

# Digital Finance Regulation

Theme IV: Policy and Future

**Research Question:** How should regulators balance innovation, competition, and financial stability in digital finance?

PhD Seminar in Digital Finance

## Entity-Based Regulation

Traditional approach:

- License by institution type
- Bank, broker, insurer categories
- Clear supervisory authority

## Problem with Fintech

Same activity, different regulation:

- PayPal vs. bank account
- Crypto exchange vs. securities exchange
- P2P lending vs. bank loan

## Activity-Based Regulation

“Same activity, same risk, same rules.”

### Advantages

- Technology-neutral
- Level playing field
- Closes regulatory gaps

### Challenges

- Bundled services hard to classify
- Cross-border jurisdiction
- Innovation friction

## Basel Committee (May 2024)

Recommends activity-based approach for digital finance.

## Scope (June 2024 - Full Effect)

- Asset-Referenced Tokens (ARTs)
- E-Money Tokens (EMTs)
- Other crypto-assets
- CASPs (exchanges, custodians)

## Key Requirements

Area	Requirement
Whitepaper	Mandatory disclosure
Reserve	100% backing (stablecoins)
Governance	Board qualifications
AML	Full EU framework

## Passporting

Single license valid EU-wide.

## Stablecoin Restrictions

“Significant” stablecoins:

- Daily transaction cap
- Reserve requirements
- Prudential supervision (EBA)

## What's Excluded

- NFTs (mostly)
- DeFi protocols (uncertain)
- Pure utility tokens

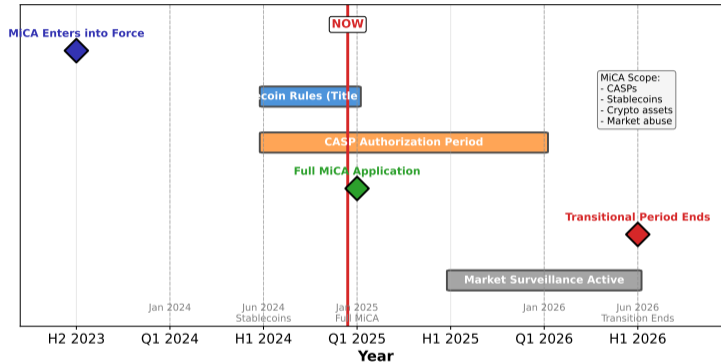
## Global Impact

MiCA as “Brussels effect” template.

EU MiCA (2023) – first comprehensive crypto regulation in major jurisdiction

# MiCA Implementation Timeline

## MiCA Implementation Timeline (EU)



MiCA phases in from 2024-2026; stablecoin rules effective mid-2024, CASPs by end-2024.

## Swiss DLT Act (2021)

Key innovations:

- DLT securities (ledger-based rights)
- DLT trading facilities
- Segregation in bankruptcy
- Technology-neutral framework

## Bundesrat Digital Finance Report (2022)

12 priority areas:

- 1 Open finance
- 2 Cloud computing
- 3 Cyber resilience
- 4 Digital identity

## Swiss vs. EU Comparison

	CH	EU
Approach	Principles	Rules
Stablecoin	Banking law	MiCA
DeFi	Case-by-case	TBD
Timeline	2021	2024

## Crypto Valley Advantage

- Early clarity attracted firms
- FINMA sandbox (FinTech license)
- But: Banking access challenges

## Sandbox Concept

Controlled environment for testing:

- Limited license scope
- Regulatory exemptions
- Time-bound experimentation
- Supervised innovation

## Global Adoption (2024)

Region	Sandboxes
Europe	15+
Asia-Pacific	20+
Americas	10+
Africa/ME	10+

FCA launched first sandbox (2016); now global phenomenon

## Effectiveness Evidence

### Positive

- Faster time-to-market
- Regulatory learning
- Risk identification

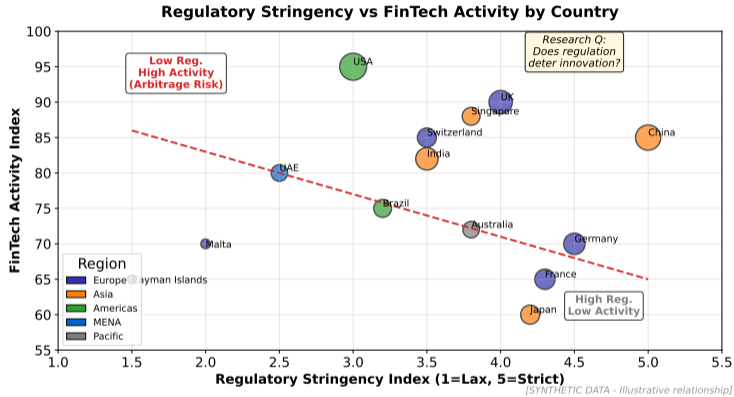
### Concerns

- “Sandbox tourism”
- Limited scalability
- Selection bias
- Exit challenges

## Research Finding (Cornelli et al., 2023)

Sandboxes increase fintech VC funding by 15-20% in host countries.

# Regulatory Stringency vs Fintech Activity



Research question: Does regulation deter innovation, or do other factors (talent, capital) dominate?

## Risk-Based Classification

<u>Risk Level</u>	<u>Finance Examples</u>
Unacceptable	Social scoring
High-risk	Credit scoring, insurance
Limited	Chatbots (disclosure)
Minimal	Spam filters

## High-Risk Requirements

- 1 Risk management system
- 2 Data governance
- 3 Technical documentation
- 4 Human oversight
- 5 Accuracy, robustness

## Timeline and Penalties

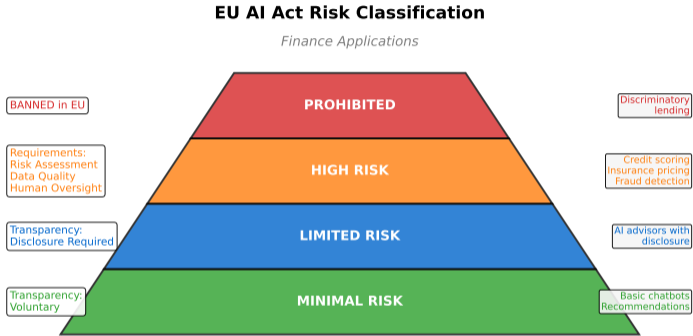
<u>Date</u>	<u>Milestone</u>
Aug 2024	Entry into force
Feb 2025	Prohibited practices
Aug 2025	General-purpose AI
Aug 2026	High-risk obligations

## Penalties

Up to 35M EUR or 7% global turnover.

## Interaction with MiCA

AI in crypto = dual compliance burden.



[Based on EU AI Act 2024/1689]

**Credit scoring is classified as high-risk AI; requires conformity assessment and human oversight.**

## Jurisdiction Shopping

Digital finance enables:

- Service from anywhere
- Customer base anywhere
- Regulatory arbitrage

## Case: FTX

- Bahamas-headquartered
- Served global customers
- Limited oversight
- \$8B+ customer losses

## Coordination Mechanisms

- 1 **Equivalence:** Mutual recognition
- 2 **Passporting:** Single license (EU)
- 3 **Supervisory colleges:** Joint oversight
- 4 **IOSCO/FSB:** Global standards

## Challenges

- National sovereignty concerns
- Different risk appetites
- Enforcement limitations
- DeFi has no “headquarters”

---

Global coordination remains the weakest link in digital finance regulation

## Publishable Research Directions

### 1 Regulatory Arbitrage Measurement

- RQ: How does fintech activity respond to regulatory changes?
- Method: Diff-in-diff around MiCA implementation
- Gap: Limited causal evidence on regulatory competition

### 2 Sandbox Effectiveness

- RQ: Do sandboxes improve innovation or create unfair advantages?
- Method: Compare sandbox graduates to non-participants
- Gap: Selection bias challenges; few rigorous evaluations

### 3 AI Regulation Compliance Costs

- RQ: What are the costs of EU AI Act compliance for financial firms?
- Method: Survey or event study around compliance deadlines
- Gap: Ex-ante cost estimates; ex-post measurement needed

---

Regulatory research benefits from natural experiments (MiCA rollout)

## Mathematical

Model regulatory competition:

Two jurisdictions choose stringency

$r_i$ .

Firms locate based on:

$$\pi_i = f(r_i) - c(r_i)$$

Derive race-to-bottom conditions.

**Due:** Week 11 – MiCA provides excellent natural experiment opportunity

## Empirical

Using CASP registry data:

- 1 Map MiCA licenses by country
- 2 Track pre/post MiCA firm migration
- 3 Test regulatory arbitrage hypothesis

Data: ESMA registers

## Research Proposal

Draft 1-page proposal:

- “MiCA and Crypto Market Structure”
- Pre/post comparison
- Outcome variables
- Identification

---

Regulatory research is policy-relevant and data is increasingly available

## Core Papers (Read Before Class)

- 1 **Basel Committee** (May 2024). “Digitalisation of Finance.”
  - Focus: Sections on regulatory approach, cross-border issues
- 2 **Swiss Bundesrat** (2022). “Digital Finance Report.”
  - Focus: 12 priority areas, Swiss approach

## Supplementary

- EU MiCA (2023): Legal text, Recitals
- EU AI Act (2024): Annex III (high-risk classification)
- Swiss DLT Act (2021): Federal Act text

---

Primary sources (regulations) essential for policy research