full automation of loans?
Are there aspects of facility agreements that borrowers or lenders will not want automated? Or, if automated, will want the right to suspend or override?

While technology will improve many back and middle office functions, the syndicated loan market is founded on relationships – this is what distinguishes it from the bond and other markets.

If things go wrong and an event of default occurs, a loan agreement typically gives the lenders the option (after agreed grace periods having expired) to demand immediate repayment of outstanding loans or put outstanding loans on demand. However, exercising this option is discretionary and lenders and borrowers have the opportunity to discuss the situation and the way forward. Borrowers (and lenders) are likely to want to retain this flexibility. A smart loan contract could, however, identify that an event of default has occurred and notify the parties that action is required (rather than automatically accelerating the facilities).

How will borrowers react? What are the legal implications?
Although automating the operation of loan agreements has clear operational benefits for lenders and agents, borrowers may be less motivated to change.

Fully coding and automating a loan agreement gives rise to some interesting questions from a borrower's perspective. If representations, covenants, events of default and notification procedures are written in code, will directors, management and corporate treasurers be comfortable that they know what needs to be done in order to comply with the terms of the agreement? How can they be sure that the code reflects their intent? A "natural language" version of the agreement could sit alongside the coded version. With two versions, the potential for conflict, or disagreement as to the correct contractual interpretation, increases. It would be prudent for parties to decide in advance which version has priority if a discrepancy arises.

Parties (and courts) will need to decide how to deal with new risks that come with new technology. For example, who will be responsible, and what will be the remedy if the code does not run as expected or data inputting is incorrect? Liability may lie with the coder, or with the lender that set up the process. Parties may seek to assert that the platform itself has not operated as expected, but in some cases it may be complicated to identify the party against whom to bring a claim.

What will the remedy be if the contract implements automatically but the conditions for implementation were not met (e.g. a loan is drawn down when there was an event of default)? Once self-executing code has been properly recorded on the blockchain, it cannot be altered (given that data recorded on a blockchain are immutable and

tamper-proof), which creates difficulties if one party wants to amend or unwind the contract (e.g. on the ground of fraud). Whilst blockchain does not allow the deletion or amendment of a transaction that has already been recorded, a possible solution would be to allow "reverse transactions" which seek to restore the parties to the position they would have been in had the deficiency not occurred.

It may also be possible to provide that the ledger can be altered or overridden by consensus, and to include this at the outset of the smart contract or in an accompanying legal framework agreement but clear rules will be required to avoid any disputes where any party does not consent. Certain events could also be written into the code to govern how the contract would respond in certain circumstances e.g. to terminate or renegotiate. However, as discussed, the more complex clauses will be harder to code and automate.

Understanding the litigation risks is key to minimising the potential for disputes. Responsibilities and liability should be clearly allocated, due diligence and testing of smart contracts rigorously conducted and regular updates applied. Processes and rules for how to apply these steps could also be set out in an accompanying legal framework agreement.

When disputes arise, there is increased scope for satellite litigation around jurisdiction and governing law, given that servers will often be decentralised and spread around the world. Parties may need to pinpoint where an error occurred in order to identify the applicable law and forum for their disputes.

In the UK, the law around smart contracts is currently subject to consideration by the Law Commission following its consultation on smart contracts in December 2020. The aim of the consultation was to identify areas which may need further consideration or possible reform in the future. It recognises that the nascent state of the technology means that there are few, if any, tested solutions to the legal issues to which smart contracts give rise such as those highlighted above.

What could facility agreements look like in the future?

While operational efficiency would point towards a single automated electronic agreement, other factors, not least the inability of lawyers to code (or coders to write legal contracts), may lead parties towards a combination of "natural language" and coded agreement, partly automating processes but still maintaining natural language terms.

It may be that facility agreements are structured differently, e.g. a short coded or codable term sheet, with key commercial data points (such as pricing and loan amount) and negotiated terms, together with a standard form framework agreement.

The UK Law Commission's consultation on smart contracts in December 2020 has however highlighted that a fully coded contract is likely to give rise to the most legal issues and pose the greatest challenges, which will all have to be overcome amongst other practical challenges before a fully coded contract can become a reality.

"Smart contracts have huge potential in terms of efficiency and cost. Sadly, they are not yet so smart as to entirely remove the risk of disputes. But I am confident that courts will adapt to the technology and reach the right legal and commercial outcomes."

Kate Scott
Litigation and Dispute Resolution Partner
Clifford Chance

Signing loans electronically

In its 2019 report on electronic execution of documents, the Law Commission confirmed that an electronic signature (esignature) is capable in law of being used to execute a document (including a deed), provided that the person signing intends to authenticate the document and any relevant formalities are satisfied. The conclusions of the report were subsequently endorsed by the UK government.

The pandemic has accelerated the use of electronic execution and electronic signing platforms. Esignatures are widely used in syndicated loan transactions and the market's interest in digital solutions continues to grow. The results of the 2020 LMA Syndicated Loan Market survey indicate that, of members surveyed, 60.4% are using or looking to use electronic platforms for document negotiation and/or transaction management (where this is voted by the most members compared to other technologies).

There may of course be situations where esignatures are not appropriate. For example, in cross-border transactions, traditional handwritten or "wet ink" signatures may be required depending on the requirements of the particular jurisdiction. Documents may be subject to formalities such as apostilling or notarising (common in many European civil code jurisdictions for credit facilities over a (low) de minimis threshold and security documents) which may require a written document signed in wet ink. Where a document needs to be registered with a registry, the registry may only accept wet ink signatures. The pandemic has however changed some of this, for example e-notarisation may be possible in some jurisdictions and the UK Land Registry has started to accept esignatures, provided that certain conditions are met. Such developments facilitate the advancement of technology.

Can formalities be a limitation?

Some of the formalities applicable to document execution may impede the evolution of technology.

For example, the formalities applicable to deeds under English law are predicated on a wet ink signing and are not easily translated into a virtual, electronic or DLT context. While facility agreements do not tend to be executed as deeds, security documents and intercreditor agreements are typically deeds. In the case of the requirement that a deed be signed "in the presence of a witness", the Law Commission in its report considered that this required the physical presence of the witness, even where both the signatory and the witness are executing or attesting using an electronic signature. The report recommended the establishment of an industry working group to consider, among other things, technological solutions to witnessing e.g. virtual witnessing and other alternatives which better fit evolving technology, such as public key infrastructure. The Ministry of Justice established a working group in Spring 2021 to take forward the report's recommendations.

Another difficult formality is the requirement for a deed to be delivered, which was based on the physical act of handing the deed over to the other party. As practices have developed and technology has evolved, this has necessitated applying such formalities to different contexts where they sit uneasily. This is also apparent in the case of wholly or partly coded smart contracts where the question arises as to how a

What is an electronic signature?

Electronic signatures cover a range of forms including digital signatures, attaching pdfs of handwritten signatures, typing a name into an email, on-screen "I accept" click through boxes and clicking on a web-based e-signing platform to insert a name automatically.

signature authenticating the coded terms of a deed could be witnessed and attested or indeed whether the "Mercury" implications of a deed needing to be a "discrete physical entity" with signatures and attestations forming "part of the same physical document" can be satisfied in a DLT context.

The Law Commission's report proposed a future review of the general law of deeds to ensure that it remains fit for purpose. The Law Commission's 14th Programme of Law Reform consultation was launched in March 2021 and will be looking into the law relating to deeds and variation of contracts. Any reform to the general law of deeds must take into account DLT and smart contracts to facilitate their use and the evolution of technology generally.

The need for reform is not surprising as can be seen from the 2020 LMA Fintech survey where again most members voted to say that the law in the area of document execution rules (as opposed to other areas of law) need to be more permissible to allow technology solutions to flourish.

KYC

KYC (know your customer) is a particular pinch point in lending. This can be seen from the 2020 LMA Syndicated Market survey where most members felt that KYC requirements affect settlement time the most, but also at the same time the 2020 Fintech survey shows that most members felt that technology will assist most with the satisfaction of KYC (as opposed to other areas of the syndicated loan market). KYC, AML and CTF risk assessment is subjective, which can lead to different interpretations of risk, and financial institutions will have different documentation and evidential requirements.

Multiple KYC processes with different documentary requirements can be an administrative burden, time consuming and costly, not to mention frustrating for borrowers. Ongoing KYC issues can delay sell-down/primary syndication and settlement of secondary loan trades, with balance sheet and regulatory capital implications.

KYC delays are often cited as one of the most significant factors in long settlement times for secondary trading. It is not unusual for a fund buyer to allocate a trade across a number of legal entities or sub funds, often well into the sale process, which can delay KYC processes.

Can technology improve KYC?

Greater consensus on what is required for KYC checks and an accessible repository for KYC due diligence materials would make the KYC process more efficient – whether that is a single utility provider or via a decentralised system.

As can be seen from the 2020 LMA Fintech survey, members are very optimistic that technology will be able to deliver improvement. A secure DLT-based repository could be made accessible to arrangers, agents and lenders with the KYC data validated and updated over time, but such a system does give rise to critical questions of reliance and reliability. Ultimately, whether financial institutions may get comfortable with such a

KYC, AML, CTF

Financial institutions must assess the risk of money laundering and financing terrorism that can potentially arise in individual business relationships or transactions and take proportionate anti-money laundering (**AML**) and counter-terrorist financing (**CTF**) measures. Regulators can impose large fines where they fail to do so.

Each financial institution which is party to a loan as an arranger, agent or lender will conduct its own due diligence and risk assessment, known as **KYC** (know your customer). KYC is undertaken at origination, primary syndication, when the loan is arranged and sold down, and throughout the loan life cycle, as new borrowers and guarantors accede to the facility agreement and lenders assign or transfer their rights and obligations.

system will depend on the extent to which financial institutions are willing to outsource aspects of the KYC process, to whom, on what terms and with what recourse. Borrowers will also need to get comfortable with this as this involves for example the storing of personal information of directors.

Outsourcing KYC-related functions is fairly commonplace, although there are limits on the art of the possible within the current regulatory environment. Firms cannot outsource accountability for their regulatory responsibilities, so if an outsource KYC provider gets it wrong, the firm and its senior management will still be accountable. Outsource providers mostly do not assume uncapped liability for fines that may be imposed and cannot indemnify against criminal sanction or personal accountability – which would leave the firm exposed.

Where third party providers are used and relied upon (whether that is in the context of a centralised utility or as, for example, a validator in a decentralised system), financial institutions will want to review their operational dependency and develop protocols to manage risk – for example if there were to be an outage and KYC checks could not be performed.

While efficiency points towards a single source for KYC data, from a regulator's point of view this natural monopoly brings with it concentration and, consequently, systemic risk.

It may be that a technology solution to improve KYC for loans will be part of a wider solution to improve customer due diligence, onboarding and profiling across product lines and institutions.

"Outsourcing KYC-related functions comes with risk, but is that risk necessarily any different from performing those activities in-house? There is no such thing as a risk-free business, and with outsourcing it is all about managing the risk appropriately."

Andre Duminy
TMT Partner
Clifford Chance

Secondary loan trading

Making trading more efficient and shortening settlement times is an industry-wide goal. Can technology help?

As discussed, it is widely recognised that KYC delays significantly increase settlement times and technological solutions to speed up KYC would be a huge leap forward.

Technology could also make transfers more efficient. If transfer certificates and assignment agreements were processed electronically, smart contracts could automatically check compliance with the facility agreement (e.g. minimum transfers and holds), execute the transfer, update the register of lenders and notify the borrower of the new lender (and its tax status for withholding purposes). Depending on the sophistication of the platform, instructions to initiate a payment between the buyer and seller could be directly linked to the transfer of title so as to minimise settlement credit risk.

In reality, effecting a transfer of a loan electronically may be easier in some jurisdictions than others. Europe is a patchwork of different legal systems and in some countries loan assignments must be in writing and notarised to be effective (or to have the fullest level of legal protection in the case of a borrower's insolvency).

Anatomy of a loan trade

Typically, a trade is made (by telephone or email), followed by a written confirmation of terms, but title will not pass to the buyer until later at settlement when the facility agent signs the transfer certificate/assignment agreement. The gap between the date the trade is agreed and the separation of payment and transfer of title to the loan creates settlement credit risk: a buyer could pay the purchase price and not receive title to the loan if the seller becomes insolvent before transfer is given effect to by the facility agent.

In Europe loans are less easily transferable than other assets, such as bonds. Many facility agreements require the borrower's consent as a condition to transfer – and sometimes the consent of the agent or issuing bank as well. An electronic system could automate delivery of consent requests but slow response times are still likely to delay settlement.

Loans could also be tokenised i.e. an electronic instrument representing entitlement to the debt obligation could be issued on a DLT platform. That instrument or token could be traded and transferred on the platform. However, that raises another layer of legal and regulatory considerations (including questions as to whether the token might be a transferable security and fall within the ambit of, for example, MiFID2 and the Prospectus Directive and Prospectus Regulation).

Other legal and practical considerations for DLT platforms

Private DLT platforms (as opposed to a public ledger which is unlikely to be appropriate for financial services applications due to the lack of privacy and security amongst other concerns) necessitate an element of centralisation, such as an operator with overriding administration of the system – controlling who should be permitted to join, how and the circumstances in which participants might be ejected from the system.

In practice this is likely to be governed by a detailed legal framework agreement agreed between the initial parties and acceded to by future participants. As discussed above, the legal framework will have to govern amongst other things risk allocation, default events and commercial terms. Participants building such platforms need to be mindful of regulatory requirements (including the different regulatory regimes various institutions party to a syndicated loan may be subject to), as well as outsourcing rules, cybersecurity, legal issues relating to title, security and settlement finality and antitrust considerations. A major antitrust consideration is the need to avoid any exclusionary effect which might foreclose competition by preventing parties from accessing the platform – particularly if the platform becomes an important gateway to competing in the market. This extends also to ensuring in such circumstances that access and participation is provided on fair, open and non-discriminatory terms. While initiating participants might benefit from preferential terms at the outset (especially where they have contributed assets or it is a necessary part of recouping investment) this will be more difficult to justify over time if the platform becomes important industry infrastructure and the impact of any such preference is profound.

Another main competition concern is to ensure through the establishment and adherence to appropriate compliance protocols that the platform does not become a vehicle for the inappropriate exchange of competitively sensitive information and/or the coordination of competitive behaviour.

A further practical point to note is the need for interoperability, i.e. the ability to communicate and share data with other platforms (including legacy bank systems). This is one of the biggest challenges to industry-wide use of DLT platforms.

"The secondary market for syndicated loans will be revolutionised almost instantaneously if the primary market adopts blockchain technology and KYC is digitised."

Faizal Khan
Finance Partner
Clifford Chance

APIs (applied programming interfaces), which allow different software applications to communicate, help to integrate different platforms but there is still some way to go. For example, parties cannot yet complete payments in US dollars, euros, pound sterling or other fiat currencies on a DLT platform. Automated payment would therefore require interaction between the DLT platform and existing banking systems or possibly the use of digital currencies such as central bank issued digital currencies.

AI and loans

The application of artificial intelligence, machine learning, natural language processing, data analytics and data algorithms to business has received increasing publicity. As a heavily regulated industry, financial services can expect its fair share of scrutiny, both in the public eye and from regulators. Recently, the EU Commission has put forward a proposal for the first harmonised legal framework on AI. The UK Government AI Council also published its AI Roadmap in January 2021 paving way for the further development of AI.

Pricing and risk

Due diligence and data analysis to assist in loan pricing and risk management is not new. It has always been an important part of bidding for mandates and successful primary syndication, as well as one of the drivers for selling/buying loans. Lenders assess the creditworthiness of potential borrowers, seek to set risk-adjusted loan margins and monitor and cap their aggregate risk exposure in loan portfolios (e.g. to industries or geographies).

The rise of AI

What has changed is the power of computing and AI to analyse and learn from large amounts of data. This might be an analysis of a lender's own internal data, such as recognising patterns in a lender's non-performing loan portfolio. It might be an analysis of data from external sources, such as publicly available news.

Emerging online lending platforms have harnessed technology to analyse alternative data, such as cash flows for a small business or bank account transactions for individuals. However alternative or big data analysis is also attractive to more traditional mainstream bank lenders as part of informed decision making.

AI challenges

Adopting AI brings its own challenges. AI's ability to evolve and use complex statistical algorithms can make decision processes opaque. There may be unexpected outcomes or potentially discriminatory or biased decisions: something which financial services regulators are increasingly attuned to. Furthermore, financial institutions need to ensure their use of AI is not anti-competitive: for example, if financial institutions were to implement algorithms which had the effect of competitors colluding on pricing. There is also an increased risk of market abuse as it is becoming increasingly difficult with new

"The adoption of new AI tools requires careful implementation with adequate controls – mistakes have the potential to destroy firms' reputations."

Jonathan Kewley
Co-head Tech Group
Clifford Chance Partner

types and increasing volumes of data to distinguish between information which is publicly available and data which is non-public and therefore potentially inside information.

Compliance, regulatory, legal and internal audit teams, as well as senior managers, need to be comfortable that AI adoption does not lead to opacity or poor customer outcomes, that data sources and technologies used are clearly understood and that risks are identified, controlled and monitored. Failures on this front may give rise to enforcement action against individuals or firms.

As is the case whenever any technology infrastructure is deployed. the use of AI may also give rise to issues such as cybersecurity issues and data privacy concerns.

On a practical level, mistakes around AI have the potential to destroy firms' reputations. Financial institutions need to embed a culture of transparent, ethical use of AI within their organisations.

It is clear that regulators will be highly-focused on technology adoption going forward. The Financial Stability Board, for example, warned that the interdependency between the financial sector and big-techs could cause an "IT risk event to escalate into a systemic crisis". The FCA has also warned of the risks of outsourcing and technology.

AI and document/data management

Market developments such as Brexit and the transition away from LIBOR have encouraged financial institutions to explore AI tools which can be trained to quickly and accurately review documentation in large loan portfolios and identify or extract relevant clauses. The quality of data in loan portfolios will impact on the effectiveness of such tools, which has led to increased focus on the way documents are tagged and stored. Digitalisation of documentation could greatly assist with document and data management.

AI tools can be trained for various purposes, including "red flag" reviews of documentation and data extraction. Data extracted can be used for multiple internal functions such as reporting, audit and compliance. Various technology tools, including RPA (robotic process automation) and OCR (optical character recognition), are assisting with extracting, editing, entering and searching data.

Loan versus Trade Finance, Bond and Derivatives markets

Although we may still be some way away from fully coding and automating an entire loan, including its performance, other aspects of a syndicated loan life cycle have made more progress, in particular in the areas of loan origination, trading and information exchange where market participants have been actively looking to create and develop platforms to perform these functions. Developments are very promising although this has not been without practical, documentary and legal issues and challenges as

Use of technology in Brexit and LIBOR remediation projects

The use of technology has been critical in many Brexit and LIBOR remediation projects, without which significant time and cost among other things would have been spent on identifying relevant data. This demonstrates the importance of technology to improve efficiency, cut costs and in many cases possibly reducing the margin for error. It is expected that the use of technology and with the development of AI, AI tools, will only increase in the future to enable even greater efficiency and accuracy.

discussed above. The LMA surveys found that the biggest challenge to the adoption of technology for syndicated loans is the difficulty to agree scalable solutions which operate together across the loans market. So until the complex issues affecting scalability and interoperability are resolved, it is unlikely that there will be widespread and large scale adoption of technology in this space although market participants will continue to use and explore practical technological solutions (such as document automation, something which a strong majority of members identified in the LMA surveys to be useful) to improve efficiency and reduce cost in syndicated loan transactions.

How does the use of DLT in the syndicated loan market compare with that of the trade finance, bond and derivatives markets?

In the trade finance market, several large blockchain consortiums have now been established and many projects and proofs of concepts in the past years have reached commercial application and production stage. In fact, some platforms have already gone live for more than a year now and in one case for example have had more than 20,000 letters of credit and standby letters of credit issued on its platform. Many of these live platforms are also in the process of launching complementary products such as smart guarantees. Although great strides have been made, as with the syndicated loan market, the large scale adoption of blockchain technology remains a challenge due to issues such as the lack of a harmonised legal framework and interoperability.

The bond market faces similar challenges. Although most market participants agree that the application of blockchain technology has the potential to completely transform how primary debt capital market bond issuances are settled, cleared and traded and there have been some blockchain bonds including proofs of concept in the last couple of years, there is not yet a complete overhaul of the current system as the current clearing and settlement structures work very well and other challenges such as the time, effort and capital that is required and the lack of interoperability will need to be overcome. As with the syndicated loan market, what is more likely is that there will be a gradual adoption of blockchain technology in the more peripheral areas of the primary capital markets transaction structure such as in ways to simplify some of the more structural or mechanical elements of an issuance. Such self-contained processes can be managed more effectively without the need for market wide co-operation.

The nature of the derivatives market appears to lend itself more to automation with the International Swaps and Derivatives Association (ISDA) taking a lead. The principal focus to date has been on the standardisation of the way derivatives transactions are documented so as to assist with the automation of contractual terms and the development of smart contracts. A move in this direction is the publication in 2020 of the ISDA clause library which sets out standard drafting options for the most frequently negotiated provisions of an ISDA Master Agreement, including a number of variations for each such provision. To take things further, the 2021 ISDA Interest Rate Derivatives Definitions (to become effective in October 2021) were drafted with the express aim that the definitions should be easier to code. To enhance interoperability and reduce the need for any reconciliation, ISDA also developed the ISDA Common Domain Model in 2018 which is a data model that provides a single, common digital representation of derivatives trade and life cycle events. Adoption of this model by firms is expected to

facilitate their ability to automate processes given firms will have identical records of the trade that they have entered into. This in turn is expected to facilitate the development of smart contracts.

Is there a digitalised future for syndicated loans?

Technology has the potential to bring a wide array of benefits to the syndicated loan market.

Adoption of new technology brings its own challenges – not least the difficulty of reaching sufficient consensus and critical mass amongst market participants, overcoming potential regulatory concerns and integrating technology into existing or new legal frameworks. However, action and discussion to overcome these challenges has already begun in the syndicated loan market.

Questions remain as to how technologies like DLT can scale-up to cope with the volumes required in the financial markets and how to make them sufficiently robust. Yet the application of such technologies has moved from ideas stage to proof-of-concept testing to building in a relatively short space of time. As with many aspects of our lives over the last 12 months, the world has become increasingly digitalised: whilst perhaps a little slow to adopt new technologies, the syndicated loan market is moving towards a digitalised future.

NAVIGATE THE DISRUPTION: YOUR FINTECH TOOLKIT

Clifford Chance's experienced global cross-practice legal team can deliver your most innovative and transformational fintech projects.

Our clients have access to a range of free fintech resources – a selection of which are set out below:

Fintech weekly round up

We offer a comprehensive weekly email round-up, summarising recent global fintech regulatory developments for you in relation to DLT and smart contracts, central bank digital currencies, payments, data and AI among others, along with a curated list of Clifford Chance publications and materials and upcoming fintech events.

Talking Tech

Your one-stop shop for the latest legal trends and changes in the fast-moving technology sector. Talking Tech contains a range of articles on topics including AI, data, cyber, blockchain, smart contracts and cryptoassets and information on upcoming tech-focussed events from our global network.

talkingtech.cliffordchance.com

Fintech Guide

This comprehensive online guide will provide you with the information you need on global regulatory initiatives and legislative developments, including the latest developments on global stablecoins such as Facebook's Diem, as well as access to our comprehensive range of market-leading thought leadership articles, events and presentations on market developments.

financialmarketstoolkit.cliffordchance.com/fintech

Events and value-added services

As well as offering our clients tailored workshops on a range of topics including fintech M&A and financings, digital assets including central bank digital currencies and stablecoins, and the fintech regulatory outlook, we regularly host fintech-related seminars, educational and networking events open to a wide audience. We regularly brief boards and senior personnel on strategic tech opportunities, risks and challenges for financial services and tech companies.

For more information on Clifford Chance's global fintech capability and resources, or to be added to our weekly global fintech regulatory round-up, please email **fintech@cliffordchance.com**

Join us on social media:

@Clifford Chance

@TalkingTech_CC

@cliffordchancetechgroup

CONTACTS

Diego Ballon Ossio
Senior Associate, London
T: +44 20 7006 3425
E: diego.ballonossio@cliffordchance.com

Gregory Chartier
Senior Associate, London
T: +44 20 7006 5951
E: gregory.chartier@cliffordchance.com

Charles Cochrane
Partner, London
T: +44 20 7006 2196
E: charles.cochrane@cliffordchance.com

André Duminy
Partner, London
T: +44 20 7006 8121
E: andre.duminy@cliffordchance.com

Alistair Dunlop
Partner, New York
T: +1 212 878 3259
E: alistair.dunlop@cliffordchance.com

Emma Folds
Partner, London
T: +44 20 7006 2231
E: emma.folds@cliffordchance.com

Avril Forbes
Knowledge Director, London
T: +44 20 7006 8278
E: avril.forbes@cliffordchance.com

Kiran Francis
Head of Commercial – Clifford Chance Applied Solutions
T: +44 20 7006 3977
E: kiran.francis@cliffordchance.com

Kate Gibbons
Partner, London
T: +44 20 7006 2544
E: kate.gibbons@cliffordchance.com

Simon Gleeson
Partner, London
T: +44 20 7006 4979
E: simon.gleeson@cliffordchance.com

Jack Hardman
Counsel, Dubai
T: +971 4503 2712
E: jack.hardman@cliffordchance.com

Charlotte Holt
Senior Associate, London
T: +44 20 7006 5045
E: charlotte.holt@cliffordchance.com

Steve Jacoby
Managing Partner, Luxembourg
T: +352 48 505 0219
E: steve.jacoby@cliffordchance.com

Alice Jefferis
Senior Associate, London
T: +44 20 7006 2257
E: alice.jefferis@cliffordchance.com

Jonathan Kewley
Partner, London
T: +44 20 7006 3629
E: jonathan.kewley@cliffordchance.com

Faizal Khan
Partner, London
T: +44 20 7006 2158
E: faizal.khan@cliffordchance.com

Frédérick Lacroix
Partner, Paris
T: +33 1 4405 5241
E: frederick.lacroix@cliffordchance.com

Paul Landless
Partner, Singapore
T: +65 6410 2235
E: paul.landless@cliffordchance.com

Rocky Mui
Partner, Hong Kong
T: +852 2826 3481
E: rocky.mui@cliffordchance.com

Hwee Peng Ngoh
Senior Associate Knowledge Lawyer, London
T: +44 20 7006 1742
E: hweepeng.ngoh@cliffordchance.com

Laura Nixon
Senior Associate Knowledge Lawyer – Fintech
T: +44 20 7006 8385
E: laura.nixon@cliffordchance.com

Greg Olsen
Partner, London
T: +44 20 7006 2327
E: greg.olsen@cliffordchance.com

Monica Sah
Partner, London
T: +44 20 7006 1103
E: monica.sah@cliffordchance.com

Marian Scheele
Senior Counsel, Amsterdam
T: +31 20 711 9524
E: marian.scheele@cliffordchance.com

Kate Scott
Partner, London
T: +44 20 7006 4442
E: kate.scott@cliffordchance.com

Rebecca Shepherd
Senior Associate, London
T: +44 20 7006 4806
E: rebecca.shepherd@cliffordchance.com

Bettina Steinhauer
Partner, Frankfurt
T: +49 69 7199 3231
E: bettina.steinhauer@cliffordchance.com

Bas Boris Visser
Managing Partner, Amsterdam
T: +31 20 711 9624
E: basboris.visser@cliffordchance.com

Kate Vyvyan
Partner, London
T: +44 20 7006 1940
E: kate.vyvyan@cliffordchance.com

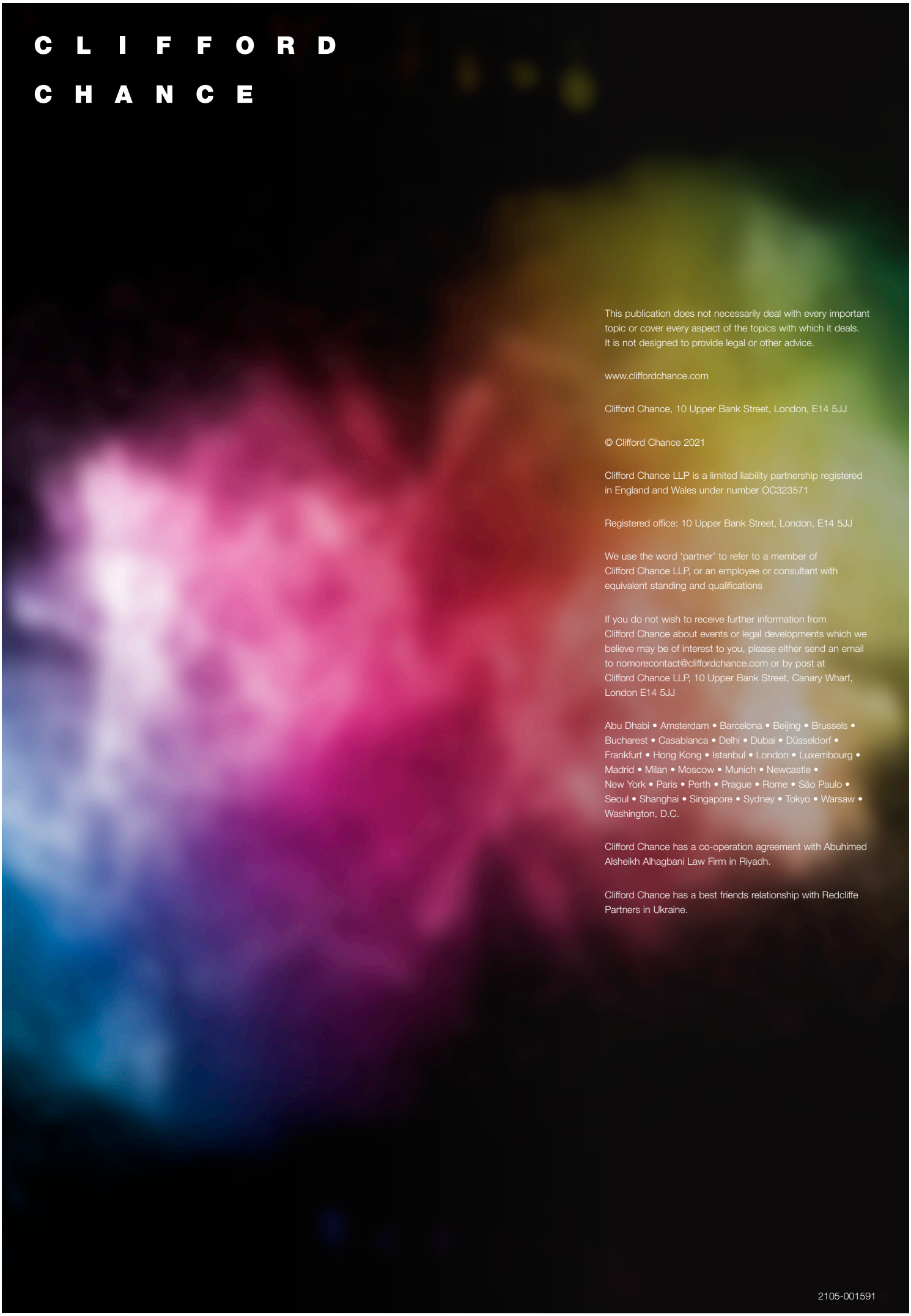
Julian Walley
Senior Associate, Dubai
T: +971 4503 2739
E: julian.walley@cliffordchance.com

Samantha Ward
Partner, London
T: +44 20 7006 8546
E: samantha.ward@cliffordchance.com

Andrew Young
Partner, New York
T: +1 212 878 8012
E: andrew.young@cliffordchance.com

Find more of our global fintech team at www.cliffordchance.com/fintech

Clifford Chance's experienced global cross-practice legal team can deliver your most innovative and transformational fintech projects, and provide digital legal solutions for your business.



www.cliffordchance.com

Clifford Chance, 10 Upper Bank Street, London, E14 5JJ

2105-001591