

FinTech Fundamentals: The Intermediation Paradox

Technology promised to kill the middleman — then became the middleman

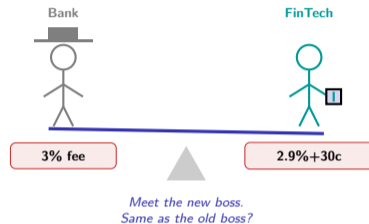
Digital Finance

Why Did the Technology That Was Supposed to Kill Banks Make Stripe Worth More Than Deutsche Bank?

The Intermediation Paradox

In 2008, Bitcoin's whitepaper declared war on financial intermediaries. By 2025, the global FinTech market hit \$340B. But the winners are not peer-to-peer networks – they are Stripe (\$95B valuation), PayPal (300M+ users), Square/Block (\$40B). Each takes a 2.9% + 30c per transaction. The bank charged 3%.

- Technology did not remove the middleman. It made the middleman faster, cheaper, and invisible.
- The cost of intermediation dropped. The number of intermediaries did not.
- Stripe processes \$1 trillion annually – a new payment rail, a new intermediary, not the absence of one.



Stripe's 2024 processing volume exceeded \$1 trillion – more than many countries' GDP. The middleman did not disappear; it got a software update.

Have You Ever Paid a 'Free' Service That Still Made Money Off Every Transaction You Made?

Reflection Prompt

Think about the last time you used a “free” financial app – Revolut, Venmo, Cash App, or even your banking app. You paid no subscription fee. But every time you bought a coffee, sent money, or exchanged currency, someone took a cut. The app was free. The infrastructure was not.

- **Monday:** You tap your phone to buy lunch. “Free.” Your merchant paid 1.5%. You did not see it, but it was in the price.
- **Tuesday:** You send EUR 200 to a friend abroad. “No transfer fees!” But the FX rate was 0.7% above mid-market. That is EUR 1.40 you did not notice.
- **Wednesday:** You invest EUR 500 through a “commission-free” broker. The broker sold your order flow to a market maker for 15 basis points. Your execution price was slightly worse.
- **Thursday:** You look at your fintech app dashboard. It says “You saved EUR 47 vs traditional banking this year.” True. But the app earned EUR 23 from your invisible transactions.

The revolution is real – costs DID fall. But “free” never means free. The intermediary became invisible, not absent.

Revolut generated \$2.2B in revenue in 2023 from 40M+ users who mostly pay no subscription. The product is cheaper. The business model is still intermediation.

What Are the Three Problems That Every Financial Intermediary – Old or New – Must Solve?

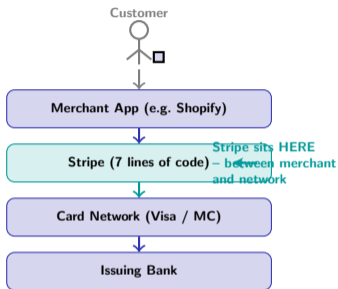
Problem	Traditional	FinTech	Who Profits
Information Asymmetry	Credit bureaus, loan officers, manual due diligence	ML credit scoring, alt. data, real-time monitoring	Data owners (Plaid, credit fintechs)
Transaction Costs	Branch networks, correspondent banking, manual processing	APIs, automation, platform matching, digital rails	Platform operators (Stripe, Wise)
Risk Transformation	Maturity mismatch, diversification, insurance reserves	P2P pooling, algo underwriting, tokenization	Risk assessors (Lemonade, LendingClub)

Three eternal problems

- These three problems existed before banks. They will exist after banks.
- FinTech did not solve new problems – it solved OLD problems with new tools. The advantage is speed, cost, and data, not the elimination of intermediation.
- The paradox explained: whoever solves these problems IS the intermediary. Technology changes WHO intermediates, not WHETHER intermediation happens.
- Every lesson in this course maps to one or more of these three problems.

This 3-problem framework (information asymmetry, transaction costs, risk transformation) structures the entire course. Every FinTech innovation targets at least one.

How Did Stripe Become the Invisible Backbone of the Internet Economy?

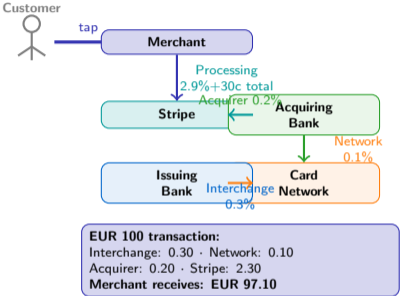


From 6 weeks to 7 lines of code

- **2010:** Patrick and John Collison launch Stripe. Integrate payments in 7 lines of code. Previously: bank relationship, merchant ID, PCI compliance, weeks of integration.
- **What Stripe solved:** NOT the payment itself (cards still work the same). It solved the DEVELOPER EXPERIENCE – reducing integration from weeks to minutes.
- **Key numbers:** \$1T+ processing (2024), 95% of Fortune 500 as clients, 46 countries, ~\$95B valuation.
- **The lesson:** Stripe does not replace Visa or the issuing bank. It adds a layer ON TOP. More intermediation, not less – but each layer is so thin that total cost dropped.

Stripe's 7-line integration reduced payment setup from 6 weeks to 10 minutes. The intermediary did not disappear – it became invisible.

How Does Money Actually Move When You Tap Your Phone – and Who Takes a Cut at Each Step?



The five-party payment model

- **Four-party model:** cardholder, merchant, issuer, acquirer (+ card network). FinTech adds a fifth: the payment facilitator (Stripe, Square, Adyen).
- **Three stages:** authorization (milliseconds), clearing (batch), settlement (1–3 days). Information moves instantly; money moves slowly.
- **The paradox in action:** adding Stripe as a 5th party REDUCED total merchant cost from 3.5–4% (legacy acquirer + integration) to 2.9% (all-in). More intermediaries, lower cost.

Adding a fifth party (Stripe) to the payment chain reduced total merchant cost. This is the intermediation paradox: more layers can mean less friction.

What Happens When the New Intermediary Fails – and There Is No Branch to Walk Into?

Three failure modes of FinTech intermediation

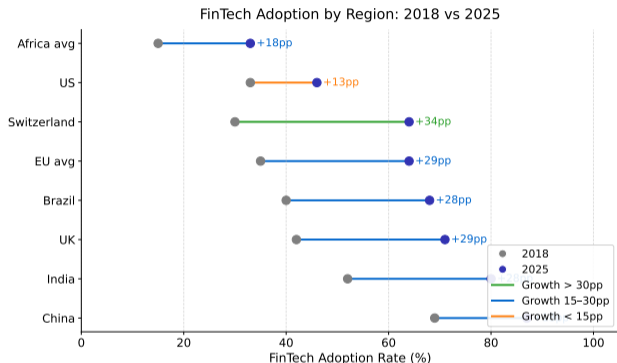
- 1 **Platform dependency risk:** Stripe had a 2-hour outage in March 2023 – thousands of businesses could not accept payments. Traditional banks have outages too, but they have branches, phone lines, and deposit insurance. FinTech outages are total: no app = no service.
- 2 **De-platforming risk:** FinTech platforms can freeze accounts algorithmically. PayPal has frozen billions in seller funds. No human reviewed the decision. No branch manager to appeal to. The new intermediary can cut you off faster than the old one.
- 3 **Concentration risk:** Stripe processes 50%+ of US e-commerce payments. If Stripe fails, half of internet commerce fails. We replaced concentration in banks with concentration in platforms.



*No branch. No phone number.
No recourse.*

Wirecard processed EUR 180B before collapsing in 2020. EUR 1.9B was missing. 5 million cardholders lost access overnight. The new intermediary is fast – including at failing.

Where Is FinTech Replacing Banks – and Where Is It Just a Better Front End?

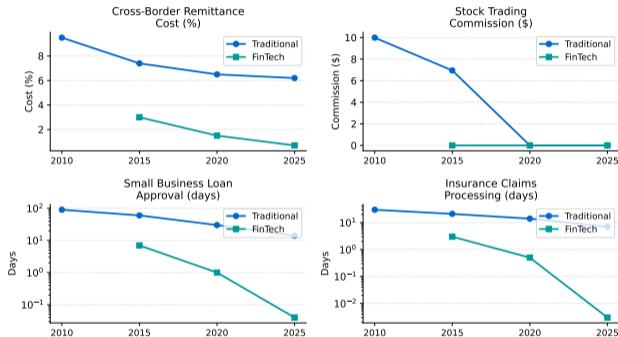


- **China (87%):** Alipay and WeChat Pay ARE the payment system. Banks reduced to back-end ledgers.
- **India (80%):** UPI (government-built rails) enables direct bank-to-bank – the rare case where FinTech REDUCED intermediation.
- **US (46%):** FinTechs ride ON TOP of card rails. More intermediaries, not fewer. Stripe, Square, PayPal add layers.
- **Europe (64%):** PSD2/open banking enables competition but banks remain core. Revolut has 40M users but no banking license in most countries.
- **Africa (33%):** But 70% in Kenya/Tanzania. M-Pesa IS the bank for 50M users. True disintermediation where banks never existed.
- **Key insight:** FinTech replaces banks only where banks were ABSENT (Africa) or where government builds the rails (India UPI). Everywhere else, FinTech adds layers.

FinTech adoption exceeds 80% in China and India. But “adoption” means different things: in China it replaced the bank; in the US it wrapped around it.

How Much Has the Cost of Financial Intermediation Actually Fallen?

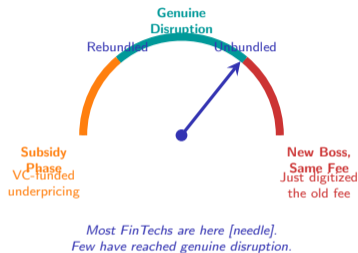
The Cost of Intermediation: Before and After FinTech



- **Cross-border payments:** 7% (2010) to 4.3% (2025). Wise charges 0.5–1.5%. But 80% of remittances still flow through traditional corridors.
- **Stock trading:** \$7–10/trade (2010) to \$0 (2025). Commission-free brokers earn through PFOF, margin lending, and premium subscriptions. The cost shifted, not disappeared.
- **Small business lending:** 90-day approval (2010) to same-day (2025). But APRs for FinTech loans average 15–25% vs 5–8% for bank loans.
- **Insurance:** Claims processing 30 days (2010) to 3 seconds (Lemonade, 2025). But loss ratios for InsurTech are 70–90% vs 60–65% for traditional insurers.
- **The Philippon puzzle:** The unit cost of financial intermediation has been CONSTANT at ~2% of assets for 130 years. Technology made finance faster – but not fundamentally cheaper in aggregate.

Philippon (2015): the unit cost of financial intermediation has remained at ~2% for 130 years. FinTech changed the experience. Did it change the economics?

The Intermediation Scorecard: How to Evaluate Whether a FinTech Is Truly Disrupting or Just Repackaging



Five questions for evaluating any FinTech:

- 1 **Who is the intermediary?** If the FinTech sits between buyer and seller, it IS the intermediary – no matter what the marketing says.
- 2 **Where does revenue come from?** Transaction fees = intermediation. Subscriptions = intermediation. PFOF = hidden intermediation. Follow the money.
- 3 **What happens without it?** If removing the FinTech means the transaction cannot happen, it is a critical intermediary.
- 4 **Is the cost reduction permanent?** Many FinTechs offer below-cost pricing funded by VC capital. When funding stops, prices rise.
- 5 **Who controls the rails?** Whoever controls the infrastructure controls the economics. The rail owner is the ultimate intermediary.

The best FinTech analysis starts with one question: who is getting paid, and for solving which of the three fundamental problems?

Your Challenge: Map the Intermediation Chain of Your Last Financial Transaction

Mini-Challenge (10 minutes)

Open your banking or payment app. Find your most recent transaction (a coffee, an online purchase, a transfer). Now trace every intermediary between your money and the recipient's money.

Your deliverable – answer these four questions:

- 1 **Map the chain:** List every entity that touched your transaction (your bank, the payment processor, the card network, the merchant's bank, any FinTech layer). How many intermediaries? More or fewer than you expected?
- 2 **Estimate the fees:** What was the total cost of intermediation? If you paid EUR 5.00 for a coffee, approximately how much went to intermediaries vs the merchant? (Hint: for a card payment, typically 1.5–3% in Europe.)
- 3 **Identify the FinTech layer:** Was a FinTech involved? If so, did it REPLACE an intermediary or ADD a layer? Did it reduce or increase the total number of parties?
- 4 **Apply the paradox test:** Is your financial life more intermediated or less intermediated than your parents' generation? You probably use MORE financial services (banking app, investment app, payment app, insurance app) – each one is an intermediary.

Conclude with one sentence: "FinTech has made my financial life [more/less/differently] intermediated because _____."

The intermediation paradox is not a criticism of FinTech. It is a framework for understanding what technology actually changes – and what it does not.