Financial Regulation: Why Do Rules Written After Crashes Always Arrive Too Late?

Every major financial regulation was written in response to a crisis that already happened – the question is whether the next crisis will be the same kind

Digital Finance

Why Is Every Major Financial Regulation Named After a Crisis It Failed to Prevent?

The Rearview-Mirror Pattern

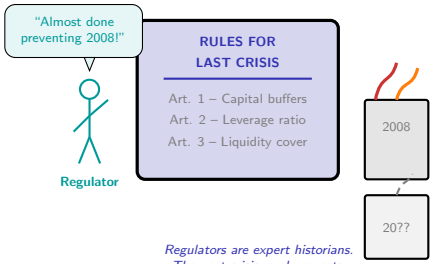
Financial regulation does not anticipate crises – it memorializes them. Every landmark regulation you will study in this lecture was written after the damage was already done. The pattern repeats with uncomfortable regularity:

The crisis-regulation cycle:

- **Basel I** (1988) – after Latin American sovereign debt defaults
- **Basel II** (2004) – after the Asian financial crisis of 1997
- **Basel III** (2010) – after the 2008 global financial crisis
- **PSD2** (Payment Services Directive 2, EU 2015/2366; effective Jan 2018) – after payment innovation outpaced PSD1
- **MiFID II** (Markets in Financial Instruments Directive 2, EU 2014/65; effective Jan 2018) – after the 2010 Flash Crash exposed market gaps
- **DORA** (Digital Operational Resilience Act, EU 2022/2554; effective 17 January 2025) – after waves of cyber attacks on financial infrastructure

The uncomfortable question:

- If regulations are always backward-looking, what crisis will trigger the next one?
- And will that crisis be the same kind – or something entirely new?



Every major regulation was designed to prevent a crisis that already occurred – can backward-looking rules address forward-looking risks?

How Many Regulatory Requirements Touched Your Bank Account This Morning?

Reflection Prompt

You opened your banking app this morning. Before you saw your balance, several regulatory requirements had already been enforced – invisibly, automatically, without your consent or awareness.

Count the touchpoints:

1. **Face ID + PIN?** That is Strong Customer Authentication (SCA) – mandated by PSD2. Two independent factors required for every login.
2. **Risk warning on your investment tab?** That is MiFID II. Your broker must warn you about product risks and report execution quality.
3. **Your mortgage still exists?** The capital your bank holds against it is mandated by Basel III – a minimum Common Equity Tier 1 (CET1) ratio of 4.5% plus additional Tier 1 buffers, bringing total Tier 1 to 6% of risk-weighted assets.
4. **No suspicious transactions?** An anti-money-laundering algorithm checked every payment against sanctions lists overnight.
5. **Your bank is still solvent?** Regulators stress-tested it last quarter under scenarios including a 40% equity crash.

That is at least five regulatory frameworks touching a single bank account before breakfast. You consented to none of them. You benefit from all of them.

Bring your count to class. How many regulatory touchpoints can you identify in your own financial life?

Regulation is invisible when it works. The infrastructure protecting your bank account draws on Basel, PSD2, MiFID, AML, and stress-testing frameworks simultaneously.

What Do PSD2, MiFID II, and Basel Actually Regulate?

Dimension	PSD2	MiFID II	Basel III	DORA
Regulates	How money **moves**	How money is **invested**	How money is **held**	**Technology** underpinning all three
Scope	Payment services	Securities markets	Bank capital	ICT risk management
Key rule	Open APIs + SCA	Best execution + transparency	6% Tier 1 + LCR	ICT resilience testing
Crisis trigger	Innovation gap	Flash Crash	2008 GFC	Cyber attacks
Effective	2018	2018	2019 (phased)	2025
Enforcer	National authorities	ESMA	ECB / national	ESAs jointly

Pattern to notice: Each framework addresses one dimension of financial activity. PSD2 governs the *flow* of money, MiFID II governs how it is *invested*, Basel governs how much must be *reserved*, and DORA governs the *technology* that supports all three. Together they form a layered regulatory architecture – but each was designed independently, creating gaps at the boundaries.

The four regulatory pillars

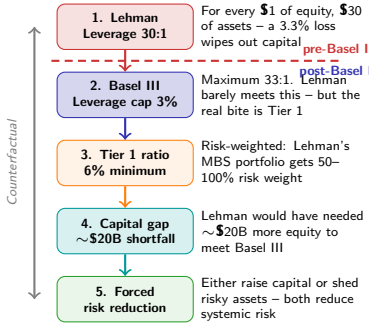
- **PSD2 (Payments):** Forced banks to open APIs to third-party providers. Created open banking. Required strong customer authentication for all electronic payments.
- **MiFID II (Markets):** Mandated best execution reporting, pre- and post-trade transparency, and product governance. Applies to all investment services.
- **Basel III (Capital):** Set minimum capital ratios, leverage ratios, and liquidity requirements. Designed to prevent banks from failing during crises.
- **DORA (Technology):** Requires financial entities to manage ICT risk, test operational resilience, and monitor third-party technology providers.

Key insight: No single framework covers everything. A bank must comply with all four simultaneously – plus GDPR, AML directives, and national laws.

Supervisor/requirement anchors: LCR (Liquidity Coverage Ratio, Basel III: high-quality liquid assets covering 30-day stressed net outflows); ESMA (European Securities and Markets Authority, Paris, 2011, MiFID enforcer); ESAs (joint: EBA banking + ESMA markets + EIOPA insurance/pensions, DORA co-regulators); ECB-SSM (Single Supervisory Mechanism, Frankfurt, Nov 2014, supervises 113 significant eurozone banks directly).

Four regulatory families govern four dimensions of finance: how money moves (PSD2), is invested (MiFID), is held (Basel), and is processed (DORA).

How Would Basel III Capital Requirements Have Prevented Lehman's Collapse?



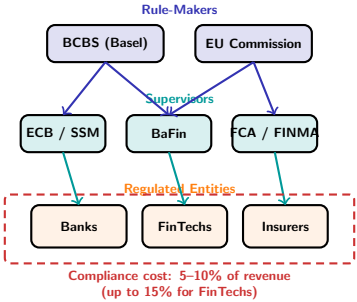
A counterfactual walkthrough

- **Lehman Brothers** operated at 30:1 leverage in 2008 – meaning a 3.3% decline in asset values would erase all equity. When mortgage-backed securities fell by more than that, the firm was insolvent overnight.
- **Basel III's leverage ratio** (minimum 3%) would have capped Lehman at roughly 33:1 – still high, but the risk-weighted Tier 1 requirement is the real constraint.
- **The Tier 1 ratio** (6% of risk-weighted assets) forces banks to hold capital proportional to the riskiness of their portfolios. Lehman's concentrated MBS (Mortgage-Backed Security – a bond repaying cash flows from a pool of mortgages) holdings would have required substantially more capital.
- **The counterfactual:** Under Basel III, Lehman would have needed approximately $20 billion more equity. Either it would have raised that capital (becoming more resilient) or it would have shed risky assets (reducing systemic exposure).

Honest caveat: Basel III might have prevented *that* failure – but not every failure, especially ones driven by risks the framework does not measure.

Basel III was designed to prevent Lehman-style collapses – but its success depends on the assumption that the next crisis resembles the last one.

Who Makes the Rules, Who Enforces Them, and How Do Banks Comply?



Three layers of the regulatory architecture

- **Rule-makers** set standards at the global level (BCBS = Basel Committee on Banking Supervision, Basel, 1974, 45 jurisdictions, hosted at BIS) or regional level (EU Commission for PSD2, MiFID II, DORA). They write the rules but rarely enforce them directly.
- **Supervisors** translate global standards into national requirements and enforce compliance. The ECB supervises the largest eurozone banks; national authorities (BaFin = Bundesanstalt für Finanzdienstleistungsaufsicht, Germany; FCA = Financial Conduct Authority, UK; FINMA = Eidgenössische Finanzmarktaufsicht, Swiss Financial Market Supervisory Authority) handle the rest.
- **Regulated entities** must implement, document, and demonstrate compliance. Compliance costs consume 5–10% of bank revenue – up to 15% for FinTechs.

The compliance paradox:

- Large banks absorb costs and benefit from regulatory barriers that keep competitors out
- Small FinTechs face disproportionate burdens
- Regulation promoting competition (PSD2) coexists with regulation inhibiting it (capital requirements)

Regulation flows from global standard setters through national supervisors to regulated entities – but the compliance cost creates asymmetric burdens that favor incumbents over innovators.

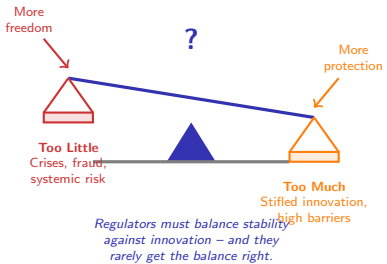
When Does Regulation Itself Become the Problem?

Three ways regulation can backfire
Regulation is not free. It imposes costs, creates incentives, and sometimes produces the opposite of its intended effect.

1. **Regulatory arbitrage**
   - Banks move activities to jurisdictions with lighter rules
   - Shadow banking (non-bank financial intermediation – hedge funds, money-market funds, SPVs; FSB definition 2011; global stock ˜$63tn per FSB NBFI Monitor 2023) grows in unregulated spaces
   - Risk does not disappear – it migrates to where supervisors cannot see it

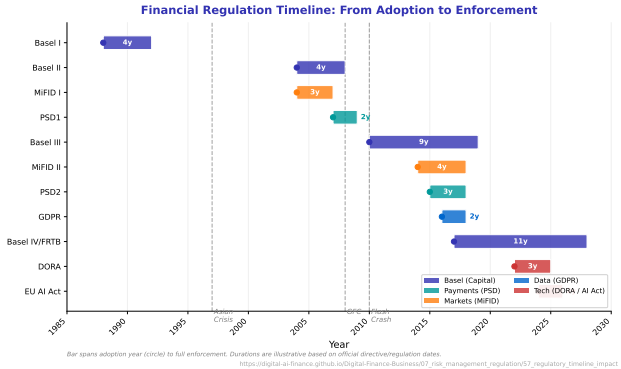
2. **Compliance as barrier to entry**
   - Large banks spend 5% on compliance; FinTechs up to 15%
   - Regulation protecting consumers can prevent new entrants from offering cheaper alternatives
   - Innovation slows – startups cannot afford regulatory lawyers

3. **Innovation suppression**
   - Prescriptive rules freeze technology choices (specific encryption, fixed reporting formats)
   - Principles-based regulation is flexible but hard to enforce
   - Too specific stifles innovation; too vague enables non-compliance



Regulation itself creates risk: arbitrage moves danger to unsupervised spaces, compliance costs block competition, and prescriptive rules freeze innovation.

How Long Does It Take for Financial Regulation to Go from Adoption to Enforcement?



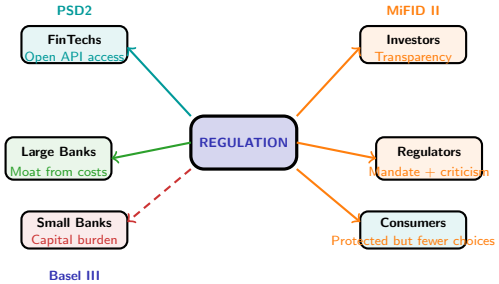
Reading the timeline

- **Bar length** shows the gap between adoption (when the regulation is published) and full enforcement (when penalties apply). Short bars mean rapid rollout; long bars mean years of transition.
- **Basel frameworks** (purple) have the longest implementation spans – Basel IV/FRTB (Fundamental Review of the Trading Book, BCBS 2019 finalisation; EU CRR3 implementation from Jan 2025, full application Jan 2028) spans over a decade from initial proposal to full enforcement in 2028.
- **Crisis markers** (dashed lines) show how regulations cluster after major shocks: the Asian Crisis accelerated Basel II, the GFC triggered Basel III, and the Flash Crash intensified MiFID II.
- **Technology regulations** (DORA; EU AI Act = Regulation (EU) 2024/1689, force Aug 2024, high-risk rules applicable Aug 2026) have shorter adoption-to-enforcement cycles, reflecting the urgency of digital threats – but also the risk of rules that outpace industry readiness.
- **The pattern:** No regulation was adopted before its triggering crisis. Every bar starts to the right of the event it was designed to prevent.

Implication: Multi-year implementation gaps mean banks operate under old rules during the transition – exactly when new risks are emerging.

Illustrative timeline based on official directive dates. The gap between adoption and enforcement can span years, during which regulated entities operate under transitional rules.

Who Wins and Who Loses When a New Regulation Takes Effect?



Cross-framework stakeholder analysis

Winners:

- **FinTechs** gain API access under PSD2 – the regulation forces banks to share customer data
- **Large banks** benefit from compliance moats – smaller competitors cannot afford the regulatory overhead
- **Investors** gain transparency under MiFID II – execution quality reporting and product governance

Losers:

- **Small banks** face disproportionate capital and compliance burdens relative to their balance sheets
- **Consumers** gain protection but may face fewer product choices and higher prices

Complex:

- **Regulators** gain mandate and enforcement tools – but also face criticism when rules fail to prevent crises or when compliance costs harm the economy

The same regulation creates winners and losers – PSD2 helps FinTechs but pressures banks; Basel protects depositors but burdens small institutions; MiFID informs investors but raises costs.

Four Questions That Reveal Whether Any Financial Regulation Actually Works

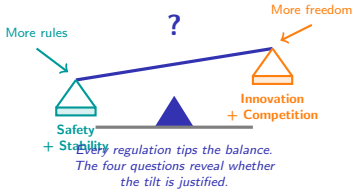
When evaluating any financial regulation – as a student, a compliance officer, or a policy analyst – ask these four questions:

1. Does it address the root cause or the symptom?
Basel III raised capital ratios, addressing the symptom (too little capital). But the root cause (mispriced risk models) is harder to regulate. Rules that target symptoms leave root causes free to create new crises.

2. Is compliance proportionate to the risk?
A small payment provider and a global bank face the same PSD2 requirements. When the compliance burden is flat but the risk is proportional to size, small firms bear disproportionate costs.

3. Does it create arbitrage opportunities?
If Basel requires 6% capital for bank loans but nothing for shadow lending, risk migrates to the unregulated sector. Good regulation closes the gaps it creates.

4. Is it adaptive or frozen?
MiFID II was designed for human-speed markets but applies to microsecond algorithmic trading. Regulations that cannot adapt to technological change become obsolete while remaining legally binding.



These four questions work for any regulation – PSD2, Basel, DORA, or the EU AI Act. They separate well-designed rules from regulatory theater.

Your Challenge: Does the EU AI Act Adequately Address Algorithmic Trading Risks?

Mini-Challenge (15 minutes)

The EU AI Act (2024) classifies AI systems by risk level. High-risk systems face mandatory transparency, human oversight, and documentation requirements. Algorithmic trading systems are not explicitly classified as high-risk – but they make autonomous decisions affecting markets.

Apply the four evaluation questions:

1. **Root cause or symptom?** Does the AI Act address why algorithmic failures happen (model opacity, feedback loops, speed beyond human supervision) – or does it only require documentation after the fact?
2. **Proportionate compliance?** A small quant fund and a global bank both use ML models. Should they face the same requirements? What if the quant fund's positions are too small to pose systemic risk?
3. **Arbitrage opportunities?** If the EU requires AI transparency but Singapore does not, will trading firms relocate their algo desks? Does the regulation create a competitive disadvantage for European firms?
4. **Adaptive or frozen?** AI models retrain weekly. If compliance certification is annual, the certified model is never the model that is actually running. Can the regulation keep pace with the technology it governs?

Discuss: Should algorithmic trading systems be classified as high-risk under the EU AI Act? What would that change?

Regulation grows. It never shrinks. And innovation never waits. The question is whether the rules adapt fast enough to govern what they were designed to control.