Regulatory and Supervisory Technology and the Role of AI: Evolution of Monitoring, Supervision and Enforcement

Douglas W. Arner
Kerry Holdings Professor in Law
RGC Senior Fellow in Digital Finance & Sustainable Development
Associate Director, HKU-Standard Chartered Foundation FinTech Academy
University of Hong Kong
douglas.erner@hku.hk
RegTech / SupTech?

• Use of technology – particularly IT – for regulatory implementation, compliance and monitoring, by regulators, supervisors, market participants, infrastructure providers and others
• A subset of Fintech? No – uses across all sectors
• Vs Suptech? Two sides of the same coin, focusing on supervisory uses
• Regtechs? Startups not the major industry players eg IBM Promontory, LSE Refinitiv, NASDAQ, Amazon ...
The RegTech Continuum
Taxonomy

- Start ups / incumbents / BigTechs / supervisors / individuals
- Efficiency / stability / integrity / sustainable development-inclusion / innovation / competition

- Market integrity / conduct: AML/CFT, reporting, monitoring, enforcement etc
- Financial stability: macro/micro pru – reporting, risk management
- Sustainable development and inclusion: infrastructure
- TechRisk: data / cyber / infrastructure

- Internal / external systems
Origins

- 1980s: Finra, Edgar, etc
- 1990s: VaR
Finance in the 2010s

• Crisis
• Regulation
• Technology
Drivers 2008-2020: Regulation

- Post crisis regulatory changes
- AML
- BCBS 239
- Mifid, Mifid 2 etc
- GDPR
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
The Future of Data Drive Finance and RegTech:
Lessons from EU Big Bang II

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

Digital Finance, COVID-19 and Existential Sustainability Crises: Setting the Agenda for the 2020s by Douglas W. Arner, Ross P. Buckley, Andrew M. Dahdal, Dirk A. Zetzsche :: SSR

• Digitisation
• Payments / CBDCs: Sovereign Digital Currencies: Reshaping the Design of Money and Payments Systems by Ross P. Buckley, Douglas W. Arner, Dirk A. Zetzsche, Anton N. Didenko, Lucien van Romburg :: SSRN

• RegTech / SupTech
• AML / market integrity
• BigTech / data: Towards an Inclusive, SDG-Aligned Governance of Global FinTech Platforms (BigFintechs) | United Nations Development Programme (undp.org)

Enabling Ecosystems: How To Boost Fintech Innovation and Financial Inclusion During and After COVID-19 – NextBillion

• Building the infrastructure of finance
• Designing appropriate regulatory approaches
• Supporting the wider ecosystem
Financial Stability Board (Oct. 2020)


- BIS (Dec. 2021):
  - [Suptech tools for prudential supervision and their use during the pandemic (bis.org)](https://www.bis.org/fsi/publ/insights37.htm)
RegTech and regulators

• Enforcement: GS / UBS, Citi
• Areas: AML / KYC, Digital regulatory reporting, risk management / data aggregation / analytics
• MAS
• US: SEC, Finra, CFTC, Fed
• UK: FCA, BoE
• EU: ECB, ESMA
• BIS
• HK: SFC, HKMA, HKEx
• China: Ant
Characteristics

• Data
• Storage
• Communication
• Computing power
• Analytics
Strategy Lessons

• High level commitment
• Digital first: Internal / external
• Digitization of everything: Digital regulatory reporting, System design
• Tech
• HR
• Datafication
EU DFS

• removing fragmentation in the Digital Single Market
• adapting the EU regulatory framework to facilitate digital innovation
• promoting a data-driven finance
• addressing the challenges and risks with digital transformation, including enhancing the digital operational resilience of the financial system
• HKU-edx Introduction to FinTech – now in English, Chinese, Russian and coming soon in Arabic, with FinTech Saudi!

• Introduction to FinTech | edX

• https://www.edx.org/course/introduction-to-fintech

• RegTech / SupTech Strategy, Arab Monetary Fund and Asian Development Bank: Douglas Arner, Musheer Ahmed, Nouran Yousef, Sangita Gazi