



Central Bank Digital Currency The European Perspective

7th October 2020

Lasse Meholm

Nordic lead Digital Asset & DLT



The better the question. The better the answer.
The better the world works.

EY Blockchain

250+

Dedicated Blockchain
Professionals and
developers



900+

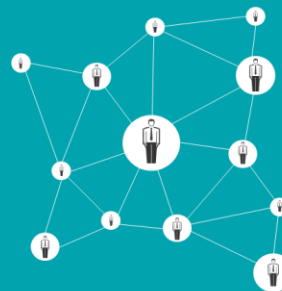
Blockchain-trained
professionals

40+ in the Nordics



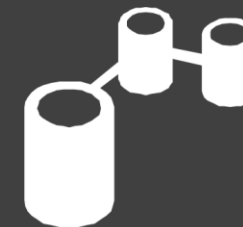
14

Global hubs



9

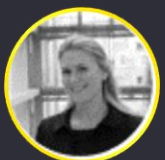
Software Platforms



Blockchain/DLT Team, Oslo Norway



Senior Manager



Linn Anker-Sørensen

Senior Manager



Magnus Jones

Senior Manager



Mads Ribe

Senior Manager



Lasse Meholm

Senior Manager

Partner



Gjert Melsom

Partner



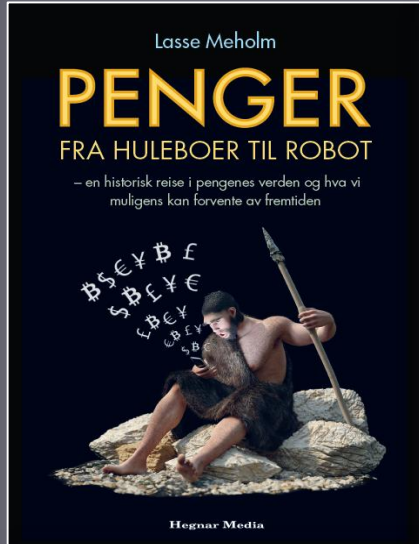
Ingvild O. Kågen

Associated Partner



Lasse Meholm, Books and reports

2017



2018



1. Money from caveman to robots
2. Cryptocurrency, Bitcoin, ICO and Blockchain
3. Investment guide
4. Innovation: What changed the world

2018



Januar 2020



LAST CHANGED MARCH 2020

WHEN PRIVATE DIGITAL MONEY BECOMES A SIGNIFICANT PART OF THE MONEY SUPPLY

THE FUTURE OF MONEY

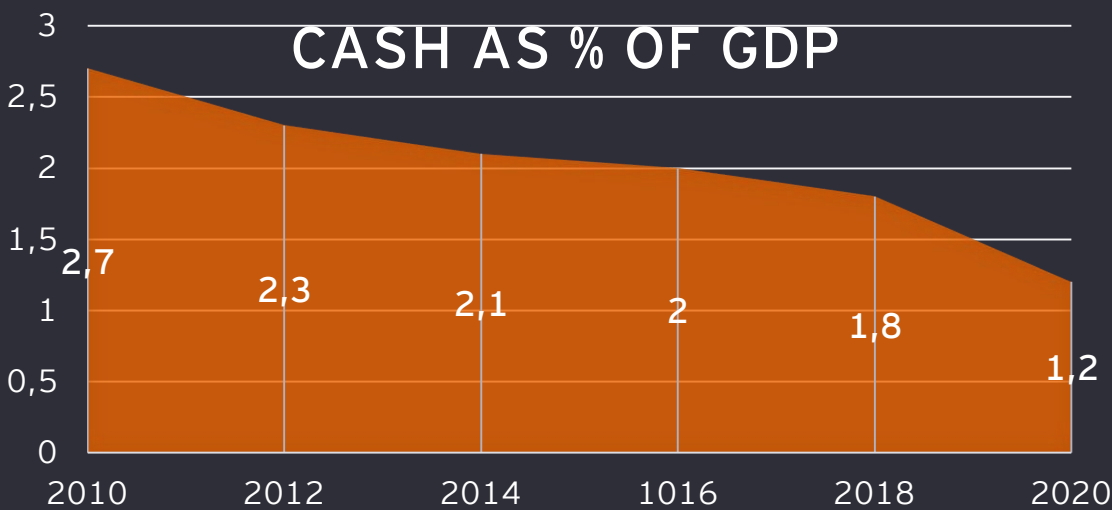
Finansit as

AUTHOR:

*This document will be updated 2 times a year with new information.
New versions on <http://www.finansit.no/teknisk.html>*

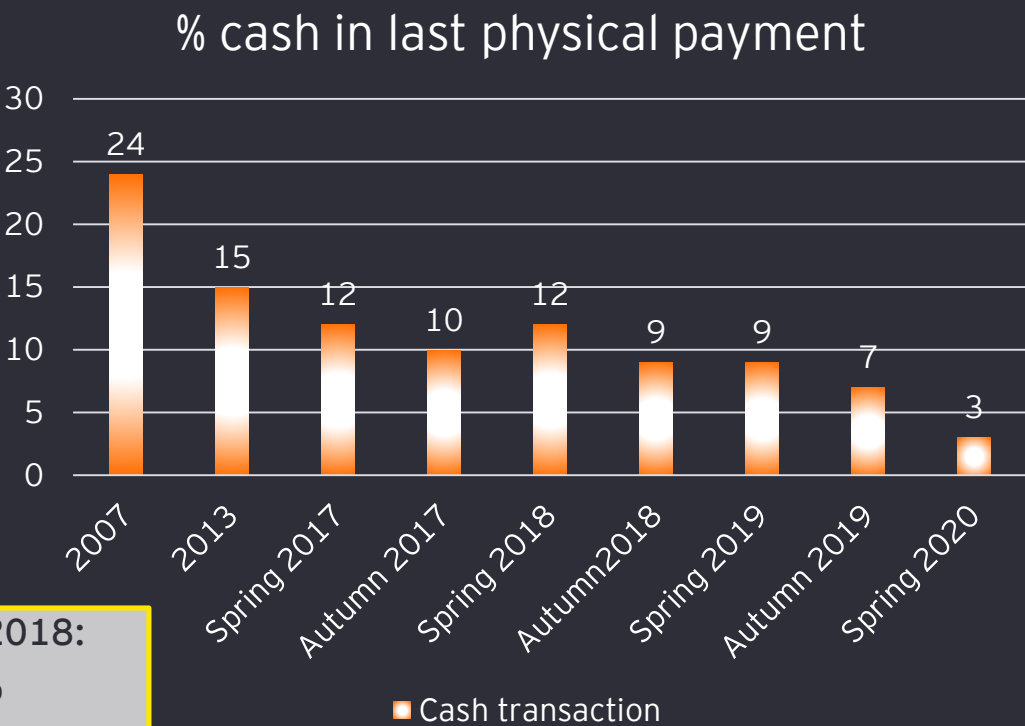
Norway, Sweden and Denmark is close to cash-free

Source: Norwegian Central Bank



Use of cash in 2018:

Germany	74 %
USA	35 %
UK	28 %
Denmark	16 %
Sweden	13 %
Norway	9 %



Norway, Sweden and Denmark is close to cash free



Photo: Sindre Hopland/E24

The central bank law §14 conclude that cash in Norwegian kroner is legal tender.
Sweden, flexible.

More and more shops and other physical business challenge this and do not accept cash.

Due to Covid-19 more and more restaurants and bars rely on digital menu, order and payment.



Photo: Kode 24

Somehow fragmented central banks, FSA, Law and regulation



Euro Area

Austria
Belgium
Cyprus
Estonia
Finland
France
Germany
Greece
Ireland
Italy
Latvia
Lithuania
Luxembourg
Malta
Netherlands
Portugal
Slovakia
Slovenia
Spain

EU member Non Euro

Bulgaria
Croatia
Czechia
Denmark
Hungary
Poland
Romania
Sweden

Who seems to be leading?



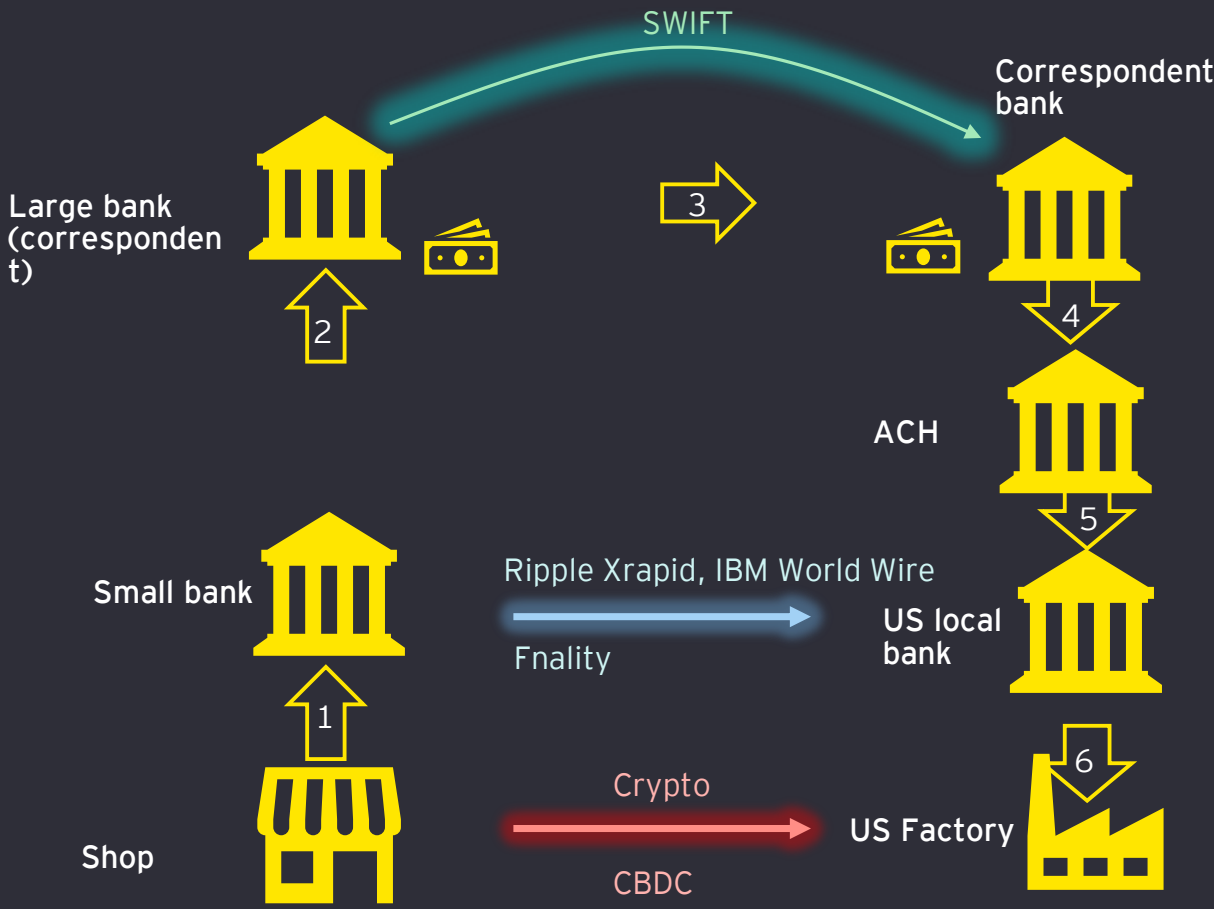
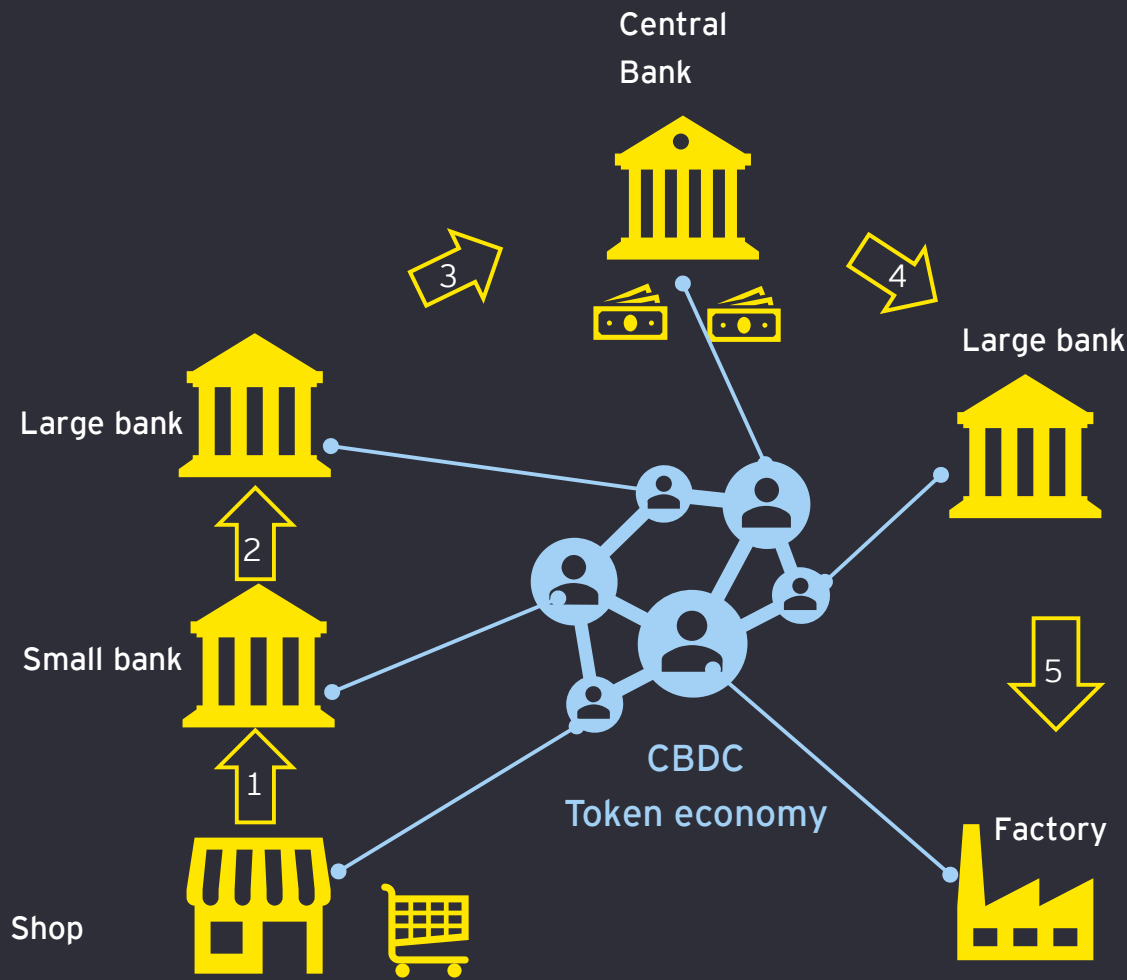
Euro Area

Austria
Belgium
Cyprus
Estonia
Finland
France
Germany
Greece
Ireland
Italy
Latvia
Lithuania
Luxembourg
Malta
Netherlands
Portugal
Slovakia
Slovenia
Spain

EU member Non Euro

Bulgaria
Croatia
Czechia
Denmark
Hungary
Poland
Romania
Sweden

Payment today in Norway



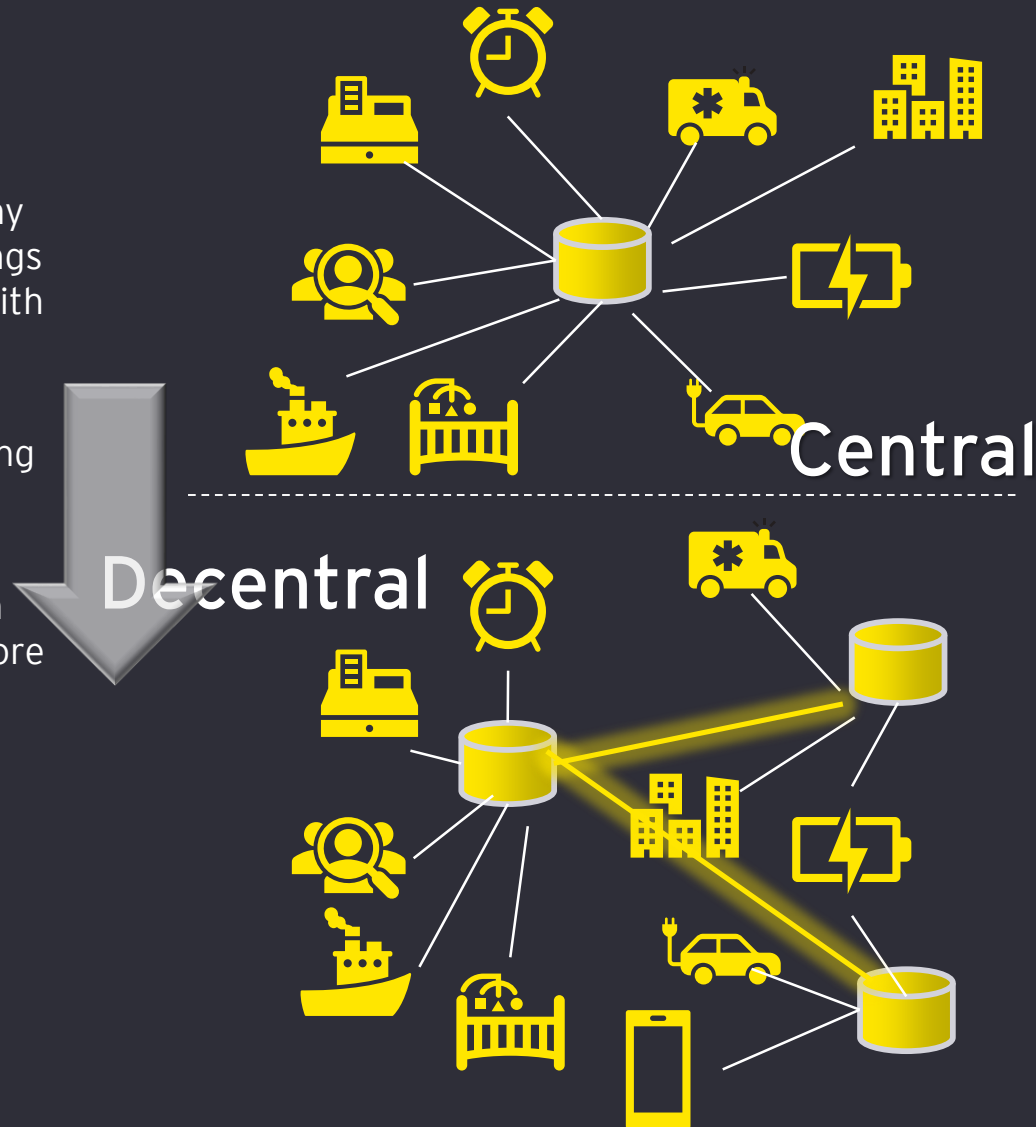
Blockchain/DLT og IoT

Number of IoT devices will increase in the near future

It is expected that in not too many years there will be billions of things that will **communicate and pay** with other things.

A central collection and processing of data is hardly efficient.

The decentralized architecture in blockchain / DLT will lead to a more efficient architecture



Programmable money

The new token economy enable new money to be programmable

Ann pays NOK 100 to Peter, two days after Ann receives at least NOK 500 from her employer. This gives Peter a type of collateral security.

If ManU wins the match on Saturday, send 100 kroner to Per. It can be the result of a bet.

Transfer two million to the seller, the day after the plumber verifies that the bathroom floor is tight. Then the seller also knows that the money is "locked" to himself, if the bathroom is in order.

In each token transaction, a small computer program called a smart contract can be added, which is executed when the conditions are triggered.

A smart contract is immutable and "Hacker safe".

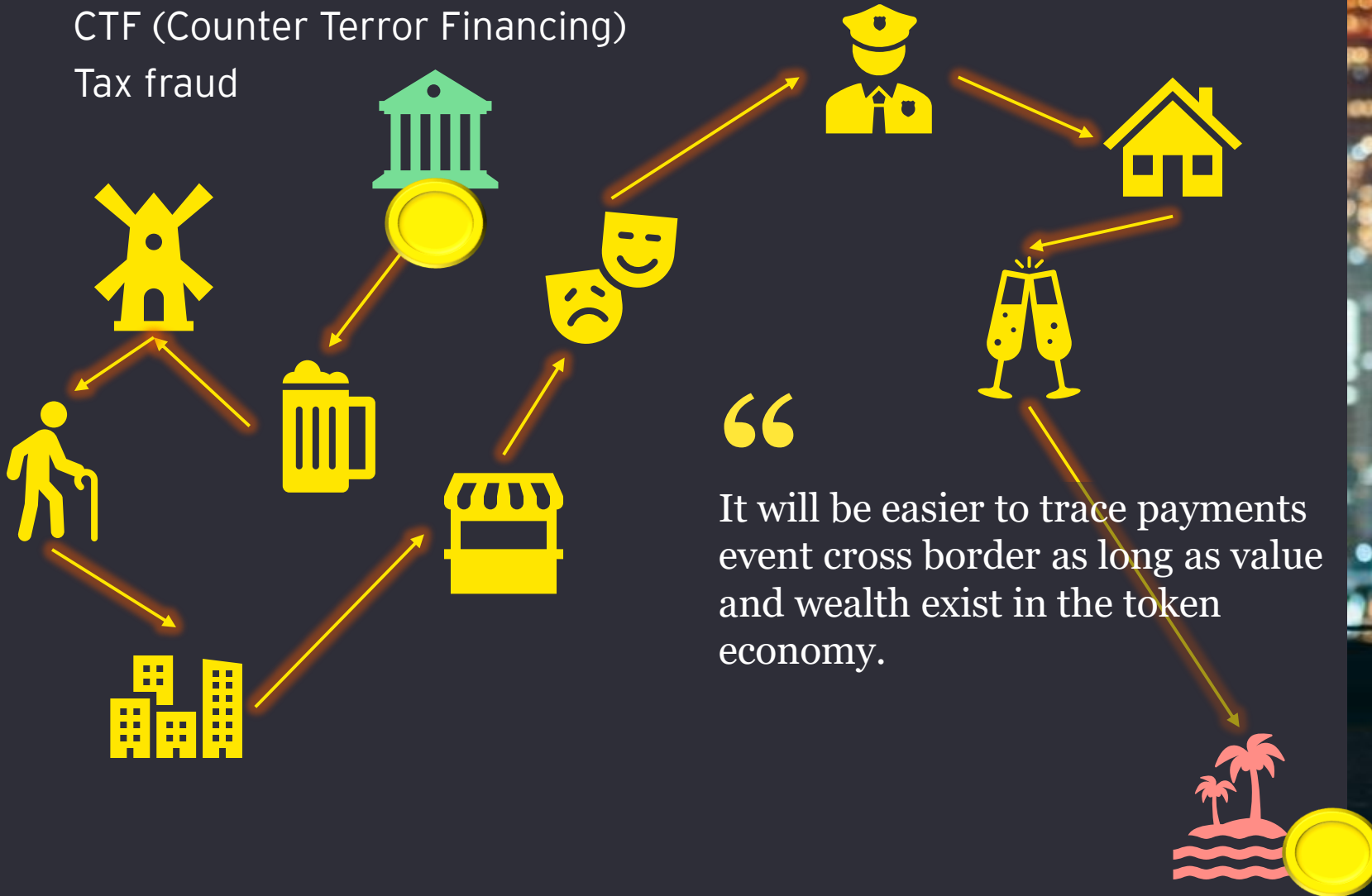


Tracability in tokens - AML / CTF

AML (Anti Money Laundering)

CTF (Counter Terror Financing)

Tax fraud



This report examines the issuance of a central bank digital currency (CBDC) – the **digital euro** – from the perspective of the **Eurosystem**.

Such a digital euro would be a central bank liability offered in digital form for use by citizens and businesses for their retail payments.

It would complement the current offering of cash and wholesale central bank deposits.



Why digital Euro? (1 of 4)

Scenario 1: the digitalisation and independence of the European economy can benefit from a digital form of central bank money available to citizens.

- This will drive digital transformation in all kind of industries
- Reduce cost of doing business
- Foster innovation in Europe
- Improve competition in the payment space

Scenario 2: the role of cash as a means of payment declines significantly.

- Need risk free digital money
- Digital euro should be easy for vulnerable groups to use
- Free of charge for basic use
- Should protect privacy (anonymity ?)

Why digital Euro? (2 of 4)

Scenario 3: Prevent other than euro-denominated (i) central bank money, (ii) commercial bank deposits or (iii) electronic money

- Foreign CBDC used within Europe
- Private digital currency and large technology digital currency
- Can threaten European financial, economic and, ultimately, political sovereignty

Scenario 4: monetary policy.

- As CBDC can have both positive and negative interest rate so CBDC can directly influence the consumption and investment choices of the non-financial sector.
- This might also affect the seigniorage income in central banks and their independency from political government

Why digital Euro? (3 of 4)

Scenario 5: there is a need to mitigate the probability that a cyber incident, natural disaster, pandemic or other extreme events could hinder the provision of payment services.

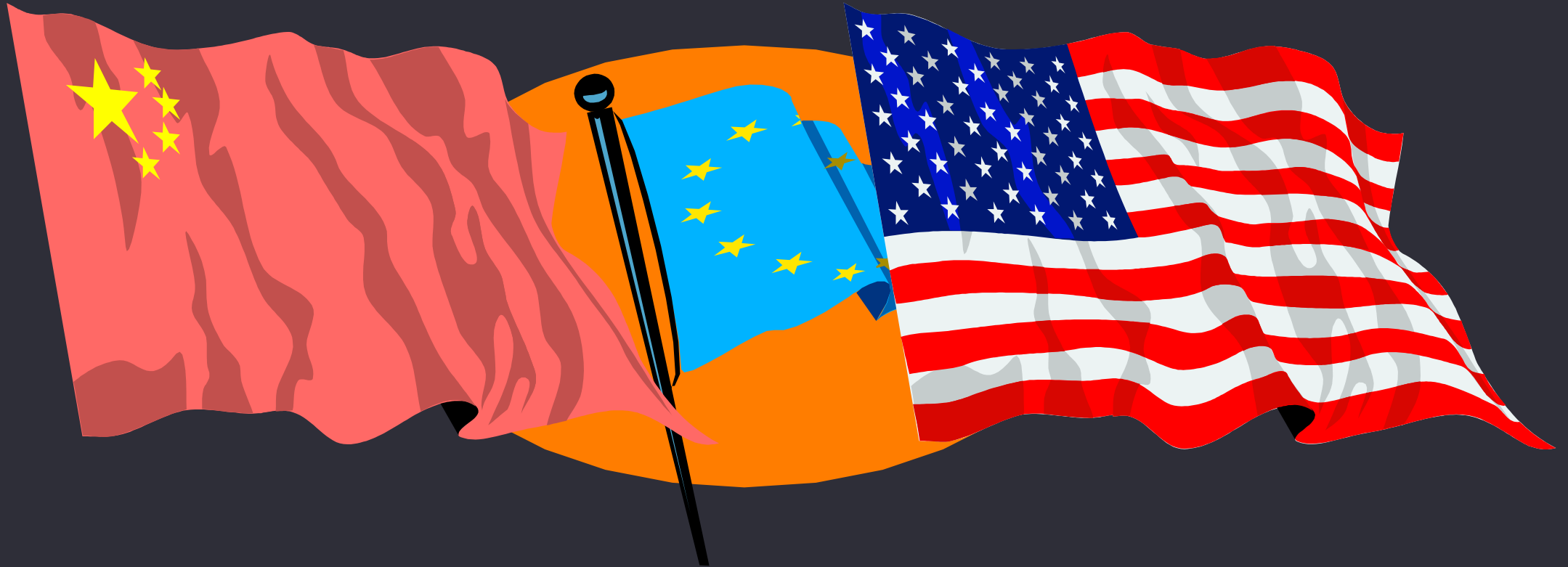
- The digital euro should be widely available and transacted via resilient channels that are separate from those of other payment services and can withstand extreme events.

Scenario 6: the international role of the euro gains relevance as a Eurosystem objective.

- Euro area leaders recently stressed that a strong international role of the euro is an important factor in reinforcing European economic autonomy.

(Europe have introduced mechanism like for example Instex to avoid US infrastructure for payment)

Will the geopolitical tension between China and USA amplify the
Euro CBDC transformation?



Why digital Euro? (4 of 4)

Scenario 7: the Eurosystem decides to proactively support improvements in the overall costs and ecological footprint of the monetary and payment systems.

- The design of the digital euro should achieve a reduction in the cost of the current payments ecosystem.
- based on technological solutions that minimise its ecological footprint

Timeline digital Euro?



Central Bank Digital Currency (CBDC) and private bank coins.

Programmable money and token economy

12 April

Cryptocurrency “Clearly Shaking the System”, says IMF President Lagarde

Christine Lagarde, president of the IMF, sees fintech developments as potentially disrupting the banking system.

Six central banks collaborate on central bank digital currencies

2 days ago • by Ledger Insights

- Bank of Canada
- Bank of England
- Bank of Japan
- Sweden Riksbank
- Swiss National Bank
- European Central Bank
- Bank for International Settlements (BIS).

Libra

USDC

Theter

XRP

CashOn
Ledger

Fnality

Etc

etc

75 banks have joined JPMorgan's blockchain payments 'party'

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Oscar Williams-Grut 25 Sep 2018 11:20 AM 119



Wells Fargo to Pilot Dollar-Linked Stablecoin for Internal Settlement

“

We'll all look back in 20 years and conclude that Bitcoin was as influential a platform for innovation as the Internet itself was.

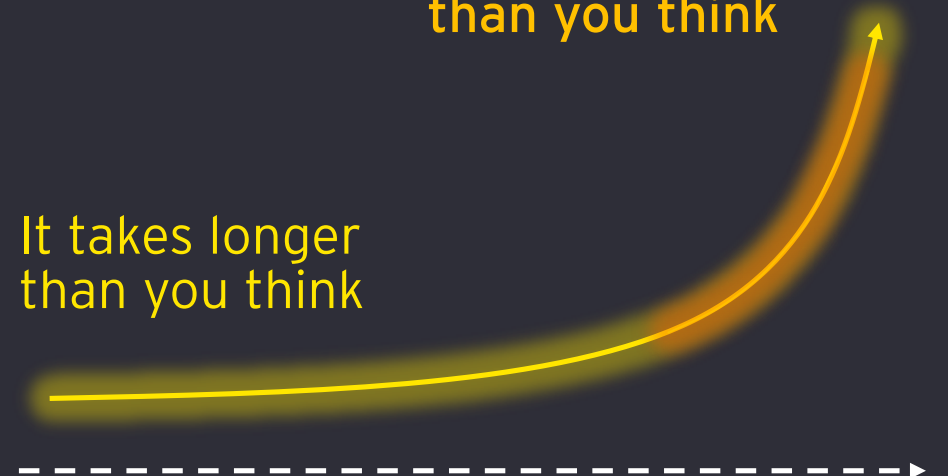
Marc Andreessen

Founder Mosaic, Netscape and Andreessen Horowitz

Innovation

It moves faster
than you think

It takes longer
than you think





Thank you

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EY Tax & Law

