

Digital Financial Ecosystem Development

Sandboxes, Innovation Hubs and Digital Financial Infrastructure

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Overview

- Innovation, technology and the challenge of regulation: Background
- Regulatory responses
- Smart regulation and regulatory design
- Looking forward

Looking back, looking forward

- Finance in the 2010s
 - Global Financial Crisis
 - Regulation
 - Technology
- Finance in the 2020s
 - Sustainability
 - Technology
 - Globalisation vs fragmentation
- FinTech / RegTech



Systemic Risk in the Financial Sector

Ten Years after the Great Crash

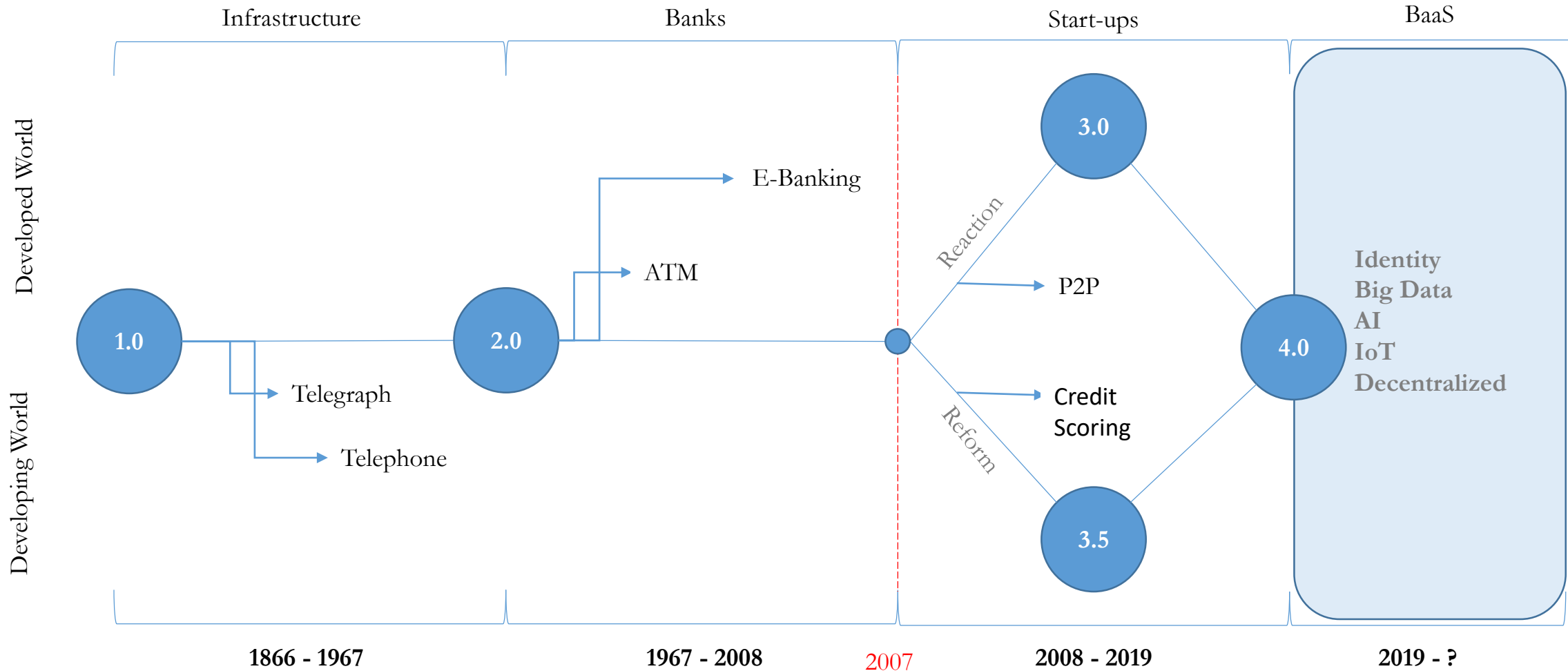
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- <https://www.cigionline.org/publications/systemic-risk-financial-sector-ten-years-after-great-crash>

The Evolution of FinTech:

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2676553



Options

Traditional framework: permissive / restrictive, rules / principles, risk-based

Pre and Post-Crisis environment: innovation and Volcker

Doing nothing: permissive / restrictive, intentional / unintentional

Cautious exploration: forbearance / leniency

Structured experimentation: sandboxes

Regulatory design: payments, crowdfunding

Regulation of DFS in China: <http://ssrn.com/abstract=2660050>

Regulatory Sandboxes: <https://ssrn.com/abstract=3018534>



Technology is no longer the constraint in an increasing range of cases.

- Regulating Libra: The Transformative Potential of Facebook's Cryptocurrency and Possible Regulatory Responses:
- https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3414401

Implications

Main current concerns of policymakers and industry arise not from the technology itself but from the question of *who* is applying technology to finance along with the *speed* of development.

An evolutionary approach to create a framework of understanding is necessary to understand the implications for established financial institutions, IT companies, start-ups and regulators alike.



Regulatory challenges

New emerging FinTech companies often have limited track records regarding their business (*eg risk management, liquidity and profitability*) and difficulty identifying their obligations (*eg applicable regulations or licences*).

For regulators, these early-stage companies represent a limited prudential & consumer risk. However, exponential company growth can create “risk blind spots”. Additionally, frequent failures or fraud can impact market or investor confidence.



Finance in the 2020s: Pandemic Impact

- Technology
 - Digitisation: track / trace / test / ecommerce etc
 - BigTech / scale
 - Infrastructure
 - CBDCs
 - Techrisk
- Sustainability
 - Development
 - Travel
 - Small businesses
 - Future crises: resilience? (jared diamond): digital ID / simplified account opening / eKYC / electronic payment (CBDCs?)
- Globalisation / fragmentation
 - Trade patterns
 - Movement
 - Finance / money
 - Geopolitics

COVID-19 and Digital Financial Transformation: Building Better Financial Systems

- Digitisation
 - Building the infrastructure of finance
 - Designing appropriate regulatory approaches
 - Supporting the wider ecosystem
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- Fintech Toolkit: Smart Regulatory and Market Approaches to Fintech innovation
 - https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3598142

Central Bank Role

- Central bank evolution
- Monetary policy
- Financial stability (positive / negative)
- Supervision
- Development / inclusion
- Payments
- Central banks as technology

Infrastructure of finance

- Alliance for Financial Inclusion:
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3245287
- Mobile
- Digital identification / Simplified account opening
- Electronic payments: open access, interoperable
- Digitisation of government payments / services
- Financial markets infrastructure: securities settlement, secured transactions, pensions, credit registries etc
- SDGs

FinTech for Financial Inclusion: A Framework for Digital Financial Transformation

<https://www.afi-global.org/publications/2844/FinTech-for-Financial-Inclusion-A-Framework-for-Digital-Financial-Transformation>

The full potential of FinTech for financial inclusion may be realized with a strategic framework of underlying infrastructure and an enabling policy and regulatory environment to support digital financial transformation.

Designing a framework for digital financial transformation

- Objectives: financial inclusion, economic growth, financial stability, market integrity
- Pillar I: Empowering Access Digital ID / eKYC / simplified account opening
- Pillar II: Enabling use: Digital payments infrastructure and open electronic payments systems
- Pillar III: Scaling use – digitisation of government payments and provision of services
- Pillar IV: Expanding the quality and range of services: Designing financial systems and structures



Digital Finance and the SDGs: Framework

- Existing risks / risk-management frameworks
- New risks
- Building better systems

Building Better Systems: RegTech for FI and Digital Financial Transformation

- Better allocating existing resources
- Increasing resources available: financial inclusion / financial development
- Direct change

Sustainability

- https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3387359
- Existing framework: financial stability / consumer protection / market integrity / development
- Risks: new / old
- Finance: new / old
- System design: SDGs
- Mobile, digital ID / simplified account opening, interoperable electronic payment systems, digital government services, infrastructure

Market Integrity

- Analog framework: FATF
- “recommendations”
- Soft law / hard law
- AML / CFT / KYC / CDD
- Onboarding / Monitoring / STR
- Internal / compliance: “risk-based”
- Digitisation / datafication / regtech

Regulatory approaches

- Review regulation
- Risk-based graduated / tiered proportional regulation
- Regtech
- Testing and piloting
- Restricted and specialised licences

RegTech and the Reconceptualisation of Regulation

RegTech digital disruption is not just about greater efficiency in existing processes
but new processes altogether.

RegTech and the Reconceptualization of Regulation

SSRN: <http://ssrn.com/abstract=2847806>



RegTech Reconceptualization



RegTech encompasses industry and regulators

Financial institutions and industry

- Major drivers of RegTech development
- Demand efficient tools to deal with regulatory and compliance demands
- Global firms developing centralized risk management

Regulators

- Lag in regulator adoption relative to private sector
- Yet need to develop systems to deal with rivers of new data and cybersecurity

Start-ups

- Incentives to trade off-data for faster market entry
- Automation of reporting and compliance more aligned with lean business model



RegTech4Regulators / SupTech

- Startups / incumbents / BigTechs / supervisors / individuals
- Efficiency / stability / integrity / innovation / competition
- Market integrity: AML/CFT, reporting, monitoring, enforcement etc
- Financial stability: macro/micro pru
- Market development: infrastructure
- TechRisk: data / cyber / infrastructure
- Internal / external systems

Wider ecosystem

- Legal foundations
- Education / human capital development
- Research and development support / funding
- Innovation hub
- Regulatory sandbox

TechRisk

- https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3478640
- Cybersecurity
- Data: protection / security / privacy
- Infrastructure: data / cloud
- TechFin

Challenges and opportunities

- Cybersecurity
- Technological risk
- Data security
- Privacy / data protection
- Competition
- BigTech / TechFin
- Interoperability / connectivity
- Last mile / sustainability
- International / regional cooperation

RegTech for FI

- Regulation: EU Big Bang II
- Monitoring
- Internal systems
- Financial infrastructure: AFI 4 Pillar Strategy

RegTech and regulators

- US: SEC, Finra, CFTC, Fed
- UK: FCA, BoE
- EU: ECB, ESMA
- Singapore: MAS
- HK: SFC, HKMA, HKEx
- Innovation Hubs, Sandboxes and EcoSystems:
- **BIS Innovation Hub**
- **Regulatory Sandboxes:** <https://ssrn.com/abstract=3018534>

The Future of Data Drive Finance and RegTech: Lessons from EU Big Bang II

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3359399

EU Big Bang II?

- MiFID 2: Markets in Financial Instruments Directive 2 – transparency across markets
- GDPR: General Data Protection Regulation
- PSD 2: Payment Services Directive 2 – open API banking
- eIDAS Regulation

RegTech+ : Smart Regulation

Information and monitoring – FSB (2017)

Systems design

Digitisation

Datification

Regulatory Sandboxes



TechFin

- Network effects
- Competition
- Regulation
- Non-traditional infrastructure

Approaches and options

- Outright ban
- Private ordering
- Regulatory warnings
- Financial regulation
- Cross border coordination