

CSDs, virtual currency investments and "blockchain" technology

This paper constitutes ECSDA's response to the [ESMA call for evidence](#) of 22 April 2015 on "Investment using virtual currency or distributed ledger technology". Given that ECSDA has not yet performed any detailed analysis of the issues raised in the consultation, the below comments should be considered as initial thoughts rather than definitive views.

General considerations from a CSD perspective

1. ECSDA encourages ESMA to play an active role in supporting global cooperation for building an appropriate supervisory regime for virtual currency investments.

The growing impact of virtual currencies on securities markets, with the emergence of new forms of virtual currency-based investments, presents new opportunities for market participants, but also new risks that need to be properly assessed and mitigated. By issuing a call for evidence and collecting information from securities market players, ESMA is contributing to raise awareness of these developments, and indeed ECSDA firmly believes that monitoring technological and market evolutions in relation to virtual currencies is essential to preserve financial stability. Given the inherently global nature of bitcoins and other virtual currencies, international cooperation among financial regulators will be especially important to allow market players to benefit from these new developments, while ensuring that the potential risks posed by the virtual currency environment to the financial system are properly monitored and, where necessary, addressed.

ESMA can play a leading role in this respect, and we stand ready to take part in and support European and international initiatives (e.g. at IOSCO level) aiming at better understanding the impact of virtual currencies and the associated technologies on securities markets.

2. Virtual currency investments pose new challenges in terms of investor protection, and addressing these challenges is likely to require new types of standards.

As ESMA rightly mentions in its call for evidence, virtual currency investments and the related technologies can in some way represent an alternative, possibly even a threat, to existing securities infrastructures. ECSDA agrees that, as long as actors in the virtual currency environment remain largely unregulated, there is a risk of regulatory arbitrage and competitive distortions, which might lead some investors, issuers and/or intermediaries to shift their investments to the virtual currency space to benefit from lower costs and fewer regulatory constraints.

That said, ECSDA believes that the analysis to be performed by securities regulators should first and foremost assess the implications of virtual currency investments from the perspective of investor protection, rather than from the perspective of competition between new players and incumbents. We anticipate that the existing supervisory framework for securities infrastructures will not be directly applicable to virtual currency players, and that regulators will very likely have to develop new standards to address the specific challenges posed by virtual currency investments, for example as regards the integrity of the mining process and the verification of the identity of the trading counterparties/beneficial owners in the absence of a central register and "notary".

3. ESMA should consider "blockchain" and other distributed ledger technologies in conjunction with, but also separately from, virtual currencies.

Although virtual currencies are inherently linked to the technologies that allow for their use as a means of exchange, ECSDA believes that "blockchain" and other distributed ledger technologies are likely to be used in other areas, including possibly in traditional securities markets. There is a general perception among market players and securities infrastructures that these innovative technologies can present interesting opportunities for achieving speedy and cost-efficient securities transactions, although there are still many obstacles and limitations to overcome before they can be considered for widespread use.

Looking at technological developments in conjunction with, but also separately from, virtual currencies and virtual currency investments, could enable securities regulators to find the right balance between promoting innovation and mitigating the related risks.

Responses to the consultation questions

Q6: Do you agree with the analogies to traditional regulated entities? Please explain where you have a different opinion, including where the analogies are different for different VCs.

ECSDA generally agrees with the analogies made by ESMA and finds the chart on page 4 of the call for evidence particularly helpful to illustrate the functioning of blockchains. As with all analogies, these are however imperfect and should not lead to overlook major differences among the actors at play:

- In the absence of a "central register" of investors, information on the holders of virtual currency assets is stored as part of the blockchain. **This is not directly comparable to the notary and registration functions performed by CSDs, which are essential to maintain the integrity of the issue.** In the case of blockchains, individual "miners" are collectively responsible for validating transaction data but there is no legal entity bearing responsibility for reconciling individual holdings with the number of total assets having been issued, and for managing any potential discrepancies. This could present a serious weakness in terms of investor protection.
- The "safekeeping" of virtual currency assets is done through accounts maintained in IT servers, without any "depository" entity being responsible for the central maintenance of these accounts. In this context, **the protection afforded to investor assets by CSDs' liability regime does not apply.**
- As far as settlement is concerned, it seems to us that the speed with which transactions can be processed in virtual currency environments is due to absence of (chains of) intermediaries. Transfers occur directly between individual accounts, which is not without posing questions in terms of regulatory oversight and asset protection. ECSDA also remarks that **the virtual currency environment is not subject to finality rules** and other regulatory safeguards applying to payments and securities settlement systems.

Q8: Do you agree with the assessment of benefits and risks of VC based financial assets/securities or are there other benefits/risks for investors, for other market participants, and for the financial system as a whole?

ECSDA generally agrees with the assessment of benefits and risks made by ESMA as regards virtual currency-based financial instruments. Virtual currency investments and the related technology can bring substantial benefits to securities markets by leveraging technical innovations to achieve speedier and cost-efficient transactions.

As for the risks, we believe that they mainly relate to the level of investor protection, and that a solid regulatory regime needs to be developed to avoid that the growth in virtual currency investments results in disturbances to financial stability.

Possible factors increasing the risk for investors in virtual currency products include:

- The fact that many virtual currency actors are not subject to minimum capital requirements, let alone strict prudential requirements, making an insolvency more likely and potentially more damaging for these firms' clients - i.e. investors;
- The challenge of identifying beneficial owners of securities transactions for anti-money laundering purposes in the absence of a central register. The comprehensiveness, reliability and integrity of the information on trade counterparties contained in the blockchain needs to be assessed in this regard, and solutions may need to be developed in the future to allow for a proper verification of beneficial owners' identity for legal and fiscal compliance purposes;
- Market manipulation is also more likely in connexion with the value of virtual currencies. In the absence of a strict framework regulating the entities providing valuations of bitcoins and other virtual currencies, there is a risk that virtual currency indices might be manipulated or distorted in a way that could result in major losses for investors;
- The lack of proper "safekeeping" for virtual currency assets in the absence of real "depositories". As explained in our response to Q6, the maintenance of accounts holding virtual currency assets is done through IT servers. In order to ensure that virtual currency assets are protected from the risk of loss, errors, and the risk of fraud, guarantees would have to be put in place in case these IT servers are attacked or compromised. There are precedents of some companies specialised in the safekeeping of bitcoins having been hacked and having subsequently lost important amounts of bitcoins, for which clients were not compensated.

Against this background, the threat to existing business models of securities, exchanges, CCPs and CSDs, is only secondary, and will probably only materialise if virtual currency players remain largely unregulated, i.e. if regulators allow these players to make use of a lighter regulatory regime to compete with existing securities infrastructure providers.

Besides, CSDs and other securities infrastructures can actually benefit from some of the opportunities offered by the increasing popularity of virtual currencies. For example, in May 2015, an EU securities exchange, Nasdaq OMX Stockholm, admitted a certificate for trading which tracks the performance of bitcoins, although it is traded in a traditional currency (the Swedish crown). Euroclear Sweden settles this certificate like any other security¹.

¹ See the Euroclear Sweden press release of 20 May 2015, "Euroclear Sweden affiliates the world's first regulated security tracking the value of bitcoin", available at: <https://www.euroclear.com/sv/nyheter/aktuellt/english/euroclear-sweden-affiliates-the-world-s-first-regulated-security.html>

Q9: How is distributed ledger technology being used or likely to be used in relation to the issuance, distribution, trading, recording of transactions and ownership of 'traditional' securities or investment products and why?

ECSDA agrees that ESMA should give some consideration to the fact that distributed ledger technology could in the future be used for the trading and settlement of "traditional" securities transactions. The technology is constantly evolving and new developments are being tested to enhance the reliability of the process, for example by adding a permission system to the distributed ledgers, thereby ensuring that only authorised entities can access the network and discover asset ownership.

Some ECSDA members are currently studying blockchain technology and considering the potential implications for their business model. Nasdaq for example recently announced an enterprise-wide initiative aimed at leveraging blockchain technology in order to offer efficient services for the issuance, transfer, and management of private company securities².

Most of the work at CSD level however remains exploratory at this stage, and ECSDA is not yet able to share any conclusions.

About ECSDA

The European Central Securities Depositories Association (ECSDA) is a member of the EU Transparency Register under number 92773882668-44. The association represents 41 central securities depositories (CSDs) across 37 European countries. Central securities depositories (CSDs) are financial market infrastructures which act as the first point of entry for newly issued securities and subsequently ensure the settlement and safekeeping of these securities. As regulated financial market infrastructures, CSDs play a vital role in supporting safe and efficient securities transactions, whether domestic cross-border.

If you have any questions on this paper, please contact Ms Soraya Belghazi, Secretary General, at info@ecsd.eu or +32 2 230 99 01.

² See the Nasdaq press release of 11 May 2015, "Nasdaq Launches Enterprise-Wide Blockchain Technology Initiative", available at: <http://www.nasdaqomx.com/newsroom/pressreleases/pressrelease?messageId=1361706&displayLanguage=en>