

UK India Fintrade Academic Presentation

The Fintech revolution: What's the **status quo**?

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Presented By Victor Murinde,
Centre for Global Finance,
SOAS University of London



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The FinTech revolution: What are the opportunities and risks?

Victor Murinde and Efthymios Rizopoulos

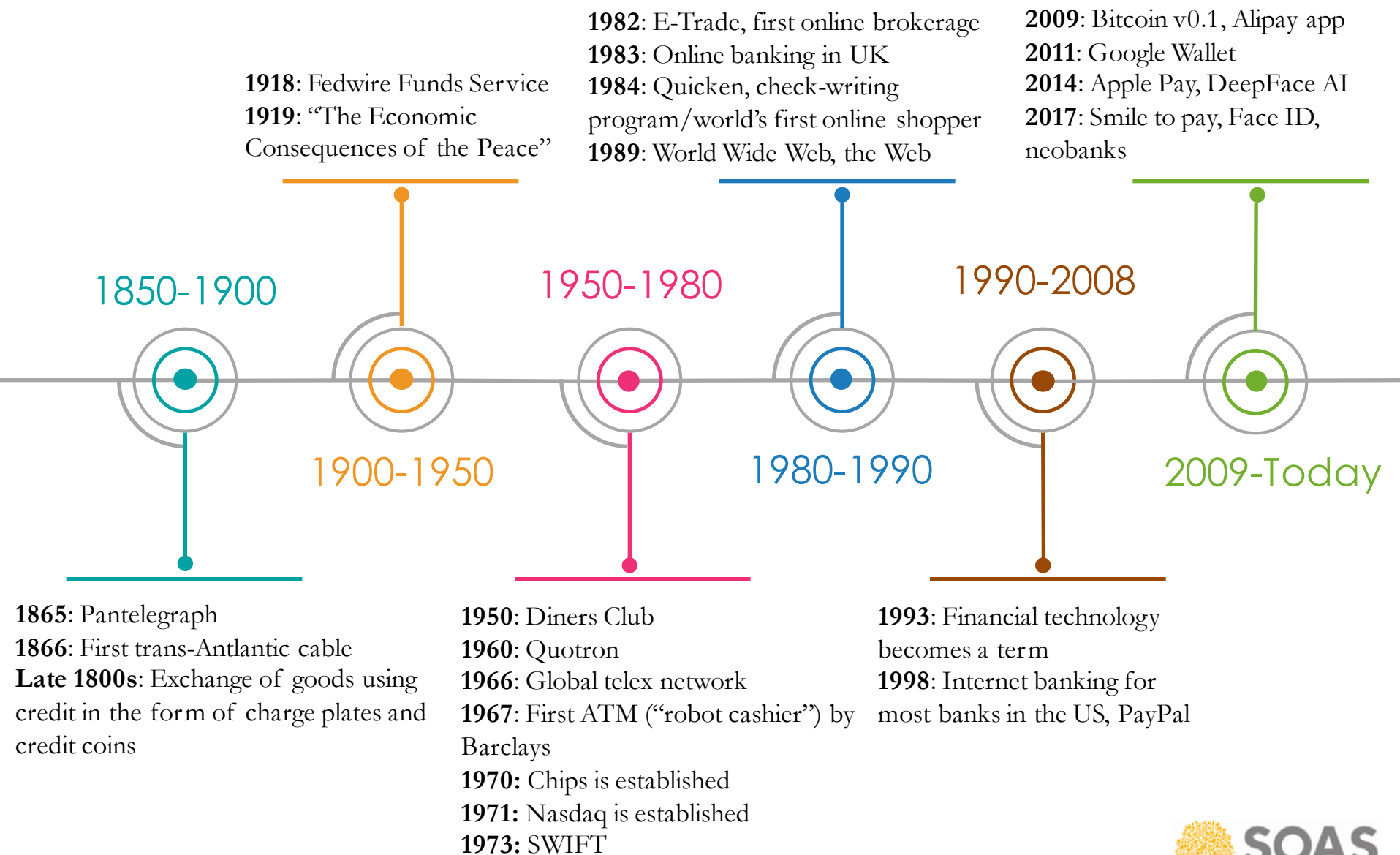
Centre for Global Finance
School of Finance and Management
SOAS University of London

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- ◆ Survey paper - based on journal papers, official reports, etc..
- ◆ We provide a comprehensive summary of contemporary issues related to FinTech and FinTech-enabled services
- ◆ We consider the opportunities and risks for households, firms, banks and the government – a flow of funds context
- ◆ We look into regulatory issues and the broader question of the governance of FinTech in a global context.
- ◆ We attempt to identify some PRIs, which future research could pursue

155 years of Technology in Finance



- ◆ **Definition:** Technological innovations potentially having the power to **transform the provision of financial services, the financial markets and institutions, driving the creation of novel business models, applications, processes, and products.**
- ◆ A **vehicle for revolution** rather than evolution, with a significant impact on the entire spectrum of financial services and the economy as a whole
- ◆ Empowered by and leverages novel technological developments such as DLTs, cloud computing, Big Data, AIs, APIs, digital identification and others
- ◆ Offers solutions likely addressing the current gaps in the provision of financial services
- ◆ Flow of funds context

Evolution of Financial Services

User Needs	Gaps	Traditional Model	Technological Innovations				FinTech
Pay	Speed Cost Transparency Access Security	Cash/ATM Check Wire/MTO's Debit/Credit Centralised Settlement	L	H	H	H	Virtual Currencies Remittances Mobile Payments Mobile PoS P2P payments B2B transactions DLT-based settlement
Save		Bank Deposits Mutual Funds Bonds Equities	L	H	H	L	Virtual currencies Mobile market funds Blockchain bonds
Borrow		Bank loan Bonds Mortgages Trade Credit	H	H	H	L	Credit modelling Platform lending Crowd-funding Blockchain bonds Auto-underwriting
Manage Risks		Brokerage underwriting Structured products Trading regulatory Compliance KYC Insurance	H	L	H	L	RegTech, SupTech Smart Contracts Crypto-asset exchanges eKYC, Digital ID
Get Advice		Financial planner Investment advisor	H	M	L	M	Robo-advising Automated wealth management

- ◆ **FinTech adoption drivers**: consumer needs, financial & technological infrastructure, level of development, regulatory framework and available capital for the required investment
- ◆ The revenue of FinTech companies only a small portion of the overall revenue of the financial services industry; however, rapid growth and clear contribution to innovation, with most patents registered in the US and being related to payment services
- ◆ FinTech firms, mainly engaging in crowd-funding and payments services, receive approximately 25% of the venture and start-up funding in the industry
- ◆ Approximately 20% of new IPO's for firms that belong to the financial sector globally are about FinTech companies, with the majority taking place in the US

Global Outlook: Sub-Saharan Africa

FinTech, engine of growth and economic development

Mobile money, predominant driver of change

Growing demand for other financial services

Heterogeneity in the adoption and usage of mobile money

Initial disparities in regulation, pricing and network reliability



Improvement in the availability and affordability of financial services

Increase of financial inclusion and poverty reduction

Lack of a sufficient financial market infrastructure

Efficient market strategies and pricing

Cooperation between parties

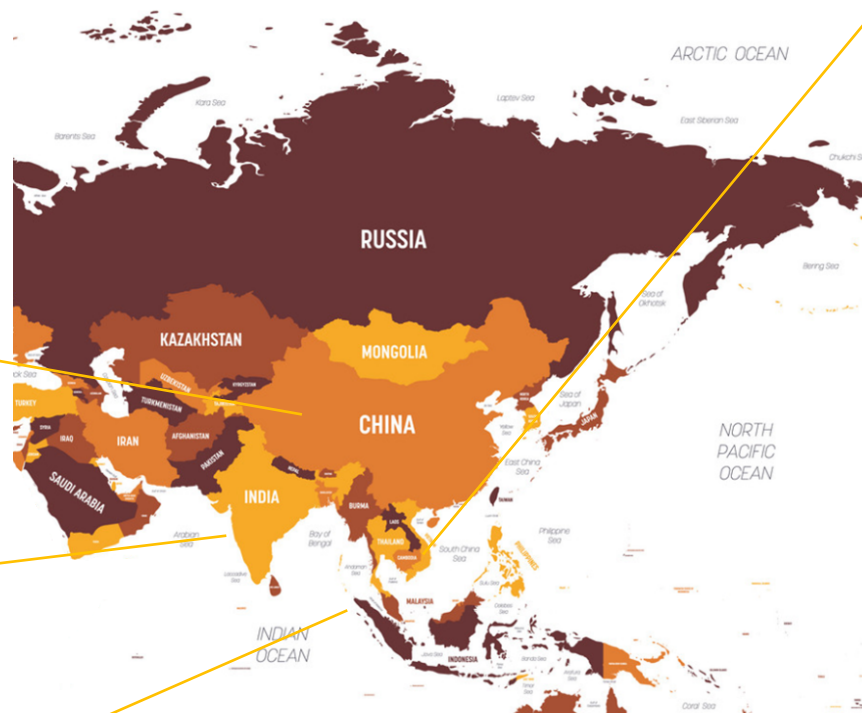
Progress in almost every facet of digitalization & FinTech

High disparity in the adoption of digital technologies across the region

China has emerged as a global leader in FinTech

India ranked amongst the top 10 FinTech markets in the world

FinTech in ASEAN at initial stages but growing (banks & e-money issuers)



In Singapore, Indonesia & Thailand, FinTech applications across the chain

Asia leads in crypto-assets and ICOs

FinTech usage differs across income groups, sex and living location

In India mobile transactions of richest groups are 4 times more than the poorest

Mobile-banking is behind that in sub-Saharan Africa

Global Outlook: Europe

Region proactive in embracing FinTech innovations in recent years

A variety of FinTech companies across the financial services value chain

Drivers 1: existing IT infrastructure, available talent, accessible funding

Drivers 2: Government backing, regulatory framework, FinTech-friendly ecosystem

2018-2019: +70% in total investments in FinTech companies, +40% in related deals, +73% VC investments

UK leading innovation and investment, France and Netherlands follow closely

+39% FinTech total investment in Germany in 2019

Estonia, attract an increasing number of FinTech start-ups

Bulgaria aims at becoming a FinTech hub in Balkans

High FinTech adoption, but not even across countries

Cash still prevalent in some counties for the payment of pensions, wages and bills. Why?

No faith in financial institutions, high costs, insufficient customisation, lack of competition in the payments space

Switzerland has as a target to become a hub for cryptocurrencies and blockchain

Many counties lack national FinTech strategy



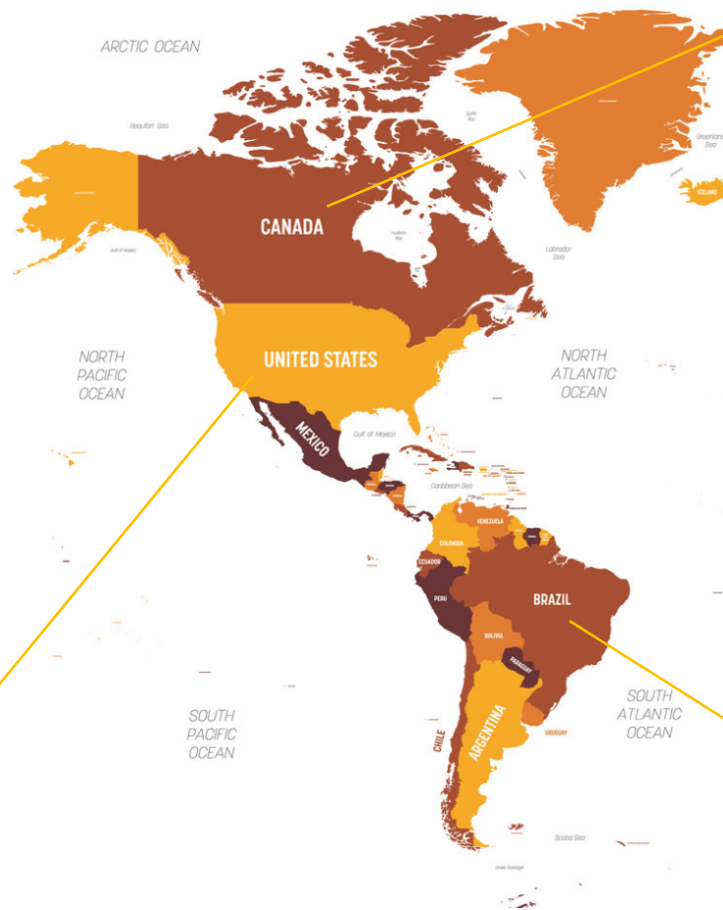
US dominates the FinTech market;
Canada and Latin America follow

Increase in the FinTech ecosystems across the region

More money per VC deal than number of actual deals

Payment space attracts most investments, prevention of fraud and AML growing

US one of top 3 FinTech markets in the world, but fragmented, highly competitive, hybridization



Canada has proactively monitored Fintech developments and market grows steadily

Both US and Canada low FinTech adoption, 46% and 50%, respectively

FinTech industry has also grown rapidly in Latin America with 58% of start-ups in payments, alternative finance, corporate financial management

Brazil accounts for 1/3 of the number of FinTech start-ups in the region; Mexico and Colombia follow



- ◆ The S-curve theory depicts incremental, disruptive and radical innovation
- ◆ slow early beginnings as the technology or process is developed
- ◆ to an acceleration phase (a steeper line) as it matures and
- ◆ finally, to its stabilisation over time (the flattening curve)
- ◆ Over time, the technology reaches its technological limit of usefulness or competitive advantage.
- ◆ At any point, there may be a step change in the technology – a radical innovation – resulting in a new **S-curve**.

Households: FinTech Opportunities & Risks

Opportunities/Benefits

Financial inclusion and reduction of poverty

Mitigation of discrimination and promotion of equality

Facilitation of transactions for longer distances or where cash has higher opportunity cost

Discretion, autonomy, removal of fees, easiness, effective diversification with crypto-currencies

Efficiency of financial intermediation, easiness, better pricing and cost reductions in lending space

Better wealth management and investment decisions

Reduction of insurance costs

Risks/Challenges

Cybersecurity risks, hacking and data breaches

Identity theft and personal data exploitation for illegal activities or unauthorized financial transactions

Fraudulent activities and predatory practices because of increased intermediation, complexity and confusion

Financial exclusion, “cherry picking” practices, gender inequality or geographical preference

Price discrimination

Ponzi schemes, mining scams, scam wallets, fraudulent exchanges, price manipulation in crypto-currencies

Not all solutions are suitable for everyone

Firms: FinTech Opportunities & Risks

Opportunities/Benefits

Improvement and acceleration of financial inclusion

Promotion of equality and social cohesion, elimination of gender discrimination

Reduction of credit and systematic risk, efficiency, reduction of costs, speed in the lending space

Additional benefits depending on the type of crowdfunding used

Alternative financing options that can offer more security, liquidity and transparency

Transaction fees reduction and protection against chargeback frauds with the use of cryptocurrencies

Improvements in corporate governance and other financial tasks and operations

Risks/Challenges

Similar risks to households as investors and users of FinTech solutions

Cybersecurity and financing the main spaces where the risks slightly differ compared to households

Corporate data breaches, ransomware, phishing, data leakage, hacking, insider threat, money theft

Crowdfunding not optimal for every firm

Probability of failure to raise the necessary capital and of intellectual property theft

Suitable for experienced fundraisers, 'spray and pray' strategy by backers

ICO is much more expensive than an equity security



Transformation of Assets/Maturity transformation

Provision of liquidity

Collection and processing of information

Banks: FinTech Opportunities & Benefits

Asset Transformation

Assistance in gathering the necessary funding resources

Reduction of compliance costs

Improvement in the precision of risk assessment

Technologies in areas of enhanced identity verification, investment profile and consumer behaviour

Collection and processing of information

Increase in the speed of collection and processing of hard information

Improvement in the efficiency, speed and profitability across the chain of liquidity provision

Increase in the bank's competitiveness in risk management and advisory services

Potential partial hardening of soft information

Provision of Liquidity

Speed and efficiency of banking services, flexibility

Market share increase

Better customer experience, customisation and pricing of products and services

Access to areas with no or limited financial infrastructure

Increased competition in the provision of liquidity

1. Strict regulations and requirements for banks, non-existent or favourable for non-bank FinTech companies
2. Exploitation of regulatory arbitrage opportunities
3. Lower costs due to propriety technologies and the economies of scope and scale

Disintermediation of incumbent banks

DLTs and blockchain and smart contracts accommodate payments or transactions without the need of an intermediary that will monitor whether the transaction is legitimate or check who the owner of the asset transferred is

Loss of market share and reduction of bank deposits

1. In areas with limited traditional financial infrastructure or where a high percentage of individuals have a negative opinion about them or where regulations are favourable for FinTech firms
2. E.g. At the end of 2017, approximately 33% of the mortgage loans in the US originated from FinTech firms

Neobanks

1. New type of firms offers cutting-edge, fully digital banking services that are more accessible than those offered by traditional banks.
2. With or without banking license or partial/restricted banking license (Monese, Osper / Monzo, Tandem, N26/ Revolut)

Governments: FinTech Opportunities & Risks

Opportunities/Benefits

Reduction bureaucracy, crime and corruption, costs, time

Increase of efficiency, transparency, speed and accessibility, and promotion of financial inclusion

An edge to sustain the provision of financial services especially during difficult times

Facilitation of the tax collection and reduction of slippage

Facilitation of the issuance of bonds or other similar type of securities for financing (e.g. M-Akiba)

Efficient administration of grants(e.g. Ethereum Blockchain in Canada)

Decision for bids on public contracts (e.g. HACKMX in Mexico)

Risks/Challenges

Lack of infrastructure, skills of public servants, required funds for implementation and maintenance

Cybersecurity issues, data protection and management

System compatibilities, failures and outages and legacy costs

Challenges related to general culture

Taxation of FinTech companies (direct and indirect taxes)

Money laundering and illegal activities such as drugs, sex trafficking and others and tax evasion

Complexity

Central Banks: FinTech Opportunities & Risks

Opportunities/Benefits

Better information collection and analysis, supervision and risk management, monetary policy scrutiny

Machine learning for evaluating different scenarios and policy analysis

Improvement in monitoring transactions and overseeing the financial system

Improvement in financial stability through diversification and decentralisation of some services

Efficiency in operations, transparency and ease of access to financial services

Risks/Challenges

Cybersecurity, system failures, loss of important data and other similar threats to previous economic agents

Alteration of money demand and inflation management

Change of the structure of the balance sheet should digital currency becomes widespread

Overseeing FinTech applications may prove difficult because of the complexity

Findings suggest that 46% of Bitcoin transactions and 25% of Bitcoin users are involved in illegal activity

Regulation & Supervision: The FinTech Tree

Macroeconomic domino effect on financial integrity and stability

Easier diffusion of adverse shocks and high degree of information asymmetry

Regulatory ambiguity and disintermediated value chains

Regulatory status unchanged

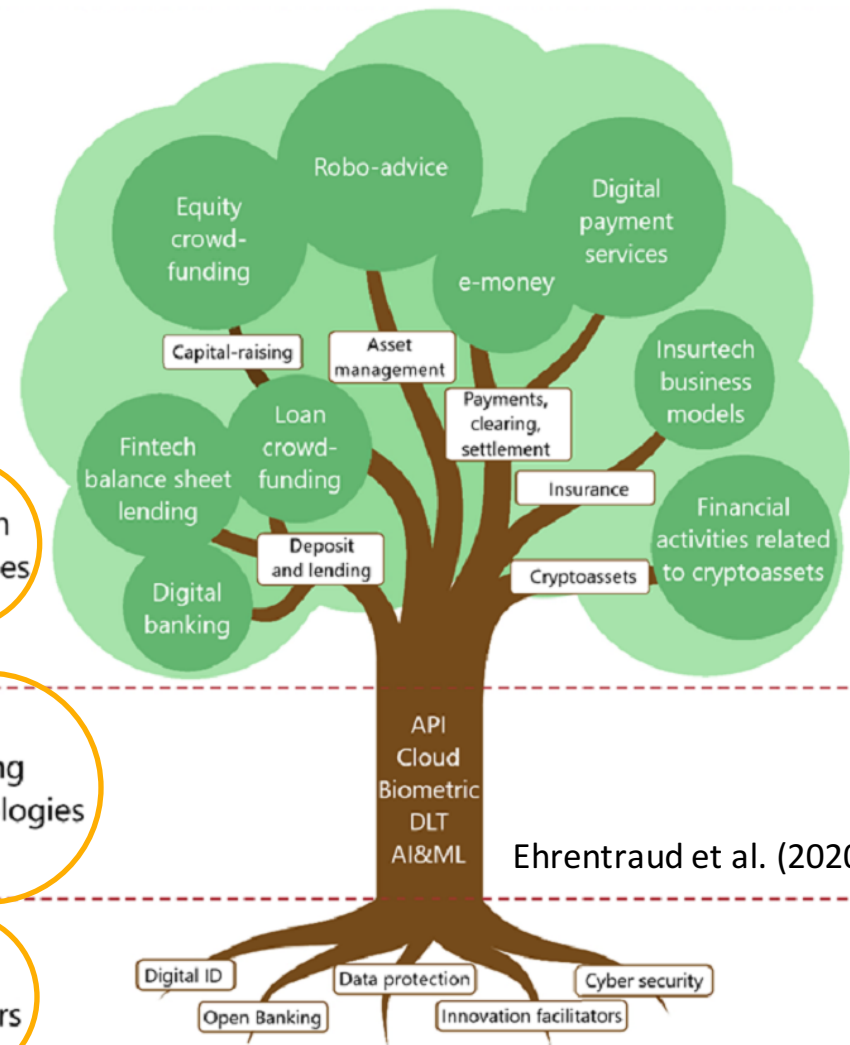
FinTech specific regulation

FinTech activity not allowed

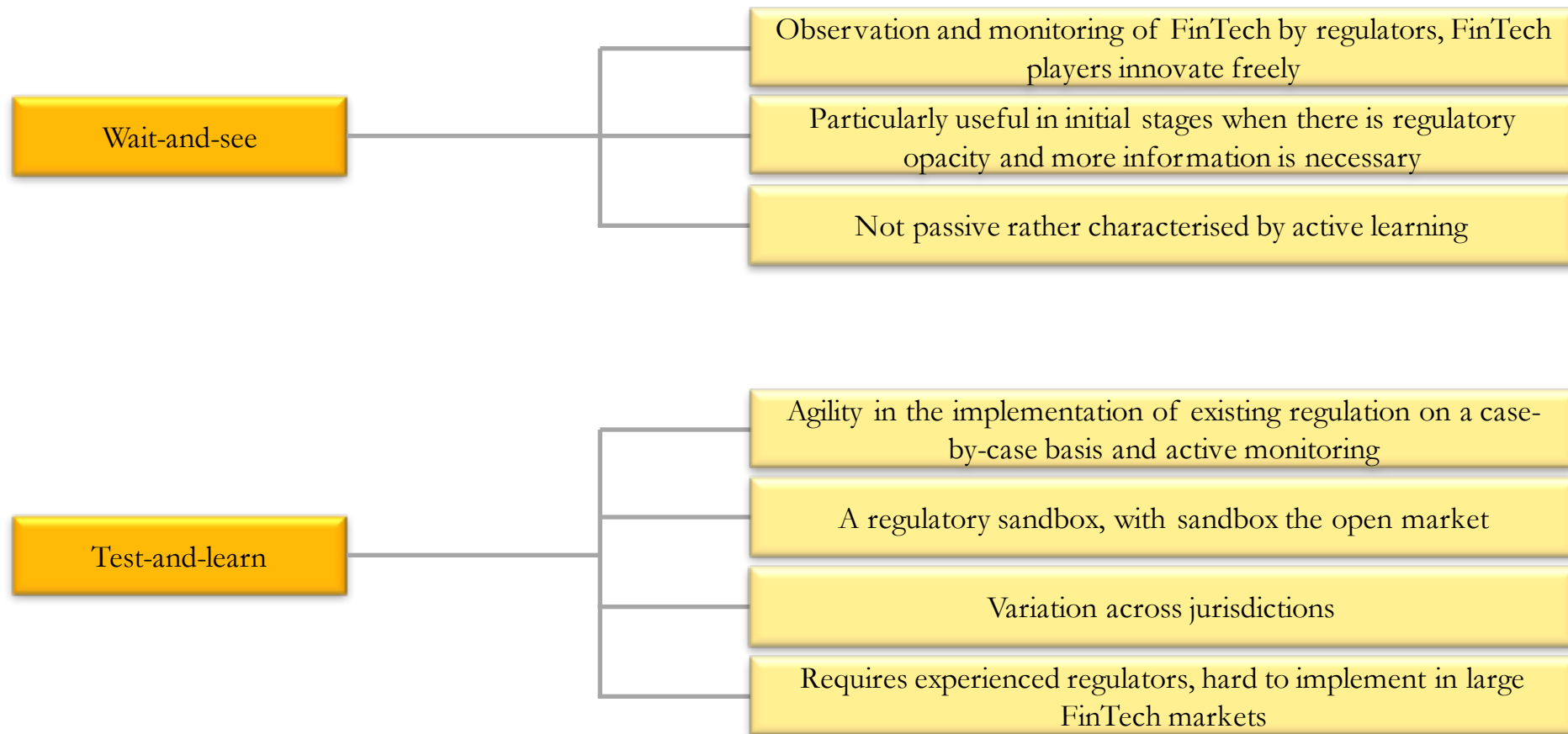
Fintech activities

Enabling technologies

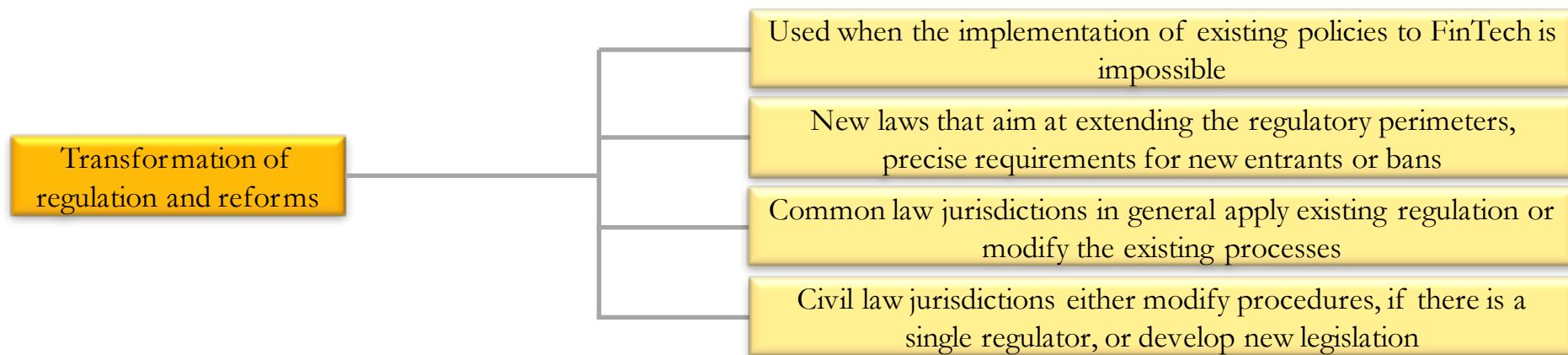
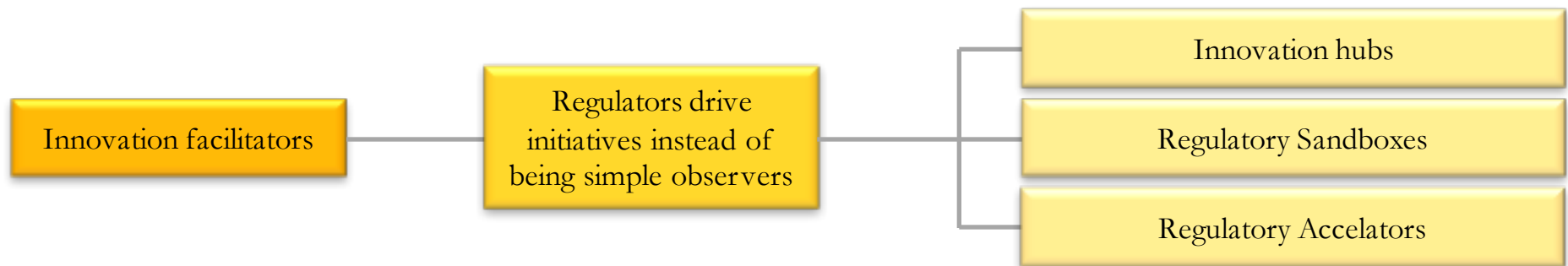
Policy enablers



Ehrentraud et al. (2020)



Regulation & Supervision (Regulatory approaches)



- ◆ FinTech gradually gains pace almost everywhere in the world, although the level of adoption and penetration is different across regions and jurisdictions
- ◆ FinTech creates opportunities for all economic agents, but entails certain risks and challenges that need to be addressed so that it becomes an integral component of financial ecosystem
- ◆ Effective governance, regulation and supervision will play a key role in enabling FinTech applications and at the same time protect the financial system and economy
- ◆ BigTech companies will continue play an important role in FinTech industry, but their actual impact on the financial system is yet to be determined
- ◆ Research is still nascent with respect to FinTech applications, their role and impact on the financial system

- ◆ The extent to which FinTech can help alleviate the issues caused by disastrous events such a global pandemic
- ◆ The potential of FinTech to change the way the financing of companies takes place and how this differs in developed and developing countries
- ◆ Central bank digital currencies
- ◆ Development of new methodologies that could provide an angle on how to understand the impact of FinTech in producing positive changes in economic and financial transactions, as well as other financial spaces
- ◆ How FinTech should be measured and how to collect related data
- ◆ The impact of FinTech on profitability and performance of a company and/or industry, price discovery and speed of settlements in trading, information asymmetries
- ◆ Does Tech drive Fin or is the other way around?

➤ Thank you. Q&A.

➤ References

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