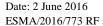# Reply form for the Discussion Paper on the Distributed Ledger Technology Applied to Securities Markets

Responding to this paper

The European Securities and Markets Authority (ESMA) invites responses to the specific questions listed in the ESMA Discussion Paper on the Distributed Ledger Technology (DLT) Applied to Securities Markets, published on the ESMA website.

Instructions

Please note that, in order to facilitate the analysis of the large number of responses expected, you are requested to use this file to send your response to ESMA so as to allow us to process it properly. Therefore, ESMA will only be able to consider responses which follow the instructions described below:

- use this form and send your responses in Word format (pdf documents will not be considered except for annexes);

- do not remove the tags of type <ESMA_ QUESTION_DLT_1> - i.e. the response to one question has to be framed by the 2 tags corresponding to the question; and

- if you do not have a response to a question, do not delete it and leave the text "TYPE YOUR TEXT HERE" between the tags.

Responses are most helpful:

- if they respond to the question stated;

- contain a clear rationale, including on any related costs and benefits; and

- describe any alternatives that ESMA should consider

Naming protocol

In order to facilitate the handling of stakeholders responses please save your document using the following format:

ESMA_DLT_NAMEOFCOMPANY_NAMEOFDOCUMENT.

E.g. if the respondent were XXXX, the name of the reply form would be:

ESMA_DLT_XXXX_REPLYFORM or

ESMA_DLT_XXXX_ANNEX1

Deadline

Responses must reach us by **2 September 2016.**

All contributions should be submitted online at www.esma.europa.eu under the heading 'Your input/Consultations'.

Publication of responses

All contributions received will be published following the end of the consultation period, unless otherwise requested. **Please clearly indicate by ticking the appropriate checkbox in the website submission form if you do not wish your contribution to be publicly disclosed. A standard confidentiality statement in an email message will not be treated as a request for non-disclosure.** Note also that a confidential response may be requested from us in accordance with ESMA's rules on access to documents. We may consult you if we receive such a request. Any decision we make is reviewable by ESMA's Board of Appeal and the European Ombudsman.

Data protection

Information on data protection can be found at www.esma.europa.eu under the headings 'Legal notice' and 'Data protection'.

Introduction

Please make your introductory comments below, if any:

The **European Association of Co-operative Banks (EACB)**[1] welcomes the opportunity to contribute to the Discussion Paper on the Distributed Ledger Technology Applied to Securities Markets.

The EACB is the voice of the cooperative banks in Europe. It represents, promotes and defends the common interests of its 31 member institutions and of co-operative banks in general. Co-operative banks form decentralised networks which are subject to banking as well as co-operative legislation. Democracy, transparency and proximity are the three key characteristics of the cooperative banks' business model. With 4,200 locally operating banks and 68,000 outlets co-operative banks are widely represented throughout the enlarged European Union, playing a major role in the financial and economic system. They have a long tradition in serving 205 million customers, mainly consumers, retailers and communities. The cooperative banks in Europe represent 78 million members and 860,000 employees and have a total average market share of about 20%.

EACB members are exploring the benefits of DLT in different areas such as international payments, global transactional banking (mainly cash management / cash pooling and supply chain finance) and also capital markets using smart contracting for derivatives and redesigning cash products. They also find that DLT could offer added value in authentication, credentials, AML/KYC, compliance. Taking a more "infrastructure" perspective, the EACB members are interested in projects like cash on ledger for micropayments, settlement coins to get rid of cryptocurrency usage in different DLT and smart payments applied to payrolls etc. Having said that, the world of technology is evolving very quickly and **DLT is but one technology among others** that could perhaps fulfil the functions under consideration.

The EACB supports ESMA view as outlined in item 2.1.3 of the Discussion Paper that the version of DLT to be used in the financial (securities) markets is the permissioned-based DLT system. The EACB sees the post trading part of financial markets as an area where application of DLT technology – at least in the short to medium term - could create the most important benefits. It therefore subscribes to the ESMA approach to analyse, in this discussion paper, the role of DTL versus the different post trading functions.

In general, the EACB is of the opinion that – regulators, technology providers and financial intermediaries have to be closely aligned in order to achieve a smooth transition to DLT based processes in the future. It is our vested interest to support and keep the regulatory safeguards updated and in parallel create the supervisory and legal framework and supplementing conditions that all market participants are in a position to benefit from the DLT.

We would also like to emphasise that the DLT is not limited to selected securities markets like the EU markets only. DLT has in fact to be seen in a global context. Therefore ESMA should also consider close alignment with regulators of non-EU jurisdictions and global standard setters for regulation, i.e. CPMI-IOSCO.

Please find below our specific responses to the consultation questions.

Q1: Do you agree with the list of possible benefits of the DLT for securities markets? Please explain, e.g., are these benefits unique to the DLT, are some more important than others, are some irrelevant?

Overall, the EACB agrees with the possible benefits in the different areas as explained by ESMA in chapter 3. The EACB considers that chapters clearing and settlement (item 3.1) and reporting and oversight (item 3.3) are the most important for banks.

Having said that, it has to be reminded that:

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[1] For further details, please visit www.eacb.coop

- any technology – including DLT – can solve only technological problems and not, for example, the (lack of) harmonised securities law. This latter limitation means that while DLT can be used for transfer of ownership in a closed loop system without external settlement in central bank money but that this is less evident in the context of DVP settlement or long term counterparty relationships.
- a multiple set of different DLT's relating to different products, definitions and standards would fragment the market and make it complex to adapt each bank's legacy systems in order to participate at the relevant market. The more DLT's the more implementation costs will be implied. Even if DLTs would cover a huge part of the Post- Trading activities, significant efforts would still be required to maintain legacy systems (for a lower number of transactions) which is likely to increase the costs for non-DLT transactions for a client. This would also mean that interoperability among DLTs and between legacy systems has to be established. We believe that this will be a great challenge

Furthermore, please find attached our comments on the specific chapters as follows:

3.1 Clearing and settlement:
Although we agree that the DLT could speed the clearing and settlement of financial transactions by eliminating certain processes (e.g. reconciliation), the speed of the transactions would in fact also depend on the terms determined by the parties to the trade (agreed settlement cycle, need for liquidity etc.).We therefore doubt that this will necessarily lead to the shortening of settlement cycles down to T+0 or even instant settlement (please also see further below in 3.8).

3.2 Record of ownership and safekeeping of assets:
Regarding paragraph number 17 of the consultation, fundamental changes in (national) law could however be necessary to realise these advantages. .

3.3 Reporting and oversight:
Our members consider this one of the most important benefits of the DLT.
Posting information to a DLT and giving access to the regulator, would potentially render trade repositories and reporting lines to trade repositories and regulators superfluous.
3.4 Counterparty risk:
One has always to distinguish between counterparty risk (e.g. due to insolvency, inability to pay et cetera) and settlement risk (due to a time difference between delivery and payment). While settlement risk is already addressed by e.g. CLS – and could be reduced by acceleration of settlement – counterparty risk cannot be addressed by any technology.

3.5 Efficient Collateral management:
We therefore agree with point 24 of the Discussion Paper regarding the assumption that the DLT will provide for a more frequent reuse of collateral. We nevertheless expect that the current regulatory requirements would need to be adjusted.

3.6 Availability
Continuous availability is one basic feature of Byzantine Fault Tolerant systems, but comes with the cost of redundant systems. DLT can provide a technical improvement in availability but with costs.

3.7 Security and resilience:
Cyber Recilience is another basic feature of Byzantine Fault Tolerant systems, but comes with the cost of redundant systems. DLT can provide a technical improvement in cyber recilience but with costs.

3.8 Costs:
See answers 3.7 and 3.8

Q2: Do you see any other potential benefits of the DLT for securities markets? If yes, please explain.

In general, although the technology is still evolving, the Byzantine Fault Tolerance methodology underpinning DTL technology could offer possibilities to enhance cyber resilience.

Q3: How would the benefits of the technology be affected, in the case where the DLT is not applied across the entire lifecycle of securities (i.e., issuance, trading, clearing and settlement, safekeeping of assets and record of ownership) but rather to some activities only?

The more processes are DLT based the more the benefits. Ideally, the whole range of processes would be transferred into DL technologies to achieve full benefit. Realistically, however, this will not be the case. DTL is most likely to apply in areas that are the most cost intensive and where a shared database between multiple parties offers the biggest benefits. But it would in any case, in our view, remain limited to relatively "simple" transactions and – as the ESMA paper itself acknowledges - make less sense for transactions with DvP/settlement risk or longer term counter party relationships). In the meantime, legacy systems will have to be maintained, interfaces built, standards for interoperability developed (by whom?) and operational risk might increase as a result. This might be acceptable if it is only a transitory stage in a wider roll-out plan. Therefore use cases need to be fully proved and piecemeal adoption considered very carefully to avoid fruitless change.

Q 4a Which activities (e.g., post-trading, other activities), market segments and types of assets in the securities markets are likely to be impacted the most by the DLT in your opinion?

As also mentioned under question 3, the EACB members see the benefits of DLT technology mostly in those parts of the securities markets that are the most cost intensive, where a shared database between multiple parties offers the biggest benefits and which deal with relatively "simple" transactions (no settlement risk or long term counterparty relations). Examples are settlement (T2S version 2.0?), clearing and custody. In terms of types of assets, members are looking at unregulated niche products first which could be up scaled to plain vanilla products later (e.g.fixed income, equities).

Q4b How is the DLT likely to modify the way securities markets operate? Please explain.

If DLT is used to support the settlement process, this mean a more "centralizes" share services or "utility" approach to settlement. T2S is already a first set in such a direction. This is also in line with the currently announced initiatives, which all propose a central shared service by a DLT utility.

Q5: According to which timeframe, is the DLT likely to be applied to securities markets in your view? Please distinguish by type of activities, market segments and assets if relevant.

The EACB assumes that DLT in Post-Trading processes will not be implemented in a "big bang scenario" but are likely to evolve in a phased approach (probably by defined/restricted asset classes, products). The implementation of the DLT entails an important investment in IT infrastructure, the availability of new skills and the development of innovative services. The ability to invest will depend on the cycles of investment of each institution and the innovation friendliness of the legislators/regulators. At the same time, the timeframe depends on potential legal challenges..

Aligned to the answer under Q4, we would see niche products with a high degree of paper- based processing moving to DLT in the next 1 to 3 years, followed by plain vanilla products in 3 to 5 years and a T2S 2.0 afterwards.

We consider that DLT and legacy systems would need to co-exist for the next 20 to 30 years. All in all however, the the financial industry is, still at an early stage of the DLT adoption process.

Q6: How might your organisation benefit from the introduction of the DLT?

ESMA has described a variety of benefits. These and other potential benefits depend on the DLT applied (permissionless vs permissioned) the type of products and services as well as the number of users (and end investors).
A permissoned DLT will probably offer the chance to dramatically speed up existing settlement processes and will reduce corresponding operational costs.
Some of the most important benefits are highlighted below:
- Post trade processes streamlining / processes automation.
- Less costs, reporting obligations and redundancies.
- Improved transparency for regulators.
- Cyber resilience through the constantly improving Byzantine Fault Tolerance methodology

Q7: If you are working on a concrete application of the DLT to securities markets please describe it (i.e., which activities, which market segments, which type of assets and for which expected benefits) and explain where you stand in terms of practical achievements in relation to your objectives.

Different EACB members work on different pilots. It goes too far to detail them here.

Q8: Do you agree with the analysis of the potential challenges? Please explain, e.g., are some more important than others, are some irrelevant in your view.

In general, the EACB agrees to ESMA's analysis. However, some of the described challenges would seem more important than others.
- It is true that technical challenges exist and are an important hurdle that need to be overcome before the DLT can be applied widely. However, technical problems will find technical solutions. As soon as solutions are found and proven to be reliable, technological issues will cease to be a challenge.
- More important challenges are:
  - Regulatory and legal frameowork
  - Governance framework of a DLT, as it cannot be resolved by a single bank.. It needs to be clearly defined who can take part in the ledger, who has reading rights, rights to verify transactions, who is responsible for the access of now participants, who is responsible for mistake management, software and programming maintenance, voting, liabilities and many more issues.

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Legal issues
For a cross border securities market the present differences in national securities law could become a bigger issue in a DLT environment as described in chapter 6.3 of the paper.
In addition, some changes to current texts might be required to avoid a limitation of DLT deployment just for the reason that the wording of the law does not reflect the new technical terms and opportunities. At the same time, regulation should take care not to give preference to one technological solution over another.

Q9: Do you see any other potential challenges? If yes, please explain.

The main challenge my be wishful thinking. DLT is only "technology" and cannot solve regulatory or legalt issues, such as harmonisation of European Securities Law Legislation; or missing alignment between regulation or measures in different countries (e.g. EMIR vs. DFA and/or different requirement to trade repositories).

Q10: **Which solutions do you envisage for these challenges and where do the current initiatives stand in terms of practical achievements to overcome them?**

The EACB looks positively at the current industry initiatives to analyse the potential of DLT.
Having said that, the EACB considers that ESMA should position the regulatory framework and interpret existing legislation for a reliable and mindful usage of DLT technologies.

There are multiple challenges and potential solutions to those:
- Technical challenges (scalability, privacy) are likely to be resolved by the industry.
- Governance challenges are more dependent on industry bodies, consortiums and emerging plat-forms that will regulate who can join them, what is the legal framework around it, if smart contracts can be enforced etc.
- Regulatory & intermediaries challenges are highly dependent on market authorities DL under-standing, participation in new standards development as well as recognizing changing nature of regulators role – within DL regulators may not just supervise, but actively define rules and market practices.

Depending on the business case the cooperation of all parties concerned across different groups (including regulators) is needed, particularly for the wholesale adoption - due to the required network effect. Furthermore there will be a need for standards enabling different DLTs to work together. In a settlement perspective a T+0 settlement cycle could be considered unworkable without a very liquid repo market available alongside.

Q11: **Do you agree with the analysis of the key risks? Please explain, e.g., are some risks more important than others, are some irrelevant in your view.**

The EACB considers that all important risks are covered. Amongst them the Fraud and Money-laundering, maturity and quality of the DLT's software codes and the secure access of end investors to the system could be seen as some of the most important.

Q12: **Do you see any other potential risks? Please explain.**

Currently, DLT is an embryonic technology and in parts – e.g. for so called "smart contracts" – there is not even an agreed definition in the industry. The immature status was recently illustrated by the so called "DAO hack", in which an attacker with better understanding of the technology than the developers was able to turn the immutable nature of DLT against the users. Therefore, much more testing and sandboxing is required before DLT could be implemented in mission critical and/or systemically critical applications.

Q13: **How could these risks be addressed? Please explain by providing concrete examples, especially for the risks potentially affecting your organisation.**

Much more testing and sandboxing is required before DLT could be implemented in mission critical and/or systemically critical applications.

Q14: **Do you think that the DLT will be used for one of the scenarios above? If yes, which one(s)? If no, please explain?**

No specific response at this stage...

Q15: If the DLT is used for one of these scenarios, how compliance with the regulatory requirements attached to each scenario could be ensured?

No response at this stage. This needs to be further analysed and assessed.

Q16: Do you think that the DLT will be used for one of the scenarios above? If yes, which one(s)? If no, please explain?

No specific response at this stage. This needs to be further analysed and assessed.

Q17: If the DLT is used for one of these scenarios, how could compliance with the regulatory requirements attached to each scenario be ensured?

No specific response at this stage. This needs to be further analysed and assessed.

Q18: Do you think that the DLT will be used for safekeeping and record-keeping purposes? Please explain, with concrete examples where appropriate.

Yes, but again this needs to be further analysed and assessed.

Q19: If the DLT is used for the safekeeping and record-keeping of ownership, how could compliance with the regulatory requirements be ensured?

For Q14-19, we would propose to distinguish between DLT as technology for transaction processing on the one side, clearing and settlement (DvP and CCP) on the other side and, finally, recordkeeping with payments, corporate actions and – in general – asset protection. As presented in the paper, this is a natural sequence for the discussion.

- As a technology "DLT" can be implemented for transaction processing and recordkeeping of transaction – to be compared to other technologies. As this aspect does not (!) include accounting / recordkeeping, the requirement for interfaces has to be balanced against the benefit of resilience and automated reconciliation.

- For clearing and settlement, the fundamental aspects of DvP, CCP et cetera cannot be replaced by a new technology and will – still – be existing, even with DLT. Only in the situation of a closed-loop system with delivery AND payments in one system, such settlement risks can be avoided but at the price of prefunding (see e.g. continous link settlement in FX transaction).

- For safekeeping, we would refer to the paper by Philipp Paech "Integrating global Blockchain securities settlement with law and regulation – Policy considerations and draft principles", Conference Paper, June 2016, London School of Economics. Any kind of safekeeping requires the chance to enforce the rights of an investor in case of default, fraud et cetera. No technology alone can achieve this.

Q20: Do you think that the DLT will be used for regulatory reporting purposes? Please explain, with concrete examples where appropriate.

No specific response at this stage. This needs to be further analysed and assessed.

Q21: If the DLT is used for regulatory reporting purposes, how could compliance with the applicable regulatory requirements be ensured?

No specific response at this stage. This needs to be further analysed and assessed.

Q22:   Do you think that the DLT could be used for other securities-related services than those already discussed, in particular trading and issuance?

Especially for trading, there are "centralised" trading venues and regulation is pushing in the director to bring all transaction to regulated market places. The technology of a venue and connection to the market participants depends on the requirements: DLT can be an alternative, but in competition to other technologies.

Q23:   Do you see potential regulatory impediments to the deployment of the DLT in securities markets?

The EACB would tend to believe that the regulators / supervisory authorities should be involved at a very early stage.

Q24:   The EACB would tend to believe that the regulators / supervisory authorities should be involved at a very early stage. Should regulators react to the deployment of the DLT in securities markets and if yes how? If you think they should not do so please justify your answer.

In general, the industry wants regulations to be technology-neutral - it is up to each entity to decide which technology to use (e.g. whether you want to use Windows vs. Mac). It does not seem appropriate to regulate a "technology" (such as DLT), but rather activities (conduct regulations) or outcome (such as trade reporting requirements).
Having said that, there has to be some sort of regulatory framework for DLT to be adopted in securities market - without an appropriate regulatory framework, it would be challenging for regulated entities (like our members) to use/adopt the new technologies/services. What regulators (ideally on a global basis, such as IOSCO and/or CPMI) can do is to provide a broad framework for DLT to be applied in securities market (e.g. clearing & settlement), if the DLT is going to provide "intermediary" like functions with multiple members using the service. DLT could replace intermediaries, but need to meet certain requirements, such as governance structure, risk assessment, access control, data protection.
PFMI (Principles for Financial Market Infrastructure prepared by CPMI/IOSCO) is a good start, as this was prepared as a regulatory framework for intermediaries (such as CCP, CSD, Trade Repositories). Not all principles (there are 24 principles) may be relevant, but regulators could pick the relevant principles and ensure that the DLT governance body satisfies all relevant principles, and regulators (probably the home regulator) should be reviewing the "application".