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Introduction

ABN AMRO Clearing Bank N.V. ("AACB") has taken note of the call for evidence of the European Securities and Markets Authority (ESMA) on Investment using virtual currency (VC) and the use of distributed ledger technology.

As one of the largest General Clearing Members ("GCM") in Europe, AACB is following the current developments related to distributed ledger technology with strong interest. AACB believes that this technology could potentially benefit market efficiency, investors, market integrity and ultimately financial stability.

AACB is a mono-line company within ABN AMRO Bank N.V. and holds its own banking license. AACB clears and finances over 16 million exchange traded (ETD) and OTC financial instruments per day as market access provider and GCM on 85 exchanges and CCPs across Europe, the Americas and Asia Pacific. The international network provides market access to exchange-listed instruments such as stocks, futures and options. AACB also covers non-exchange listed investment instruments and alternative products. AACB's customers only include professional clients and eligible counterparties. The main client base consist of principal traders such as market makers, professional traders and liquidity providers. AACB is not engaged in proprietary trading and solely executes and clears for the risk and account of clients

Q 1: Do you have any further information about any other VC investment product or platform distributing VC investment products, their location or size outstanding/volume?

Q 2: Do you have any information about the profile of investors investing in VC investment products?

Date 15.7.2015 Subject Call for evidence – Investment using virtual currency or distributed

ledger technology

Date 15.07.2015

Reference:

Page 2/4

Q 3: Do you have anything to add or suggest a change to the description (paragraphs 15-18) of how virtual currency distributed ledgers work? Please clearly state to which virtual currency you are referring in your answer or whether your answer refers to virtual currencies in general.

Q 4: Do you agree with the general investment process in VC based financial assets as described above (paragraphs 19-24)? Please explain where this process could differ for different virtual currencies.

A 4: Yes. AACB generally agrees with this observation. The process described is correct for one type of asset that is represented by a VC that is native to the blockchain. However, AACB believes that a scenario where multiple assets/securities can be traded on a distributed ledger is far more likely to succeed, as friction costs exist when exchanging different VC's and there is less linkage to "real world" values. A clear example of a multi-asset technology is used by Coloredcoins. Coloredcoins enables the use of a broader range of financial assets linked to actual (financial) values and instruments such as securities, commodities and/or currencies. We kindly refer the website http://coloredcoins.org for more information.

Q 5: Which VC based financial assets exist other than the broad categories mentioned (paragraph 24)?

A 5: AACB agrees with the broad categories mentioned in paragraph 24.

Q 6: Do you agree with the analogies to traditional regulated entities as outlined (paragraph 25-32)? Please explain where you have a different opinion, including where the analogies are different for different VCs.

A 6: AACB agrees with the analogies to traditional regulated entities as outlined in paragraph 25-32.

Q 7: Do you have more evidence on how widespread ownership of VC based financial assets/securities is? Please mention your sources.

A 7: No, AACB presently believes that http://coinmarketcap.com seems like a well-informed site on VC ownership.

Q 8: 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?

A 8: AACB believes that the entire life-cycle of a trade including its .1) execution, 2.) the netting of multiple trades against each other and 3.) reconciliation, can benefit from the technology behind VC

Date	Reference:
15.07.2015	
	Page
	3/4

and ultimately lead to a reduction in costs and an increase in transaction speed. The ultimate benefit therefore remains with the investor as it may lead to a cheaper, safer and more transparent financial market.

Q 9: 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?

A 9: AACB believes that the distributed ledger technology is likely to be used in relation to the issuance, distribution, trading, recording of transactions and ownership of 'traditional' securities or investment products. As mentioned in question 4, AACB does not believe that the creation of a VC per asset is an optimal situation. At this moment, there are a large number so-called altcoins (alternatives to the Bitcoin VC) available that all require their own nodes and blockchain. AACB believes that a single ledger that would store the balances of multiple assets would save operational costs and reduce friction when exchanging assets.

Q 10: To what extent is the use of distributed ledger technology in relation to 'traditional' securities or investment products being separated from an associated virtual currency and, if so, how and why?

A distributed ledger is technically able to store any kind of information that represents value. This can be either a token that represents a fiat, virtual currency or a security. AACB sees the main benefits of distributed ledger technology in the following four scenarios:

1. A distributed ledger is used to receive or send payment to buy or sell a security. Payment can be made in a native VC such as Bitcoin or as an IOU such as Ripple that are guaranteed by the coin provider. This would impact clearing and settlement.

2. A distributed ledger is used to buy or sell an asset that represents a security, i.e. a cryptosecurity. Several technologies such as coloredcoins, Ripple or HyperLedger can be used to represent more than one kind of asset on one distributed ledger. The assets on the distributed ledger are governed by a Central Securities Depository ("CSD").

3. Assets and currencies are both represented on one ledger. This scenario allows for near-frictionless trade but requires support from multiple parties (network effect) to succeed.

4. Assets and currencies are both represented on a distributed ledger but not necessarily on the same ledger. In this case friction is still very low, but different distributed ledgers can be developed as their functional requirements and desired connectivity options differ slightly. This scenario would also allow for a phased migration.

The exchange of information between distributed ledgers is under heavy development. Initiatives such as side chains (see www.blockstream.com) and cross ledger smart contracts can reliably exchange value between distributed ledgers.

AACB believes that scenario 3 and 4 are both sustainable; they could both be a desired end state of current cryptocurrency and distributed ledger developments. Ultimately, AACB sees scenarios where

Date	Reference:
15.07.2015	
	Page
	4/4

banks may be able to issue fiat currency on a distributed ledger whereby every fiat currency exists as a cryptocurrency governed by the responsible central bank. Until that time, AACB believes scenario 1 and 2 will remain to continue to develop as an evolution of existing systems and technologies.

In general, AACB believes that the current state of the technology is still too immature to facilitate large-scale adoption in a production environment as an alternative to the existing trading and clearing lifecycle for clients and end-users. AACB is committed to innovation and is currently testing several technologies to understand how they can contribute to any of the scenarios listed.