

FINTECH

In this comprehensive, accessible work, Ross P. Buckley, Douglas W. Arner, and Dirk A. Zetsche offer an ideal reference for anyone seeking to understand the technological transformation of finance and the role of regulation: the world of FinTech. They consider financial technologies including artificial intelligence, blockchain, BigData, cloud computing, cryptocurrencies, central bank digital currencies, and distributed ledger technologies and provide a unique perspective on FinTech as an interactive system involving finance, technology, law, and regulation. Starting with an evolutionary perspective, the authors then consider the major technologies transforming finance, arguing for approaches to balance the risks and challenges of innovation. They address the central role of infrastructure in digital financial transformation, highlighting lessons from China, India, and the EU, as well as the impact of pandemics and other sustainability crises, while considering the risks generated by FinTech. They conclude by offering forward-looking regulatory strategies to address the challenges our world faces today.

Ross P. Buckley is one of the world's most cited and read FinTech scholars. Professor Buckley leads a major, six-year Laureate research project at the University of New South Wales (UNSW), Sydney, into the regulation of FinTech. He advises governments and regulators around the world and has twice been a Fulbright scholar, at Yale and Duke.

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FinTech

FINANCE, TECHNOLOGY AND REGULATION

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Abbreviations and Technical Terms

ABCD	AI, Blockchain, Cloud, and Data or AI, Big Data, Cloud, and DLT
AFI	Alliance for Financial Inclusion
AFM	Authority for the Financial Markets (the Netherlands)
AI	Artificial Intelligence
AIFMD	Alternative Investment Fund Managers Directive; Directive 2011/61/EU of the European Parliament and of the Council of 8 June 2011
AIS	Account Information Services
AISP	Account Information Service Provider
Aladdin	Asset, Liability and Debt and Derivative Investment Network (Blackrock's platform)
AML	Anti-money Laundering
AMLD V	Fifth Anti-money Laundering Directive – Directive (EU) 2018/843 of the European Parliament and of the Council of 30 May 2018 amending Directive (EU) 2015/849 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing, and amending Directives 2009/138/EC and 2013/36/EU, OJ L 156/44-74
APAC	Asia-Pacific
API	Application Programming Interface
APS	Accrediting Principal Swap
ASIC	Australian Securities and Investments Commission
ATM	Automated Teller Machine
BACS	Bankers' Automated Clearing Services
BaFin	Bundesanstalt für Finanzdienstleistungsaufsicht (Germany)
Basel Committee	Basel Committee on Banking Supervision
Basel I	Basel Capital Accord

Basel II	Basel II: International Convergence of Capital Measurement and Capital Standards: A Revised Framework
Basel III	Basel III: A Global Regulatory Framework for More Resilient Banks and Banking Systems
BATs	Baidu, Alibaba, Tencent
BCBS	Basel Committee on Banking Supervision
BCCI	Bank of Credit and Commerce International
BIS	Bank for International Settlements
CBDC	Central Bank Digital Currency
CBM	Central Bank Money
CDD	Customer Due Diligence
CDO	Collateralised Debt Obligation
CFPB	Consumer Financial Protection Bureau (US)
CFT	Combatting the Financing of Terrorism
CFTC	Commodity Futures Trading Commission
CGAP	Consultative Group to Assist the Poor
CHAPS	Clearing House Automated Payment System
CHIPS	Clearing House Interbank Payments System
CIO	Chief Investment Officer
CLOUD Act	Clarifying Lawful Overseas Use of Data Act (United States)
CLS	Continuous Linked Settlement
COVID-19	Coronavirus Disease 2019
CPSS	Committee on Payment and Settlement Systems
CRD	Capital Requirements Directive: Directive 2013/36/EU on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms (CRD IV), amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC OJ L 176/338
CRD IV	Fourth Capital Requirements Directive – see CRD
CRR	Regulation (EU) No. 575/2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012 OJ L 176/1
CRS	Common Reporting Standards
CSD	Central Securities Depository
CSSF	Commission de Surveillance du Secteur Financier (Luxembourg)
CTF	Counter Terrorist Financing
DAO	Decentralised Autonomous Organisation

Data Protection Directive	Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, OJ L 281/31-50
DeFi	Decentralised Finance
DEX	Decentralised Exchange
DFP	Digital Finance Platform
DFS	Digital Financial Services
DLT	Distributed Ledger Technology
DNA	Deoxyribonucleic Acid
DORA	<i>Digital Operational Resilience Act</i> – Regulation of the European Parliament and of the Council on digital operational resilience for the financial sector and amending Regulations (EC) No 1060/2009, (EU) No 648/2012, (EU) No 600/2014 and (EU) No 909/2014
DP	Discussion Paper
DSL	Data Security Law of the People’s Republic of China (Adopted at the 29th Meeting of the Standing Committee of the Thirteenth National People’s Congress on 10 June 2021)
e-Banking	Electronic Banking
EC	European Commission
ECB	European Central Bank
ECtHR	European Court of Human Rights
ECHR	European Convention on Human Rights; The Convention for the Protection of Human Rights and Fundamental Freedoms of the Council of Europe
eCNY	Electronic Chinese Yuan
e-Commerce	Electronic Commerce
ECR	European Court Report
EEA	European Economic Area
EEC	European Economic Community
eID	Electronic Identification
eIDAS	Electronic Identification, Authentication, and trust Services
eIDASR	Regulation (EU) No 910/2014 of the European Parliament and of the Council of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC, OJ L 257, 28.8.2014
e-Krona	Electronic Krona

eKYC System	Electronic Know-your-customer System
e-Liquidity	Electronic Liquidity
EMIR	European Market Infrastructure Regulation – Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories Text with EEA relevance, OJ 201/1-59.
e-Money	Electronic Money
e-Payment	Electronic Payment
e-Personhood	Electronic Personhood
EPN	Electronic Payments Network
ESA	European Supervisory Authority
ESG	Environmental, Social and Governance
e-Signature	Electronic Signature
ESMA	European Securities and Markets Authority
ESRB	European Systemic Risk Board
ETH	Ether
eTrust Services	Electronic Trust Services
EU	European Union
EUR	Euro
e-Yuan	Electronic Yuan
FATF	Financial Action Task Force
FCA	Financial Conduct Authority (UK)
FEAT	Fairness, Ethics, Accountability, and Transparency Principles
FinHub	The Strategic Hub for Innovation and Financial Technology
FINMA	Financial Market Supervisory Authority (Switzerland)
FINRA	Financial Industry Regulatory Authority
FinTech	Financial Technology
FMI	Financial Market Infrastructure
FMU	Financial Market Utility
FR	Final Report
FSAP	Financial Services Action Plan
FSB	Financial Stability Board
FSOC	Financial Stability Oversight Council
FTC	US Federal Trade Commission
G20	The Group of Twenty
G2P	Government-to-Person
G7	The Group of Seven Industrialised Countries
GBP	Pound Sterling
GDP	Gross Domestic Product

GDPR	General Data Protection Regulation – Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC, O.J. L119/1 of 4 May 2016
GFC	Global Financial Crisis
GFIN	Global Financial Innovation Network
GPFI	Global Partnership for Financial Inclusion
GSC	Global Stablecoin
HKMA	Hong Kong Monetary Authority
HSBC	The Hongkong and Shanghai Banking Corporation Limited
ICO	Initial Coin Offering
ID	Identification Document
IMF	International Monetary Fund
IMS	Innovation Market Solutions
InsurTech	Insurance Technology
IOSCO	International Organization of Securities Commissions
IoT	Internet of Things
IPO	Initial Public Offering
IRS	Internal Revenue Service (USA)
ISD	Investment Services Directive
IT	Information Technology
JC	Joint Committee
JOBS	Jump Start our Businesses Act (US)
KYC	Know Your Customer
LEI	Legal Entity Identifier
LHoFT	Luxembourg House of Financial Technology
LIBOR	London Interbank Offered Rate
LU	Luxembourg
MAGMA	Meta, Apple, Google, Microsoft, and Amazon
MAS	Monetary Authority of Singapore
MiFID	Markets in Financial Instruments Directive; Directive 2004/39/EC of the European Parliament and of the Council of 21 April 2004 on markets in financial instruments amending Council Directives 85/611/EEC and 93/6/EEC and Directive 2000/12/EC of the European Parliament and of the Council and repealing Council Directive 93/22/EEC OJ L 145/1
MiFID II	Markets in Financial Instruments Directive (recast); Directive 2014/65/EU of the European Parliament and

	of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU (recast) OJ L 173/349
MiFID II (Commission) Directive	Commission Delegated Directive (EU) 2017/593 of 7 April 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council with regard to safeguarding of financial instruments and funds belonging to clients, product governance obligations and the rules applicable to the provision or reception of fees, commissions or any monetary or non-monetary benefits
MiFID Organisation Regulation	Commission Delegated Regulation (EU) 2017/565 of 25 April 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council as regards organisational requirements and operating conditions for investment firms and defined terms for the purposes of that Directive
MiFID Reporting Regulation	Commission Implementing Regulation (EU) 2017/2382 of 14 December 2017 laying down implementing technical standards with regard to standard forms, templates and procedures for the transmission of information in accordance with Directive 2014/65/EU of the European Parliament and of the Council, OJ L 340/6-31
MiFIR	Markets in Financial Instruments Regulation – Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No 648/2012, OJ L173/84-148
MoU	Memorandum of Understanding
MSMEs	Micro, Small, and Medium Enterprises
NASDAQ	National Association of Securities Dealers Automated Quotations
NGO	Non-Governmental Organisation
NMS	National Market System
NPCI	National Payments Corporation of India
NYSE	New York Stock Exchange
OCC	Office of the Comptroller of the Currency
OECD	Organisation for Economic Cooperation and Development
P2P	Peer-to-Peer
PBoC	People’s Bank of China

PE	Private Equity
PilotR	Regulation (EU) 2022/858 of the European Parliament and of the Council of 30 May 2022 on a pilot regime for market infrastructures based on distributed ledger technology, and amending Regulations (EU) No 600/2014 and (EU) No 909/2014 and Directive 2014/65/EU, OJ L151/1-33
PIPL	Personal Information Protection Law of the People's Republic of China (Adopted at the 30th Meeting of the Standing Committee of the Thirteenth National People's Congress on 20 August 2021)
PIS	Payment Initiation Services
PISP	Payment Initiation Service Provider
PlatFin	Platform FinTech
PPP	Public–Private Partnership
PR Passport	Passport provided under the EU Prospectus Regulation
PS	Policy Statement
PSA	Public Securities Association Standard Prepayment Model
PSD ₁	First Payment Services Directive; Directive 2007/64/EC of the European Parliament and of the Council of 13 November 2007 on Payment Services in the Internal Market Amending Directives 97/7/EC, 2002/65/EC, 2005/60/EC and 2006/48/EC and Repealing Directive 97/5/EC, 2007 O.J. (L 319) 1
PSD ₂	Second Payment Services Directive; Directive (EU) 2015/2366 of the European Parliament and of the Council of 25 November 2015 on payment services in the internal market, amending Directives 2002/65/EC, 2009/110/EC and 2013/36/EU and Regulation (EU) No 1093/2010, and repealing Directive 2007/64/EC, OJ L 337/35
PSP	Payment Service Provider
R&D	Research and Development
RBI	Reserve Bank of India
RegTech	Regulatory Technology
RMB	Renminbi
RTGS	Real-Time Gross Settlement
S&P	Standard & Poor's
SAR	Special Administrative Region
SDG	Sustainable Development Goal

SEC	Securities and Exchange Commission
SEPA	Single Euro Payments Area, referring to Regulation (EU) No 260/2012 of the European Parliament and of the Council of 14 March 2012 establishing technical and business requirements for credit transfers and direct debits in euro and amending Regulation (EC) No 924/2009
SF	Sustainable Finance
SIFI	Systematically Important Financial Institution
SMEs	Small and Medium Enterprises
SRI	Socially Responsible Investment
SRO	Self-Regulatory Organisation
SSS	Securities Settlement System
STO	Securities Token Offering
SupTech	Supervisory Technology
SWIFT	Society for Worldwide Interbank Financial Telecommunication
TBTF (or TB ₂ F)	Too Big To Fail
TCTF (or TC ₂ F)	Too Connected To Fail
TDIF	Trusted Digital Identity Framework
TechRisk	Technology Risk
TFEU	Treaty on the Functioning of the European Union, OJ C 326/47
TTI	Top Tier Intermediary
UIDAI	Unique Identification Authority of India
UK	United Kingdom
UN	United Nations
UN SDG	United Nations Sustainable Development Goal
UPI	United Payments Interface
US	United States
US\$ or USD	United States Dollar
VaR	Value at Risk
VISA	Visa International Service Association
WTO	World Trade Organization