Deutsche Bank
Global Transaction Banking

SESSION 2: CUTTING-EDGE FINTECH FOR CROSS-BORDER REMITTANCE TRANSFERS

Joint CBS-IMF-ADB Regional Seminar on FinTech and Financial Inclusion in the Pacific Island Countries

Apia, Samoa
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WHAT WE UNDERSTAND

1. Emphasis on Distributed Ledger Technology / Blockchain innovations and their potential to facilitate cross-border remittance transfers

2. Identify how such innovations can address some of the de-risking concerns by facilitating customer identification and due diligence processes

3. Highlight components of Anti-Money Laundering (AML) and Countering Financing of Terrorism (CFT) regulations

DISTRIBUTED LEDGER TECHNOLOGY (DLT) VS BLOCKCHAIN

DLT

DATA WITH DECENTRALISED ACCESS AND OPERATIONS

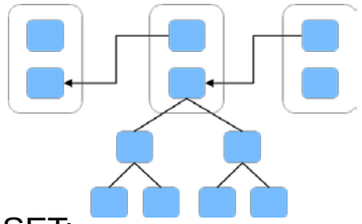
COMMON APPLICATIONS / POCs:
KNOW-YOUR-CUSTOMER REPOSITORY
REGULATORY REPORTING

. . .

"a type of DLT"

BLOCKCHAIN

A FAMILY OF DATA STRUCTURE



COMMON APPLICATION IN CRYPTOCURRENCY/ASSET:
AS A PAYMENT METHOD
AS A DIGITAL REPRESENTATION OF VALUE OR ASSET

. . .

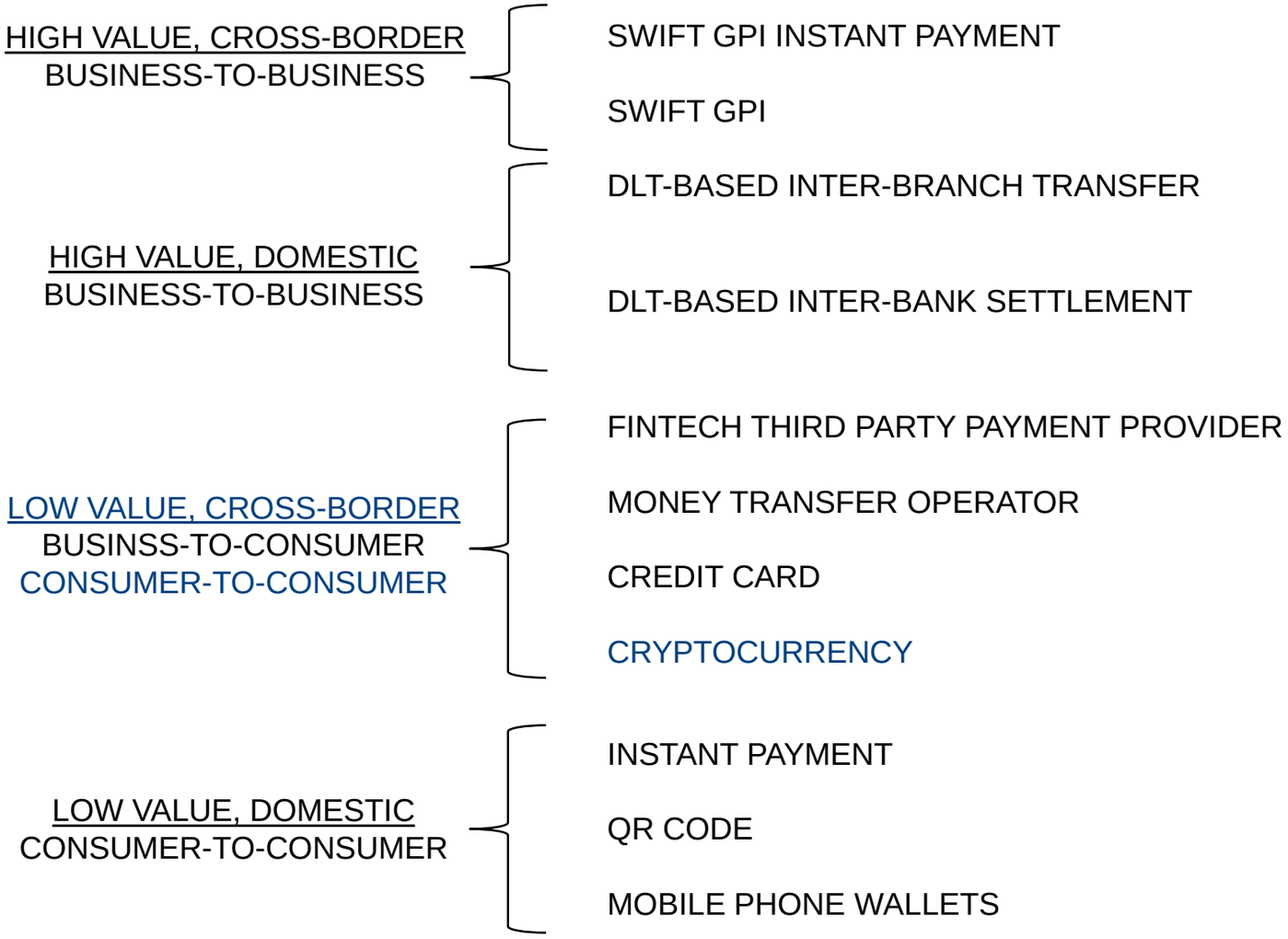
BLOCKCHAIN

APPLIED AS: CRYPTOCURRENCY AS A PAYMENTS METHOD

FINANCE IN NATURE
INTERNET, CODES AND CRYPTOGRAPHY IN STRUCTURE

APPLICATIONS IN PAYMENTS

One possibility: financial inclusion; cross-border low-value, near instant, cost-effective remittance

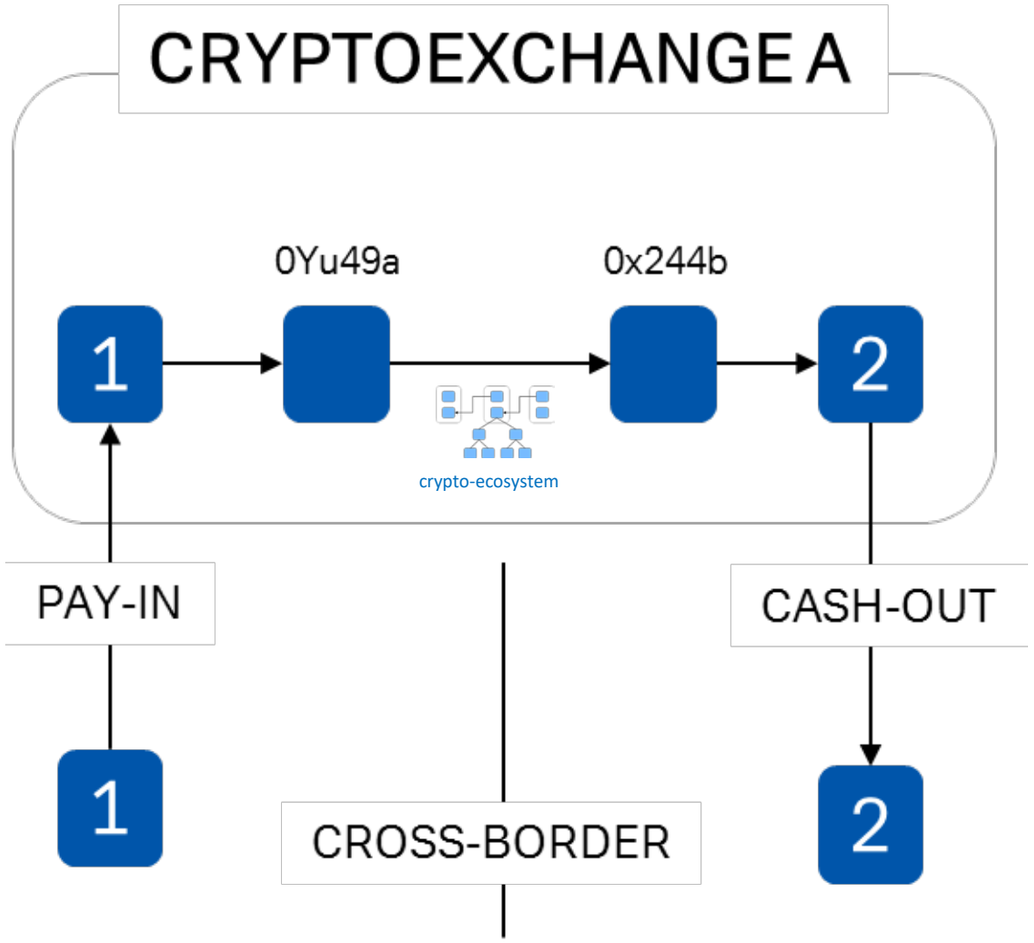


MACHINE-TO-MACHINE
SUPERMICRO PAYMENT

USED IN CROSS-BORDER REMITTANCE

Blockchain used as a payment method (“cryptocurrency”) or a digital representation of value

ILLUSTRATION



1. Accepts Fiat
2. Maintains fiat accounts
3. Allows Fiat → Crypto
4. Maintains private keys of crypto wallets and balances
5. Operates like a Money Transfer Operator

Potential fees include

i. From Fiat1 → Crypto
ii. Miner’s fee to move between addresses
iii. From Crypto → Fiat2

Cash-in/out with

a. Bank account
b. Telco e-wallet
c. Crypto wallet (device based)

Risks (public cryptocurrency) include

i. Volatile value
ii. Hard forks

DEVELOPMENTS THAT CAN FACILITATE CROSS-BORDER REMITTANCE AND PAYMENTS

SELECT

VALUE TRANSFER

UTXO

Account Transfer

"Airdrop"
(for 1:Many digital distribution)

VOLATILITY

Cryptocurrency backed with fiat currency

Cryptotokens that are asset-backed
(including cash flow-based possibilities)

TRANSPARENCY & PRIVACY

Cryptographic

Process-based (Tumblers, Mixers)

Channels

SCALABILITY

Layer 2

High Output, Low Confirmation Latency
(for volume and speed of value transfer)

TRUST MECHANISM

More energy efficient Proofs

Pre-mined

Permissioned
(for more control and visibility of transactions)

SECURITY

Internet Latency

DEX

HD, Multisig
(for forgotten "passwords" and higher security)

DIGICASH, 1989.

In 1996, Deutsche Bank entered into a pilot with Digicash*.

EXAMPLES

1st TYPE: CLASSIC COIN

- Bitcoin (BTC).
- Ether Classic (ETC).

2.1 TYPE: SCALABILITY+

- Bitcoin Cash (BCH). Ether (ETH).
- Alternative Coins (“Altcoins”)

2.2 TYPE: “LAYER 2”

- Lightning, Raiden, Plasma.

3rd TYPE: “STABLECOIN”

- Tether (USDT).
- Paxos Standard (PAX).
- USD Coin (USDC).
- HUSD (interchangeable with USDC, PAX and GUSD)

4th TYPE: PRIVACY ENHANCED COIN

- Monero (XMR).
- Zcash (ZEC).
- Dash (DASH).

5th TYPE: PUBLIC TOKEN

- ERC, QRC 20 e.g. Initial Coin Offering
- ERC 721 e.g. Cryptokitties.

6th TYPE: PRIVATE TOKEN

- MUFGCoin (1:1 backed JPY) by Bank of Tokyo Mitsubishi
- MobiCoin by Daimler Ag**.

7th TYPE: NON-BLOCKCHAIN METHOD

- IOTA (supermicro payment, DAG)

*Deutsche Bank to test “e-cash” with DigiCash in Pilot”, 7 May 1996, The Wall Street Journal
**https://cryptovest.com/news/mercedes-preps-crypto-coin-to-reward-eco-driving/.

HOW SUCH INNOVATIONS CAN ADDRESS SOME OF THE DE-RISKING CONCERNS BY FACILITATING CUSTOMER IDENTIFICATION AND DUE DILIGENCE PROCESSES

RELIABILITY AND COMPLETENESS OF INFORMATION

EXAMPLE

KNOW-YOUR-CUSTOMER (CONSUMER)

1. Identity and other personal information
2. Source of fund

…

AML / CFT

1. Time of transaction
2. Purpose of payment
3. Sender’s identity
4. Recipient and ultimate beneficiary identity
5. Amount
6. Activity pattern (transaction tracking)

ENFORCEMENT

1. Geo-location
2. IP address

…

KYC/AML/CFT INVOLVING BLOCKCHAIN/DLT

DLT can facilitate integrity, transparency and access; not information reliability or completeness

DUE DILIGENCE PROCESS

1. Selfie-photo with reliable identification papers e.g. national identity card, utility bills, bank statements, etc

2. Information requirement increases with crypto value limit

ACCESS EFFICIENCY

1. KYC Utility to facilitate the reuse of documents
   a) Customer lodges, updates their documents and grants access permissions to select banks.

   b) Document's integrity assured via "hash"

CUSTOMER IDENTIFICATION

1. Cash-Out to a bank account
   a) e.g. Philippines

2. **Canada NRC POC using Ethereum cryptocurrency and blockchain, with real addressees for transaction transparency**

INTEGRITY, TRANSPARENCY & ACCESS…

EXAMPLE

https://nrc-cnrc.explorecatena.com/en

“

NRC-IRAP - Blockchain publishing prototype

The National Research Council of Canada, through its Industrial Research Assistance Program (NRC-IRAP) is using the Ethereum blockchain to proactively publish grants and contribution data in real time, a measure that complements ongoing quarterly proactive disclosures available through the Open Government website.

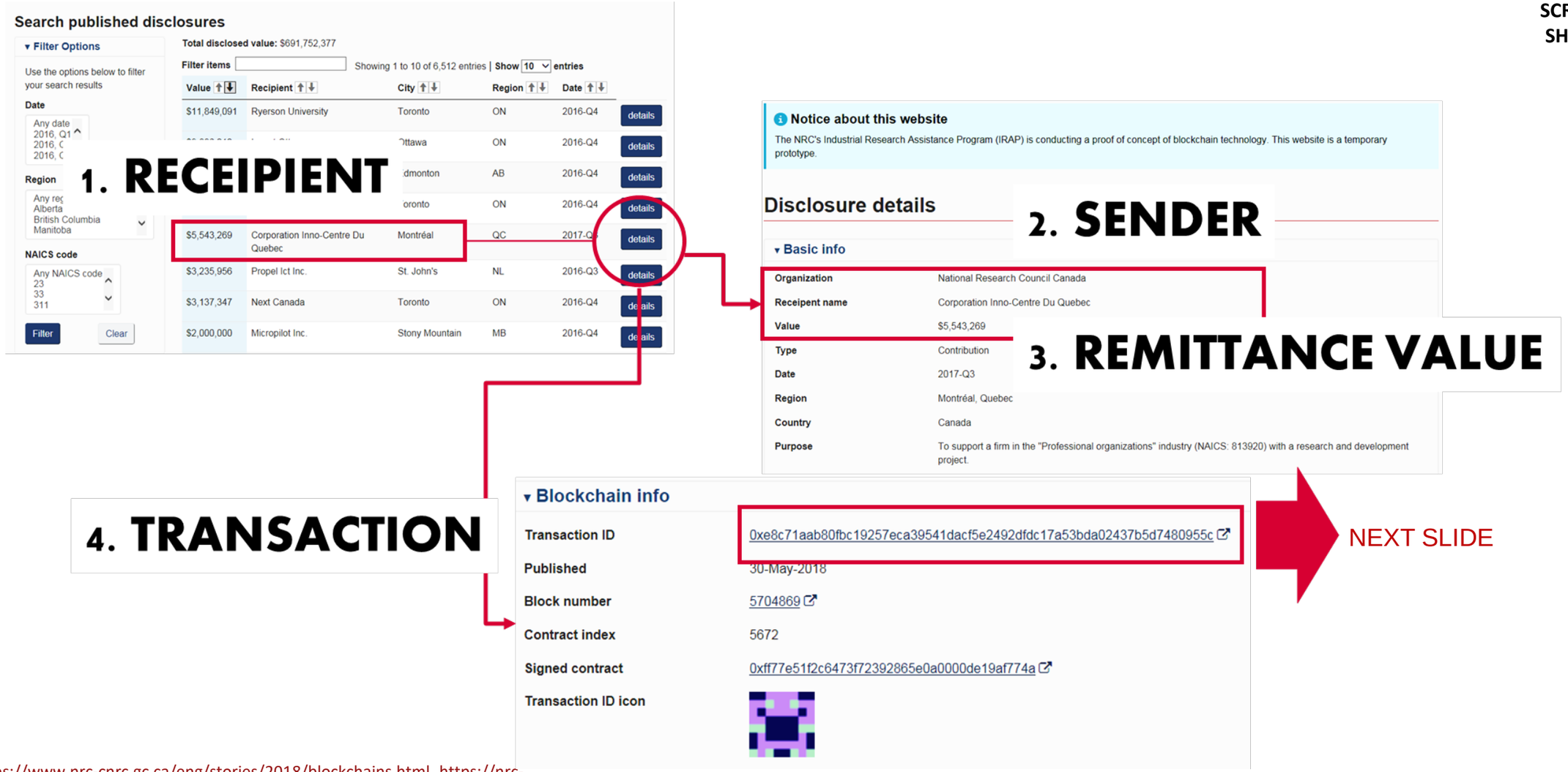
On the simplest level, blockchains are public ledgers that record transactions shared among many users.

Once data is entered on a blockchain it is secure and unalterable, providing a permanent public record. This technology offers unprecedented levels of transparency and trust allowing public records to be searched, verified and audited at a level the world hasn’t seen before

Source: https://www.nrc-cnrc.gc.ca/eng/stories/2018/blockchains.html, https://nrc-cnrc.explorecatena.com/en (last accessed 25 Oct 2018)

…REMITTANCE + TRANSACTION MONITORING

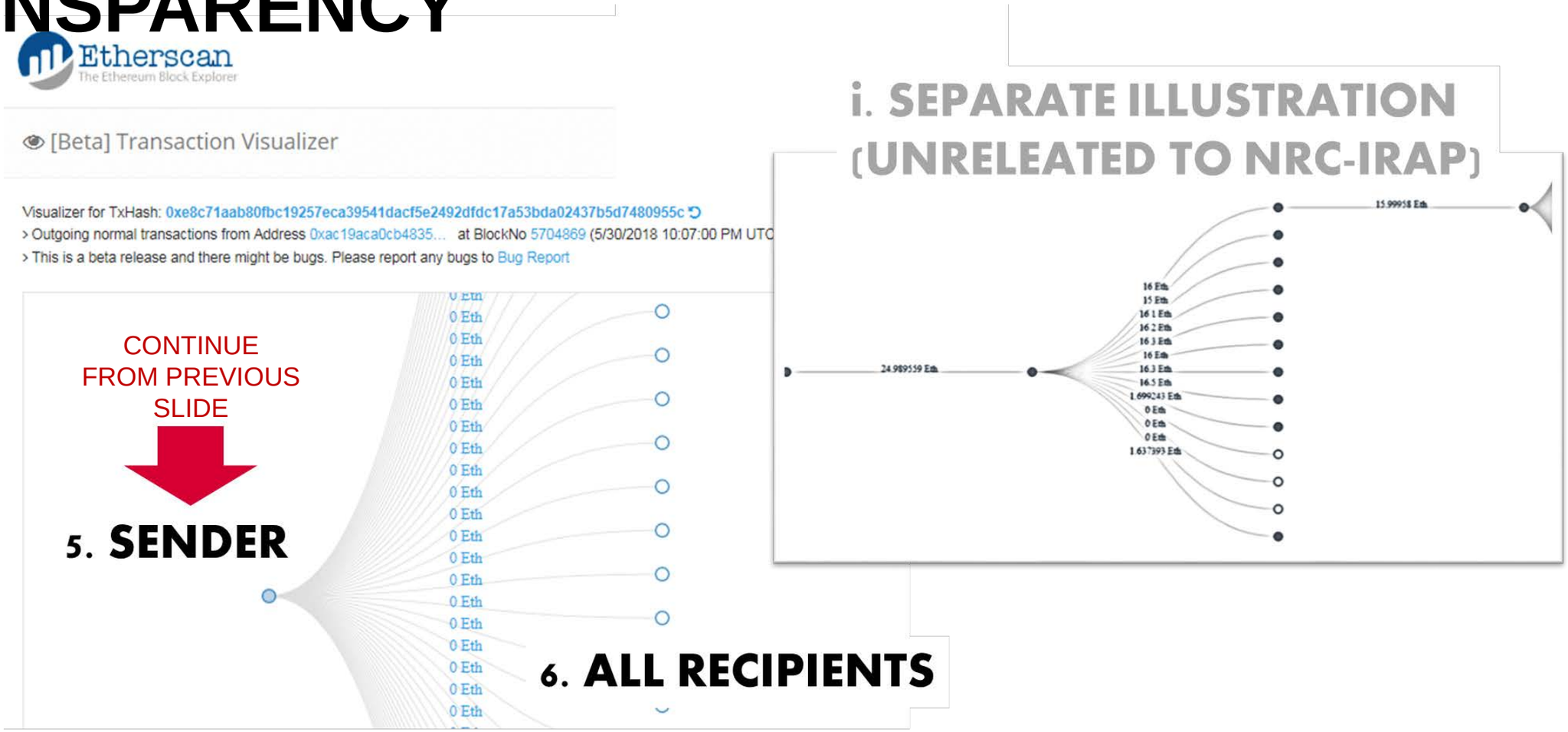
SCREEN SHOTS



Source: https://www.nrc-cnrc.gc.ca/eng/stories/2018/blockchains.html, https://nrc-cnrc.explorecatena.com/en (last accessed 25 Oct 2018)

CRYPTO TRANSACTION TRAIL TRANSPARENCY

SCREEN SHOTS



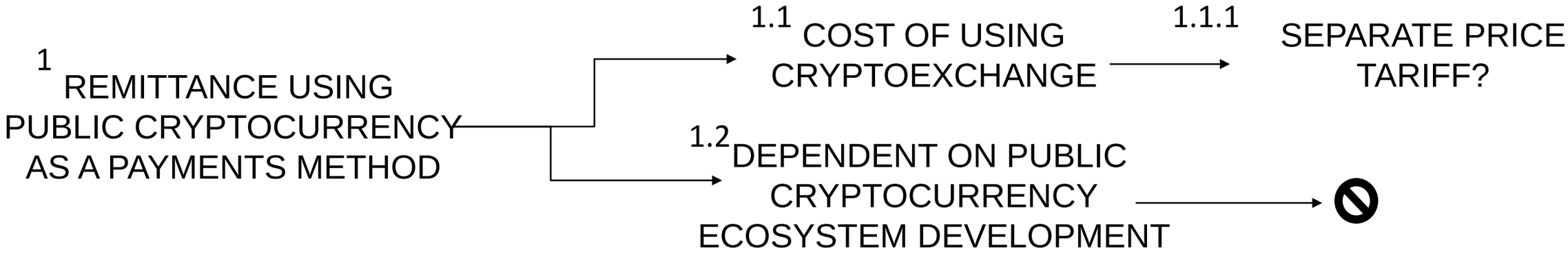
Source: https://www.nrc-cnrc.gc.ca/eng/stories/2018/blockchains.html, https://nrc-cnrc.explorecatena.com/en (last accessed 27 Oct 2018)

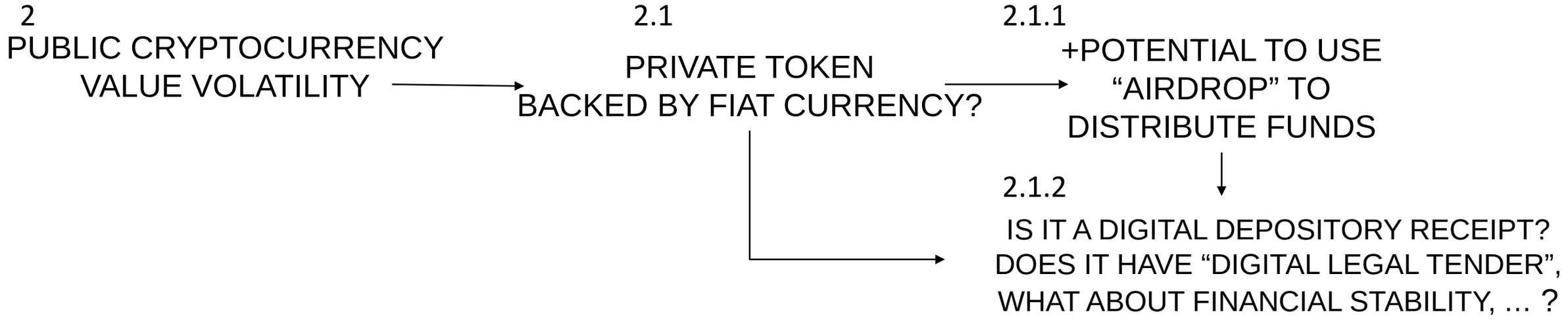
CRYPTOCURRENCY'S (BLOCKCHAIN) INTERSECTION WITH CROSS-BORDER REMITTANCE SERVICES FOR FINANCIAL INCLUSION

SOME LEGAL, REGULATORY AND MARKET CONSIDERATIONS

LEGAL AND MARKET CONSIDERATIONS

SELECT

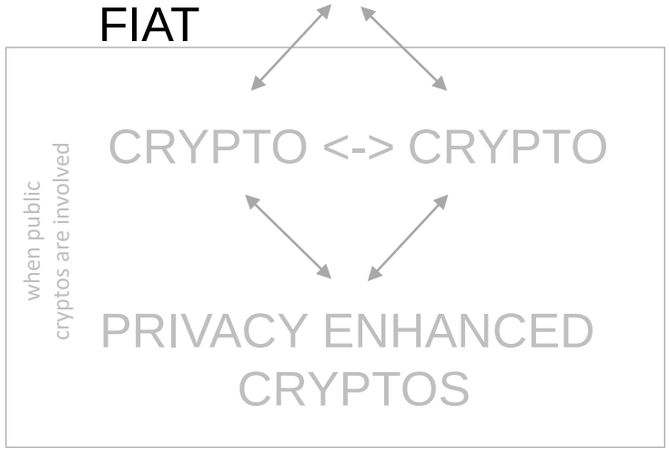




CRYPTOCURRENCY KYC/AML/CFT COMPLIANCE

ABSTRACT

3 FIAT → CRYPTO → FIAT



3.1 KYC: IS RELIABLE, UPDATED INFORMATION AVAILABLE?

3.1.1 DATA PRIVACY…

…and Banking Secrecy. Are there conflicts with sharing KYC/AML/CFT data? Is a cryptographic hash of personal information still part of personal information, etc?

3.2 SANCTIONS & EMBARGO SCREENING

3.2.1 OFAC

OFAC compliance obligations are the same irrespective of whether a transaction is denominated in digital currency or traditional fiat currency

3.3 AML / CFT FRAUD MONITORING

3.3.1 IS THE CRYPTOEXCHANGE REGISTERED / LICENSED?

FATF, virtual asset service providers should be licensed or registered and subject to monitoring, Oct 2018.

…other jurisdictions

CAN BANKS RELY ON CRYPTOEXCHANGE COMPLIANCE STANDARDS FOR THE CRYPTO TRANSACTIONS?

Source: https://www.treasury.gov/resource-center/faqs/Sanctions/Pages/faq_compliance.aspx#vc_faqs, https://www.fatf-gafi.org/media/fatf/documents/reports/Guidance-RBA-Virtual-Currencies.pdf http://www.fatf-gafi.org/publications/fatfrecommendations/documents/regulation-virtual-assets.html; http://www.austrac.gov.au/digital-currency-exchange-providers

OTHER MATTERS…

ABSTRACT

4

CONSUMER AWARENESS AND PROTECTION

CYBERSECURITY / CRYPTOSECURITY

LAW & ENFORCEMENT → TRACKING TOOLS
DIGITAL ARTEFACTS
CROSS-JURISDICTIONS

INNOVATIVE APPLICATION → E.G. CRYPTO-REMITTANCE (PRIVATE COIN) INTEGRATED WITH KYC AND TRANSACTION TRANSPARENCY

TELCO + REMITTANCE?

Cross-industry, cross-jurisdiction
policy/regulatory sandbox?
Product sandbox?

WILL REQUIRE A POOL OF EXPERTISE

HOW TO ENABLE SUSTAINABLE PRIVATE-PUBLIC SECTOR COLLABORATION?

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