

Fintech Security and Regulation

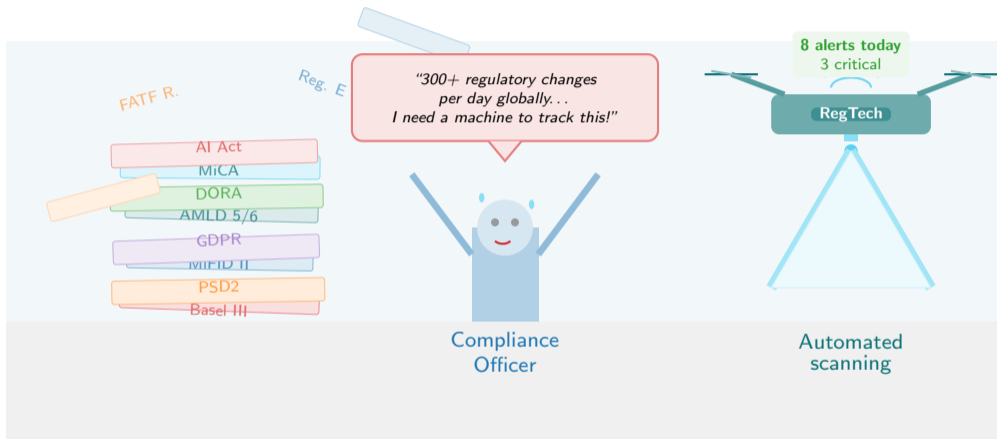
10-Slide Mini Lecture

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Why RegTech? The Compliance Tsunami



A Moment of Reflection: How Many Rules?

The Invisible Regulatory Web

Regulation is the air that finance breathes: invisible until it chokes you. Before we analyse the system, estimate the compliance burden you interact with every day.

Think about a single banking relationship you hold. Consider:

- **Onboarding:** How many documents did you submit to open the account?
- **Monitoring:** Has your bank ever flagged or blocked a transaction?
- **Privacy:** How many consent forms did you sign (GDPR, data sharing)?
- **Cross-border:** Were you asked extra questions for international transfers?
- **Limits:** Do you have daily transfer caps you never requested?
- **Reporting:** Has your bank mentioned “suspicious activity” obligations?

Quick Estimate

How many compliance rules does your bank follow? **Hint: thousands.** A large global bank tracks over **200 regulatory bodies** across 60+ jurisdictions, adapting to an average of **300 regulatory changes**

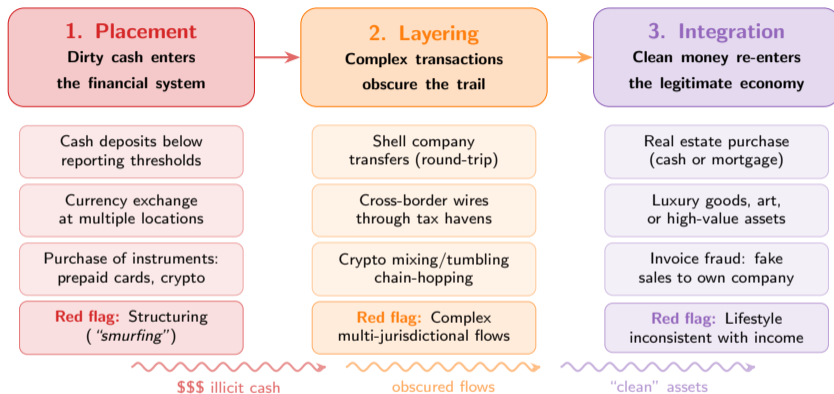
What Are the Regulatory Approaches? Five Jurisdictions Compared

Dimension	United States	European Union	United Kingdom	Singapore	China
Philosophy	Activity-based, fragmented	Precautionary, harmonised	Innovation-friendly, principles-based	Risk-proportionate, sandbox-first	State-directed, top-down
Sandbox	Limited (state-level)	Emerging (EBA/EIOPA)	Pioneer (FCA since 2016)	Strong (MAS FinTech)	Selective (PBOC pilots)
Crypto stance	Unclear , SEC vs CFTC	MiCA (2024)	FCA regime evolving	PSA licensed	Banned (trading)
AML rigor	BSA/OFAC strong	AMLD 6 strict	MLR 2022 robust	FATF-aligned	PBOC centralized
Data privacy	Sectoral (CCPA, HIPAA)	GDPR gold standard	UK GDPR + DPA 2018	PDPA 2012	PIPL 2021
Open banking	Market-led (slow)	PSD2/PSD3 mandated	CMA Order mandated	API guidelines	State platforms
Key regulator(s)	SEC, CFTC, OCC, FinCEN	EBA, ECB, ESMA	FCA, PRA, BOE	MAS	PBOC, CBIRC, CSRC

No One-Size-Fits-All

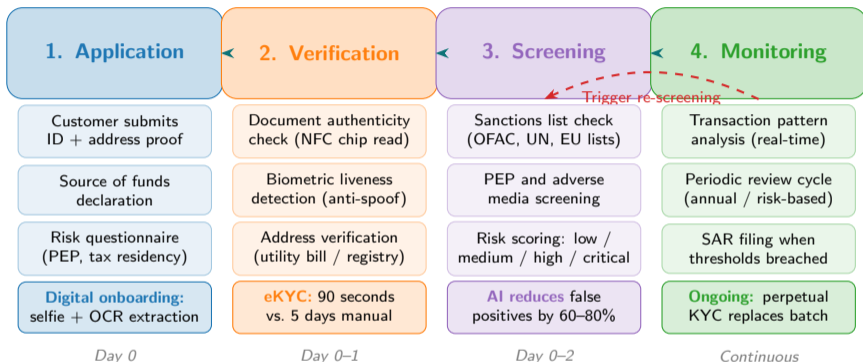
Innovation-friendly regimes (UK, Singapore) attract fintech HQs. Precautionary regimes (EU) provide consumer certainty. Fragmented regimes (US) create arbitrage. State-directed regimes (China) move fast but limit private innovation.

Case Study: The Three Stages of Money Laundering



Global money laundering volume: estimated \$800B–\$2T annually (2–5% of global GDP). Global AML compliance spending: ~\$274B per year. Detection rate: under 1%.

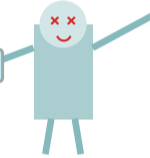
How KYC Works: The Customer Lifecycle



Average KYC onboarding cost: \$30–150 per customer (manual) vs. \$3–10 (digital eKYC).
Banks with 10M+ customers spend \$100–500M annually on KYC/AML compliance.

The Licensing Labyrinth: A Startup's Nightmare

"We just want to send payments in 5 countries. Why do we need 50 licenses?!"



Founder

GLOBAL LICENSE MAP

- US: 50 state MTLs
- EU: EMI + P
- UK: FCA e-m
- SG: MAS CMS
- CH: FINMA fit
- HK: SFC Type
- UAE: DFSA / ADGM
- + 40 more. . .

US alone: \$2M+ legal fees, 18–24 months

EU EMI: €350K capital, 6–12 months

Where Risk Concentrates

Regulatory arbitrage: Fintechs headquarter in lenient jurisdictions, serving strict ones remotely.

Passport limitations: EU passporting does not extend to AML supervision – each host state retains authority.

License stacking: A neobank offering crypto + payments + lending may need 3–5 separate licenses per country.

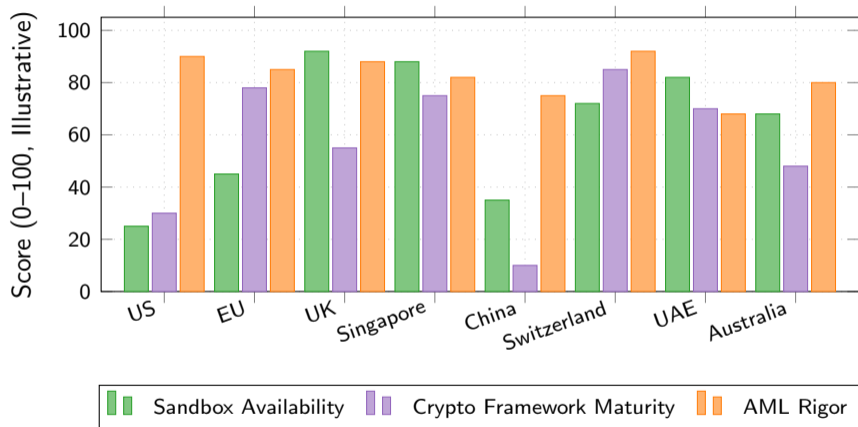
Compliance cost asymmetry: Same rules apply to a 10-person startup and a 100,000-employee bank.

Sandbox as Pressure Valve

Regulatory sandboxes (UK FCA, MAS, ADGM) let startups test with live customers under temporary relaxed rules – typically 6–24 months with limited customer count.

Where Does Regulation Stand? Global Comparison Snapshot

Regulatory Environment Scores by Country — Illustrative



All scores are illustrative composites based on publicly available indices (Global Financial Centres Index, FATF evaluations, Cambridge Centre for Alternative Finance reports). Not official ratings.

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So What? Five Questions to Evaluate Any Regulatory Framework

Does it enable or stifle innovation?

- 1 Sandbox availability, licensing speed, proportionality for small firms.

Who does it actually protect?

- 2 Consumer vs. institutional focus. Deposit guarantees, dispute rights, data control.

Can it keep up with technology?

- 3 AI, DeFi, and stablecoins move faster than legislative cycles. Adaptive capacity matters.

Is cross-border coordination feasible?

- 4 Passporting, mutual recognition, FATF alignment. Fragmentation invites arbitrage.

What is the cost of compliance?

- 5 Total regulatory burden as % of revenue. Does it create barriers to entry?

When to Use This

- Evaluating a new market for fintech expansion
- Comparing regulatory regimes for a policy paper
- Assessing RegTech vendor claims
- Preparing for the regulation case study workshop

Worked Example

UK FCA Sandbox (2016–)

Innovation: pioneer, 800+ firms tested

Protection: consumer safeguards maintained

Adaptiveness: iterates annually

Cross-border: GFIN co-operation

Cost: reduced via sandbox exemptions

Act: Analyse a Regulatory Framework End to End

Your Task (15 Minutes)

Choose **one jurisdiction** from the table on Slide 3 (or your home country). Reconstruct its fintech regulatory environment:

- 1 **Licensing:** What license does a payments fintech need? How long does it take?
- 2 **AML/KYC:** Which authority supervises? What are the main obligations?
- 3 **Crypto:** Is there a framework? Banned, tolerated, or fully regulated?
- 4 **Sandbox:** Does one exist? How many firms have graduated?
- 5 **Five-question test:** Apply the checklist from Slide 9. Score each dimension 1–5.

Reflection Prompt

If you were the **founder** of a cross-border payments startup, which jurisdiction would you incorporate in first – and why? If you were the **regulator**, what single change would most improve fintech

Discussion Starter

- Is the EU's "regulate first" approach (MiCA, DORA, AI Act) a competitive advantage or a burden?
- Can RegTech truly replace human compliance officers, or does it just add a layer?
- Why do some countries ban crypto trading but develop CBDCs?

Next Lecture — L05

Personal Finance and Wealth Management

From robo-advisors to AI-driven financial planning: how technology is democratising wealth management.

Prepare: check the fee structure of one robo-advisor (e.g., Betterment, Wealthfront, or True Wealth).