

► Threats posed to Criminal Investigations by use of Cryptoassets



FATF Recommendations & Regulations

- ▶ “an unregulated payment instrument with manifold opportunities for exploitation for money laundering purposes”
- ▶ “they represent a powerful tool for criminals to covert, move and store illicit funds, out of the reach of LEAs”
- ▶ 19TH October 2018 FATF published revised recommendations for international standards on combatting Money Laundering & Terrorist Financing
- ▶ This amended FATFs New Technologies (Regulation 15) and added two new definitions

FATF Recommendations

- ▶ What are they? Comprehensive and consistent framework of measures which countries should implement to combat ML & TF.
- ▶ Why? In response to G20 request for clarification on crypto-assets in relation to ML & TF
- ▶ Regulation 15 - New technologies

Countries and financial institutions should identify and assess the money laundering or terrorist financing risks that may arise in relation to (a) the development of new products and new business practices, including new delivery mechanisms, and (b) the use of new or developing technologies for both new and pre-existing products. In the case of financial institutions, such a risk assessment should take place prior to the launch of the new products, business practices or the use of new or developing technologies. They should take appropriate measures to manage and mitigate those risks. To manage and mitigate the risks emerging from virtual assets, countries should ensure that virtual asset service providers are regulated for AML/CFT purposes, and licensed or registered and subject to effective systems for monitoring and ensuring compliance with the relevant measures called for in the FATF Recommendations.

FATF - New Definitions

► Virtual Asset

Virtual Asset A virtual asset is a digital representation of value that can be digitally traded, or transferred, and can be used for payment or investment purposes. Virtual assets do not include digital representations of fiat currencies, securities and other financial assets that are already covered elsewhere in the FATF Recommendations.

► Virtual Asset Service Providers

Virtual Asset Service Providers Virtual asset service provider means any natural or legal person who is not covered elsewhere under the Recommendations, and as a business conducts one or more of the following activities or operations for or on behalf of another natural or legal person: i. exchange between virtual assets and fiat currencies; ii. exchange between one or more forms of virtual assets; iii. Transfer of virtual assets; iv. safekeeping and/or administration of virtual assets or instruments enabling control over virtual assets; and v. participation in and provision of financial services related to an issuer's offer and/or sale of a virtual asset.

► FATF FinTech and RegTech Initiative - platform available for governments and Private Sector to share initiatives and developments

Where are we vulnerable?

- ▶ Decentralised currencies - no central server, no central supervisory body = nobody monitors transactions (no SARS) between peers for compliance
- ▶ Legal Framework - Specific legislation addressing cryptos
- ▶ Regulatory Body - supervision for CC exchanges, ATMs and wallet providers.
- ▶ Anonymity - CCs allow high speed movements of funds without disclosing true identity of owners. Cross jurisdiction risk high as internet based.
- ▶ Awareness - Most LEAs are in the dark as to the actual level of usage of CCs within their own sphere of intelligence
- ▶ Education - Staff awareness and training for understanding of CCs

Continuing & Evolving Threats

- ▶ Stablecoins
- ▶ Initial Coin Offerings
- ▶ Bitcoin Traders
- ▶ Gift Cards
- ▶ Pre-Paid Crypto Cards
- ▶ Use of Crypto Assets to evade sanctions
- ▶ Decentralised Exchanges (DEX)
- ▶ Decentralised Autonomous Organisations (DAO)
- ▶ Off Chain Transactions

Stable Coins

- ▶ Pseudo anonymous cryptoasset specifically designed to minimise price volatility **(1)**
- ▶ Minimise price volatility through having value pegged to a backing asset - FIAT currency or to an exchange commodity such as gold.
- ▶ The ratio will be fixed ie: 1 for 1
- ▶ Currently 57 Stablecoins in use or development
- ▶ Can be traded on an exchange or used to transfer value

Name	Symbol	Market Capitalisation	Circulating Supply	24hr Trade Volume	Peg/Ratio	Collateral
Tether (USDT)		£1.3bn	1.7bn	£1.7bn	US Dollar/1:1	US Dollar
DAI (DAI)		£53m	67m	£3m	US Dollar/1:1	Ethereum (ETH)
BitCNY (BITCNY)		£15m	142m	£12m	Chinese Yuan/1:1	Bitshares (BTS)
STASIS EURS (EURS)		£10m	12m	£287k	Euro/1:1	Euro
Digix Gold Token (DGX)		£2m	63k	£62k	1 gram of Gold/1:1	Gold

- ▶ Value and use of Stablecoins is at risk if - (a) the value of the backing asset changes, or (b) there is a loss of trust in the issuer ⁽⁴⁾
- ▶ Other Stablecoins use other cryptoassets as collateral or algorithms to control value depending on market conditions
- ▶ Stablecoins are pseudo anonymous - transactions on blockchain can be viewed and traced but owner of each address is not revealed
- ▶ Not currently aware of any privacy focused Stablecoins ie like Monero

Legitimate use of Stablecoins

- ▶ Most popular use is to exit trading positions from cryptoassets that have a volatile value ⁽⁵⁾
- ▶ Carried out via a cryptoasset exchange
- ▶ Useful if trader uses a cryptoasset exchange that does not have a FIAT currency to safeguard funds from changes in value or if the trader does not want to convert funds held in cryptoassets into FIAT.
- ▶ Can be used as a currency ⁽⁶⁾
- ▶ Example of potential use by a PML

Professional Money Launderer (PML)



PML

3. The PML has funds waiting in stablecoins
4. The PML uses a cryptoasset exchange to convert the stablecoins to Monero.



Cryptoasset Exchange

2. OCG contacts PML requesting to exchange cash for cryptoassets, such as Monero.

Organised Crime Group (OCG)



1. The OCG has cash and they need to convert to a cryptoasset, such as Monero



Cash

6. The cash is passed to PML
5. The Monero is transferred to the OCG

Benefits to the Professional Money Launderer

- ▶ Funds are protected against changes in value
- ▶ Funds kept outside of traditional banking system
- ▶ Unknown variables - how are they held - hardware device, custodian wallet on an exchange

Initial Coin Offerings

- ▶ FCA report (12/09/2017) - a digital way of raising funds from the public using a Cryptocurrency/Virtual Currency. (token sale or coin sale)
- ▶ High risk speculative investments
- ▶ Issue a “coin” or “token” that is related to a specific firm or project
- ▶ Digital token can represent - a share in a firm (equity token), a prepayment voucher for future services (utility token) or possibly have no discernible value
- ▶ Generally they are at early stage of development
- ▶ Similar in nature to Initial Public Offerings (IPOs)

RISKS

- ▶ Unregulated in most countries
- ▶ Lack of protection for the investor
- ▶ Volatility of price
- ▶ Fraud potential - Ponzi scheme - estimated 80%
- ▶ Lack of comprehensive documentation
- ▶ Experimental business models

Name	Symbol	Added	Market Cap	Price	Circulating Supply	Volume (24h)	% 24h
CENTERCOIN	CENT	1 day ago	\$?	\$0.047062	? *	\$29,205	?
SnapCoin	SNPC	1 day ago	\$?	\$0.069220	? *	\$52,900	?
ICOBay	IBT	1 day ago	\$?	\$0.000432	? *	\$40	?
ROlyal Coin	ROCO	1 day ago	\$?	\$0.277241	? *	\$43,755	?
BitMax Token	BTMX	1 day ago	\$?	\$0.016401	? *	\$?	2.90%
StrongHands Masternode	SHMN	1 day ago	\$?	\$0.564861	? *	\$1,650	?
DogeCash	DOGEC	2 days ago	\$?	\$0.080105	? *	\$6,718	1.80%
Almeela	KZE	2 days ago	\$?	\$0.183906	? *	\$59,413,327	-5.05%
Ultileger	ULT	2 days ago	\$?	\$0.006658	? *	\$18,918	-2.24%
ROMToken	ROM	5 days ago	\$?	\$0.000107	? *	\$?	1.94%
Winco	WCO	5 days ago	\$?	\$0.003615	? *	\$40,447	-4.69%
ProxyNode	PRX	5 days ago	\$?	\$0.140508	? *	\$26,774	36.60%
Atomic Wallet Coin	AWC	5 days ago	\$?	\$0.044077	? *	\$504	-27.12%
Impleum	IMPL	5 days ago	\$?	\$0.041921	? *	\$7,807	24.11%
AgaveCoin	AGVC	5 days ago	\$?	\$0.009526	? *	\$35,695	-3.57%
Footballcoin	XFC	6 days ago	\$?	\$0.005181	? *	\$8,412	-0.35%
HedgeTrade	HEDG	6 days ago	\$?	\$0.138367	? *	\$218,651	-1.32%
Stronghold Token	SHX	6 days ago	\$?	\$0.003636	? *	\$11,402	0.47%
USDCoin	USC	6 days ago	\$?	\$1.02	? *	\$14,557,798	0.45%
QUINADS	QUIN	6 days ago	\$?	\$0.000006	? *	\$10,835	-7.95%
Fountain	FTN	7 days ago	\$?	\$0.033601	? *	\$152,918	-1.18%
Lambda	LAMB	7 days ago	\$?	\$0.013827	? *	\$1,284,391	20.92%

WARNING SIGNS/QUESTIONS

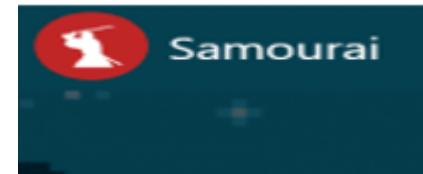
- ▶ The 10 biggest ICO scams are worth \$700 MILLION
- ▶ Loop X - exit scam was worth \$4.5M
- ▶ People behind the issue - do they have experience in the industry, CV?
- ▶ Promotional material - has no real content - purely buzz words and catchphrases
- ▶ The ICO has no cap or maximum limit
- ▶ Why do they need to issue an ICO to fund raise?
- ▶ Is there a need for a token?
- ▶ Does the business model make sense?
- ▶ Look at the technology being used - is it suited to purpose? How will the token work? Economic understanding?
- ▶ In which jurisdiction are they looking to incorporate? One with a high regulatory barrier for AML & banking licences - Switzerland, Singapore, Malta, Korea?

Privacy Crypto Wallets

- ▶ They provide an opportunity to maximise your privacy when using Crypto
- ▶ Multiple brands available on various platforms all offering similar levels of encryption
- ▶ Samourai Mobile Wallet - advertised as “a bitcoin wallet for the streets”
- ▶ Wasabi Desktop Wallet - an open source non-custodial Btc privacy wallet
- ▶ Bitlox Hardware Wallet - supports only Btc but developing devices for Ethereum and other cryptos
- ▶ Rahakott Web Wallet - anonymous web multi-currency wallet. Supports Btc, Bitcoin Cash, Ethereum, Litecoin, Monero, Zcash and Dash



WASABI
WALLET



OFFICIAL

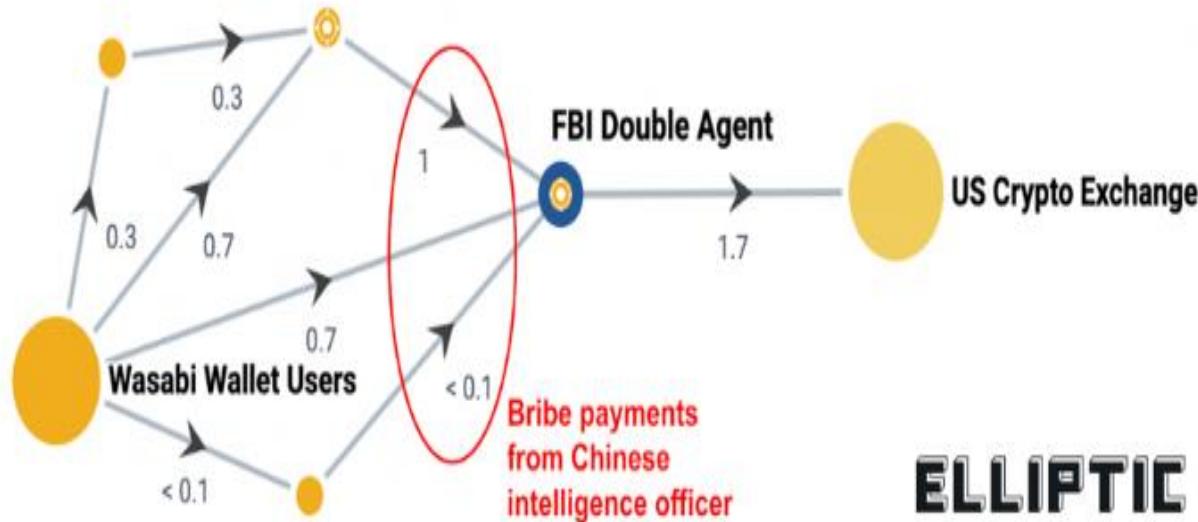
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Chinese Spies Used Wasabi Wallet Mixer to Pay Bitcoin Bribes to FBI Double Agent

24/10/2022

[USA](#)[China](#)[Enforcement](#)[Bitcoin](#)



ELLIPTIC

Elliptic's analysis shows that all of the Bitcoin bribe payments made by the Chinese intelligence agents originated from Wasabi Wallet.

Anonymous multicurrency cryptowallet



Reliable wallet that will not tip off about you. Create just in **15 seconds**, without an email or phone number.

[Create wallet *](#)

* It is absolutely free

Pre-paid Cryptocurrency Cards

- ▶ Cryptocurrency linked to a wallet is converted into FIAT and loaded onto a pre-paid card
- ▶ January 2018 VISA Europe withdrew services to WaveCrest
- ▶ Minimal effect to OCGs as other ways to cash out
- ▶ US based CC card providers unaffected
- ▶ Study of usage - 50% USA, 35% Europe and 15% Asia
- ▶ May 2018 Wirex launched Cryptocurrency Debit Card in Europe
- ▶ Alternative Payment Platform - CONTIS
- ▶ Regulation should be covered by 5th AMLD (to be introduced in Europe)
- ▶ Example 1 - Spanish Police - drug sales. BTC loaded onto PP cards
- ▶ Example 2 - Finnish Police - DarkWeb market place trader used CC PP cards to launder E280,000 (E100,000 from ATMs)
- ▶ Example 3 - Norwegian Customs - suggest CCPP cards used to launder funds. 74% of cards used for less than 2 months
- ▶ The larger the withdrawal the less the life span of usage



- ▶ Crypto Debit card company who offers a prepaid card
- ▶ Offer - Bitcoin, Ether, Dash and NEM
- ▶ Services offered in multiple languages - English, Russian, Chinese, portugese, French, Arabic, Japanese and Lithuanian
- ▶ Payment Methods - Bank Transfer, Visa, Mastercard, Giropay, Skrill, SEPA Credit Transfer, Sofort by Klarna

Crypto.com

- ▶ 5 types of debit cards
- ▶ Basic free card
- ▶ Ruby card
- ▶ Jade/Indigo card
- ▶ Rose gold/Icy white card
- ▶ Obsidian card
- ▶ Crypto invested for fixed term period
- ▶ Available in UK & EU since 2020/21
- ▶ Why attractive?
- ▶ Each one higher level
- ▶ Plastic
- ▶ Metal - \$400 staked
- ▶ Metal - \$4,000 staked
- ▶ Metal - \$40,000 staked
- ▶ Metal - \$400,000 staked
- ▶ Maintain staked balance to keep card colour
- ▶ Able to use anywhere where Visa accepted
- ▶ 8% rewards on spending
- ▶ Free rewards

Ca



Crypto Asset Gift

- ▶ Launched 2017 Gift cards can be redeemed instantly for cryptocurrency
- ▶ Value from 25, 50, 100, 200 and 500 Euros
- ▶ Only available currently - Bitcoin and Dash
- ▶ Available at 30,000 stores in Spain and Italy and currently expanding into Portugal and France 5,000 stores in each



Bitnovo cryptocurrencies Gift Cards



Bitnovo is online!

Buy the Card now on
sixthcontinent.com



Get more value for your money!

How Does it Work?

- ▶ Bitnovo is a Spanish company - sale of crypto assets and services
- ▶ Sixthcontinent is an Italian company - specialises in shopping/gift cards
- ▶ Access Sixthcontinent Website
- ▶ Choose a “Bitnovo” Gift Card
- ▶ Choose the amount you wish to purchase
- ▶ Complete payment process
- ▶ Redeem the card code in the Bitnovo App or on the website
- ▶ Insert PIN code and the number of your virtual wallet
- ▶ The Crypto Asset will arrive in your wallet in less than 30 minutes
- ▶ Looking to launch in Mexico, Brazil, Argentina and USA
- ▶ Bitnovo PIN Cashout App - allows use to sell crypto asset for cash
- ▶ User receives a PIN code within the app which is redeemable at 4,000 local stores for cash in Spain

Evasion of Sanctions

Four Iranian Banks Support Gold-Backed Cryptocurrency

7627 Total views

333 Total shares



Background

- ▶ Financial Tribune article dated 30th January 2019
- ▶ PayMon - developed by four banks in Iran
- ▶ Backed by Gold - Stablecoin. Government/State backed.
- ▶ Initial release of 1 BILLION tokens
- ▶ Iran in negotiations with Switzerland, South Africa, France, UK, Russia, Austria, Germany and Bosnia to conduct financial transactions in crypto
- ▶ In July 2018 it was reported that the country confirmed it would create it's own state-issued cryptocurrency to circumvent USA sanctions
- ▶ November 2018 - USA released new wave of sanctions - resulting effects - oil exports dropped, SWIFT disconnected from banks, OFAC added 700 officials to transaction watch-list
- ▶ Estimated to have cost Iran a \$400B drop in GDP since these sanctions
- ▶ January 2019 Iranian lawmakers seek to introduce legislation to block the use of crypto for payments inside of the country

Venezuela

- ▶ December 2017 - Announcement made - supplement currency and help overcome US sanctions
- ▶ October 2018 - Venezuela launched - oil-backed cryptocurrency - Petro.
- ▶ Nicolas Maduro (President) claimed it raised \$735M in it's first pre-sale day
- ▶ Government claims Petro is backed by oil, gas, gold and diamonds and is meant to overcome US and EU sanctions
- ▶ Petros will be “pre-mined” - produced and controlled by government
- ▶ Allocated 5 Billion Barrels of oil to back it - tied to the cost of a barrel of oil
- ▶ Offered for sale by FIAT “hard” currencies and other cryptos
- ▶ Each one sold at same cost
- ▶ Current price \$62 a barrel - 100 million Petros = circa \$6 Billion.
- ▶ US signed Executive Order barring US institutions from transactions using Petro.

Off Chain Transactions

- ▶ Transactions which occur on a cryptocurrency network which move value outside of the Blockchain.
- ▶ Increasing in popularity due to low/zero cost
- ▶ Normal transaction occurs - considered valid when the blockchain is modified to reflect the transaction on the public ledger.
- ▶ The transaction is validated and authenticated by participants, transaction details recorded on the block, result broadcast to the whole blockchain network - virtually irreversible.
- ▶ This kind of transaction can be reversed only after a majority of the network's hashing power comes to an agreement.
- ▶ Various types of “Off Chain” Transactions
- ▶ Simplest way - two parties exchange their private keys involving a fixed amount of crypto. The coins never leave the address/wallet, but the currency receives a new owner off-chain.
- ▶ Coupon-based payment mechanism. A purchases coupons in exchange for crypto, passes the code to B. B can then redeem them, in the same cryptocurrency or in different ones, depending on the coupon service provider.

Off Chain Transactions

- ▶ Third Party Guarantor - acts as guarantor and honours the transaction. (Similar to how payment processors like PayPal work)
- ▶ What are the benefits?
- ▶ Execute instantly - On-chain transactions can have a lengthy lag time depending upon the network load and number of transactions waiting in the queue to be confirmed
- ▶ No transaction fee (usually) - nothing occurs on the blockchain. No miners to validate the transaction. Attractive option especially if large amounts are involved.
- ▶ More Security & Anonymity - details not publicly broadcast. It is possible to identify a person by studying transaction patterns of on-chain transactions

Starting Point - Considerations for Every Country

- ▶ Legal Framework - each country needs to look at how they want to tackle the issues. Changes to law to support LEAs
- ▶ Regulation - 5th EU AMLD or own individual internal controls
- ▶ Strategy - Proactive or Reactive?
- ▶ Technology - constantly changing. Investment in latest computers, software, training packages. Blockchain advances.
- ▶ Awareness - basic level of training for all investigators. Small specialised teams to deal with more complex areas.

Impacts of Regulation in the UK?

- ▶ UK - Home Office Legislation changes on dealing with CCs? (1)
- ▶ The EU 5th Money Laundering Directives will bring regulation of Cryptocurrency Exchanges, Custodian Wallet Providers and Obliged Entities (2). Will it cover ATMs?
- ▶ Challenge 1 - number of SARs/STRs will increase - on-line gambling could create a tidal wave. (Scoping exercise of 6.5M SARs lodged only 10% investigated). Can LEAs cope with this?
- ▶ Challenge 2 - As regulation becomes stringent difficult for criminals to enter financial markets. Look outside of EU for jurisdictions with lax regs.
- ▶ Acceptance of the risk of ML using CCs by Governments growing as more cases arise.
- ▶ Also increased usage and acceptance of CCs without the need to cash in or exchange for real currency
- ▶ CCs - An Asset or a viable currency? (3)
- ▶ To improve as a transaction medium - maintain high security and speed up transactions.

Co-operation with Law Enforcement

- ▶ Some of the main operators will provide LEAs with information via the required legal gateway
- ▶ Bitnovo can track and lock gift cards if necessary to avoid abuse. Happy to provide LEAs with information through right channels
- ▶ Bitpay - claim to be global leader in Bitcoin payments and perform AML and KYC on customers. They do produce STRs on customers and monitor their usage of markets provided. Assistance provided to FBI and FIOD.
- ▶ Require - an Official signed LEA request sent to subpoenas@bitpay.com
- ▶ What can they provide - Transaction data - dates, times, amounts of USD or BTC, Merchant Contact Information - name, address and email, Limited Shopper Information (requires GDPR), Information provided by Merchant during on-boarding process - IP addresses from customer invoices

Trends 2021 -2022

- ▶ DarkNet Markets continue to thrive - close down one and it is replaced by another
- ▶ Encrypted Messaging - new apps giving higher level of encryption with all message being sent between OCGs
- ▶ Diversification by OCGs
- ▶ Crypto-Mining via hijacked computer power
- ▶ On-line Gambling sites being purchased or set up by OCGs - launder funds, stream of revenue
- ▶ Sanctions Evasion - Enforcement by OFAC and government agencies to increase in this area

Further Developments to watch

- ▶ DeFi - Decentralised Finance
- ▶ Represents a change in the cryptoasset ecosystem
- ▶ Operates off Smart Contract system on Ethereum
- ▶ Allows for a wide variety of products to be developed and offered which were previously only offered through CeFi (1)
- ▶ Early 2020 Ethereum based smart contracts held value worth \$700 Million
- ▶ By December 2020 this had increased to £15 Billion
- ▶ Lending Platforms - connecting borrowers to lenders of crypto
- ▶ Collateral based - a user who wants to take out a loan needs to put up collateral (usually Ether)
- ▶ No identity require. No credit score.

CeFi compared to DeFi

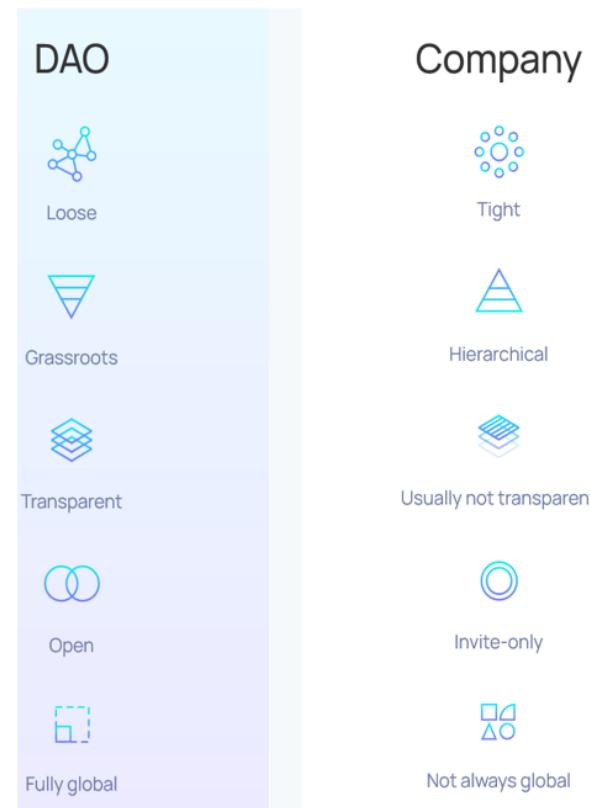
CeFi compared to DeFi	<u>CeFi</u>	DeFi
Custody	Managed by an entity	Managed by the user
Security	Managed by an entity	Managed by the user
Main service	Lending/borrowing, trading and payments (fiat on/off ramps)	Lending/borrowing, trading and payments (crypto on/off ramps)
Client support	Centralised client support	No centralised client support
Accessibility	Verification needed (MLD and KYC)	<u>Permissionless</u> and available to all

Decentralised Exchanges - DEX

- ▶ Facilitate the buying, selling and swapping of cryptoassets between parties
- ▶ Accessed on-line
- ▶ They fall within the definition of a VASP for regulation purposes
- ▶ Orders are executed on-chain by Smart Contracts
- ▶ At no time do they take ownership of the cryptoassets
- ▶ The DEX arranges the contracts between the owners
- ▶ The users provide the liquidity which allows operation of system
- ▶ Concerns
- ▶ Location
- ▶ Autonomous Operation

Decentralised Autonomous Organisations (DAO)

- New form of governance?
- Principal features:
 - Decentralisation
 - Autonomy
 - Transparency
 - Self-organisation
 - Cryptoasset tokens
 - Evolution.
- The question is what are they!



Decentralised Autonomous Organisations (DAO)

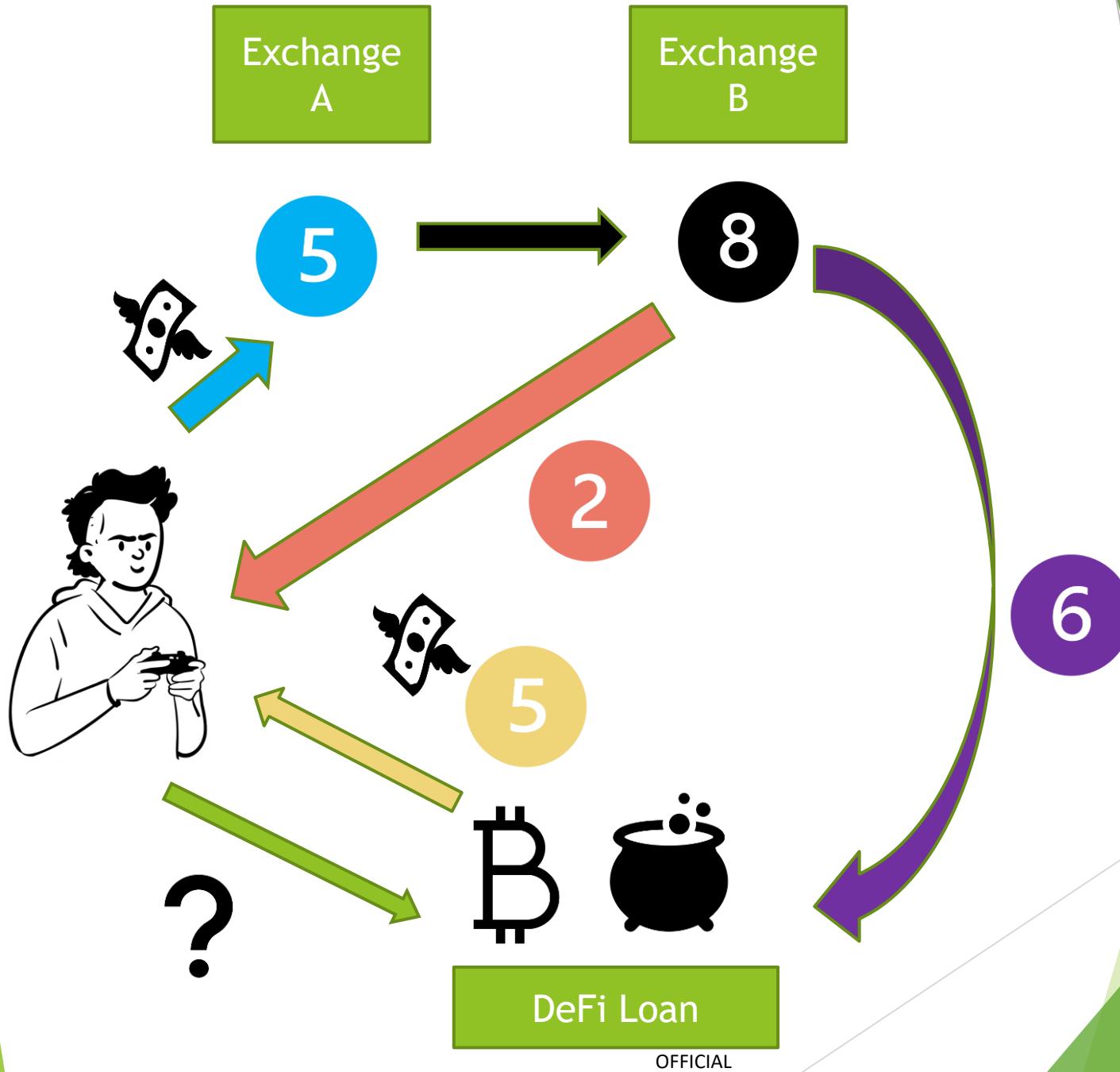
- The question is what are they?
 - Limited Liability Company?
 - General Partnership?
 - Limited Company?
 - Limited Liability Partnership?
 - Unincorporated Association?
- The legal questions...
 - What is the legal nature of a DAO? Is it capable of being a limited company, LLP, general partnership? Is it some other novel type of legal entity
 - Who bears the brunt of liability if something goes wrong? Does it rest with the investors, developers, or with the DAO?
 - Should a DAO have a separate legal personality enabling it to hold assets, sign contracts etc?
 - Who is liable for taxes if the DAO makes a profit?
 - What would the governing jurisdiction of a DAO be? On what basis would it be determined?

Risks

- ▶ Location, location, location
 - ▶ Where are defi platforms located?
 - ▶ The number of users in a jurisdiction
 - ▶ Regulations
- ▶ Smart contract vulnerabilities
 - ▶ Failure of the DEX smart contract
 - ▶ Rug pull/ scamcoins
 - ▶ Hack or arbitrage
- ▶ Lack of KYC
 - ▶ Identification of participants - for all parties

Flash Loan Attack

- ▶ What is a Flash Loan?
- ▶ How would a cybercriminal use it?
- ▶ How long does it take to execute it?
- ▶ Do they happen often?
- ▶ What makes them so attractive to criminals?
- ▶ Would I need to put up collateral?
- ▶ Do I have to undergo credit checks?
- ▶ How much can I borrow?
- ▶ So what is the catch?
- ▶ What happens if I do not complete the deal in time?
- ▶ So what legitimate uses are there?



Famous Attacks

- ▶ Pancake Bunny - May 2021
- ▶ Alpha Homora Protocol Hack - February 2021
- ▶ ApeRocket Flash Loan Attack - July 2021



Greg Kelly

**HMRC Fraud Investigation Service
Money Laundering Cryptoasset SME
Economic Crime Operations**