# Day 2: Platform Finance
### How FinTech Reshapes Financial Services

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Digital Finance

## Day 2 Overview

**Topics Today:**

1. Digital Payments
2. API Economy & Banking-as-a-Service
3. Data-Driven Finance
4. Platform Economics

**Key Questions:**

- How does money actually move when you tap your card?
- How can a tech company offer banking without being a bank?
- How do algorithms decide who gets a loan?
- What makes a FinTech sustainable vs. venture-subsidized?

**Day Arc:**

- **2.1** Concrete mechanics (payments)
- **2.2** Enabling infrastructure (APIs)
- **2.3** Intelligence layer (data/ML)
- **2.4** Business logic (platforms)

### Hands-On Components

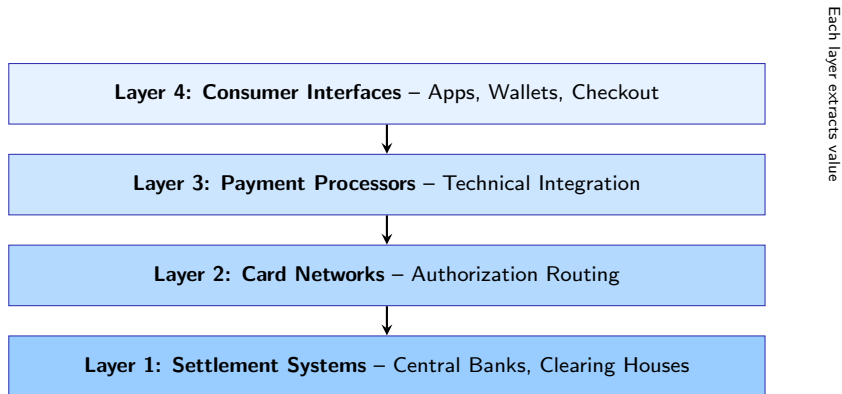**NB02**: Payment Transaction Analysis
**NB03**: Banking API Simulation
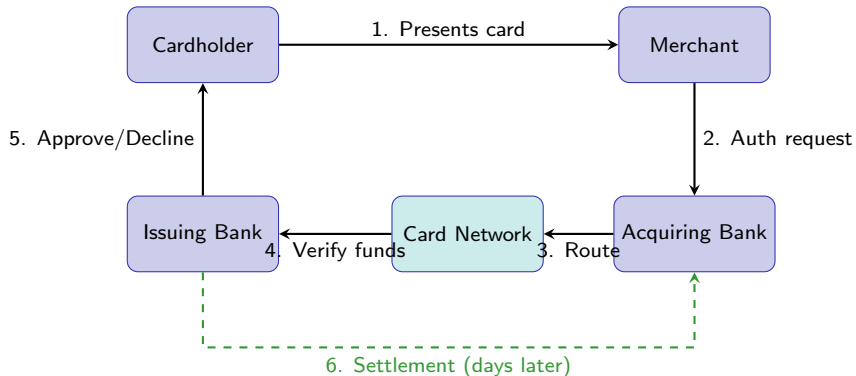**NB04**: ML Credit Scoring

# Digital Payments

## The Problem

Why does a simple coffee purchase involve so many parties?

Layer 4: **Consumer Interfaces** – Apps, Wallets, Checkout

↓

Layer 3: **Payment Processors** – Technical Integration

↓

Layer 2: **Card Networks** – Authorization Routing

↓

Layer 1: **Settlement Systems** – Central Banks, Clearing Houses

Each layer extracts value

## The Insight

# The Four-Party Model

## The Problem

When you swipe your card, who is involved and what happens?



## The Insight

# Who Pays Whom?

## The Problem

Who actually pays for the "free" card in your wallet?

| Party | Role | How They Earn |
|-------|------|---------------|
| Cardholder | Initiates payment | (Consumer — pays indirectly through prices) |
| Merchant | Accepts payment | Sells goods/services |
| Issuing Bank | Issues card, bears risk | Receives the largest share of fees |
| Acquiring Bank | Processes for merchant | Keeps a small portion of fees |
| Card Network | Routes transactions | Charges assessment fees |

**The Fee Flow:** Merchant pays $\rightarrow$ Acquirer passes on $\rightarrow$ Network routes $\rightarrow$ Issuer receives most

## The Insight

The **issuing bank** receives the largest share because it bears the credit and fraud risk. The merchant passes these costs into prices — so consumers ultimately pay, even if their card is "free."

## The Problem

With so many ways to pay, how do you choose the right one?

| Method | Speed | Cost | Consumer Protection |
|---|---|---|---|
| Wire Transfer | Slow to moderate | High (flat fee) | Very limited |
| Bank Transfer | Slow | Low | Limited |
| Card Payment | Fast auth, slow settle | Moderate (percentage) | Strong (chargebacks) |
| Digital Wallet | Fast | Moderate to high | Varies |
| Real-Time Rails | Instant | Very low | Final (no reversal) |
| Cryptocurrency | Variable | Variable | Final (no reversal) |

**The Fundamental Tradeoff:**
Fast + Cheap $\leftrightarrow$ Less consumer protection
Slow + Expensive $\leftrightarrow$ More certainty and recourse

## The Insight

Every payment method is a tradeoff — there is no single "best" option. The right choice depends on the specific context: speed, cost, and how much protection you need.

## The Problem

What if payments could be instant *and* nearly free?

**The Concept:**

- Governments around the world are building **real-time payment infrastructure**
- These are public systems — instant, low-cost, available to all banks
- Examples exist across many countries: Brazil, India, the UK, the EU, and the US have all launched or are rolling out such systems
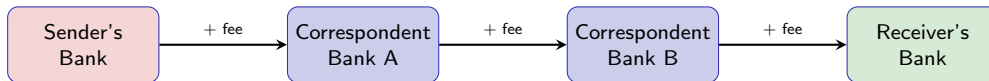- They settle in seconds, not days

**How They Differ from Cards:**

- Government-operated (public good)
- Near-zero transaction cost
- Bank-to-bank (no intermediary network)
- Irrevocable (no chargebacks)

## Impact on the Payment Landscape

- **Commoditizes payment rails**: Basic money movement becomes free
- **Threatens card networks**: Why pay a percentage fee when instant transfer is free?
- **Enables new business models**: Micropayments, real-time payroll, instant refunds
- **Shifts competition**: Value moves from moving money to services built on top

# Cross-Border Payments: The Broken System

## The Problem

Why is sending money abroad still slow and expensive?

| Sender's Bank | + fee → | Correspondent Bank A | + fee → | Correspondent Bank B | + fee → | Receiver's Bank |
|---|---|---|---|---|---|---|

**Each hop adds time and cost**

**Why It Is Broken:**
- Money must "hop" through several **correspondent banks**[1]— each one charges a fee and adds delay
- Currency conversion happens at each hop, often at unfavorable rates
- Compliance checks (anti-money laundering) at every intermediary slow the process further
- The sender often does not know the total cost until the money arrives

## The Insight

Cross-border payments are the most expensive, slowest part of the payment system — making them a prime target for FinTech disruption

# Buy Now Pay Later (BNPL)

## The Problem

Why would a merchant pay *higher* fees for installment payments?

**How BNPL Works:**

1. Consumer selects BNPL at checkout
2. BNPL provider pays the merchant (minus a fee)
3. Consumer repays in several installments
4. Typically no interest if payments are on time

**Why Merchants Accept Higher Fees:**

- Increases average order value
- Attracts customers who might not buy otherwise
- Converts browsers into buyers
- Shifts credit risk to the BNPL provider

## BNPL Revenue Sources

- **Merchant fees**: Higher than standard card fees — the provider's main revenue
- **Late payment fees**: Charged when consumers miss installments
- **Interest**: On longer-term loan products

## Business Model Tensions

- Credit losses without traditional underwriting[2]
- Growing regulatory scrutiny globally
- Consumer debt accumulation concerns
- Sustainability questions when growth slows

## The Problem

How do we analyze payment data to make better business decisions?

## Notebook Overview

Analyze simulated payment transaction data to understand:

- How different payment methods compare in practice
- How fee structures affect merchant profitability
- How settlement times vary and why it matters for cash flow
- How network analysis can reveal transaction patterns

**What You Will Do:**

- Work with a realistic simulated payment dataset
- Compare multiple payment methods across key dimensions
- Visualize cost and settlement trade-offs
- Build and analyze a payment network graph

## No Programming Prerequisites

The notebook is self-guided with code provided. Your job is to **interpret the results** and draw business conclusions — not to write code from scratch.

## Section 2.1 Key Takeaways

1. **Payments are multi-layered**: Consumer interfaces → processors → networks → settlement systems. Each layer extracts value from every transaction.
2. **Speed vs. protection is the fundamental tradeoff**: Faster, cheaper payments are typically less reversible. Every payment method trades off these dimensions differently.
3. **Interchange funds the card ecosystem**: The issuing bank receives the largest share of fees because it bears credit and fraud risk. Merchants pass these costs to consumers through prices.
4. **Real-time government rails are reshaping competition**: When instant payments become free public infrastructure, the value shifts from moving money to the services built on top.
5. **Most FinTechs are layers, not replacements**: The majority of payment innovators build on top of existing rails rather than replacing them — true disruption of the underlying infrastructure is rare.

### Coming Up: Notebook NB02

Analyze simulated payment transaction data — fees, settlement times, failure rates, and optimization opportunities.

# The API Economy and Banking-as-a-Service

## What is an API?

### The Problem

How do different software systems talk to each other without knowing each other's internal workings?

**Non-Technical Definition:**

- An API is a **contract** between software systems
- It defines what you can **request** and what you will **receive**
- Think of it like a restaurant menu: a fixed set of options, in a standardized format

**Jargon explained:** *API* stands for Application Programming Interface. *Endpoint* = a specific address where you send requests (like a phone number). *Request* = asking for data. *Response* = the data you get back.
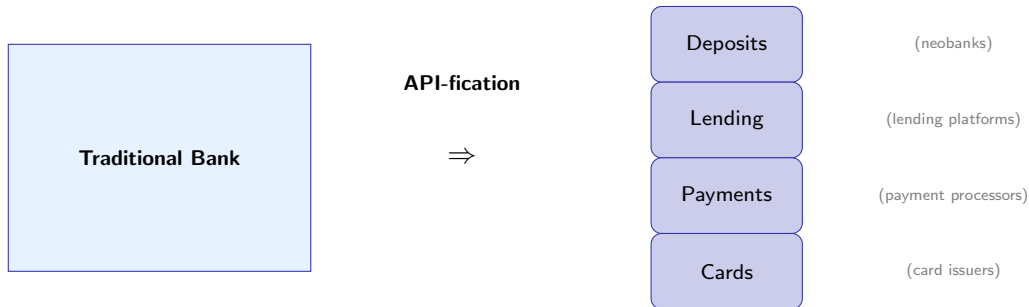
### Why APIs Matter for Finance

- **Unbundling**: Break a monolithic bank into separate, accessible components
- **Speed**: Integrate with banking infrastructure quickly instead of building from scratch
- **Innovation**: Any authorized developer can access banking capabilities
- **Competition**: A more level playing field between incumbents and startups

### The Insight

APIs let any developer access banking capabilities without building them — just as a restaurant menu lets you order food without knowing how to cook.

## The Problem

What happens when you break a monolithic bank into separate, independently accessible services?

**Traditional Bank**

**API-fication**

$\Rightarrow$

| Deposits | (neobanks) |
| Lending | (lending platforms) |
| Payments | (payment processors) |
| Cards | (card issuers) |

**The Concept:**
- Each banking function becomes a standalone service accessible via API
- Different companies can specialize in one service and do it exceptionally well
- A single startup can compete with a bank on one specific dimension

## The Problem

How do different regions approach opening up banking data — and why does the approach matter?

**Regulated Approach:**

- Governments **mandate** that banks provide APIs
- Standardized specifications ensure interoperability
- Third parties must be licensed and supervised
- Adopted by several European and Asia-Pacific jurisdictions

*"Banks must open up — whether they want to or not."*

**Market-Driven Approach:**

- No government mandate for standardized APIs
- Data aggregators negotiate access with banks individually
- Screen-scraping (sharing passwords) remains common
- Innovation happens, but without standardization

*"Let the market figure it out."*

## The Insight

The regulatory approach shapes how fast innovation happens. Mandated standards create a level playing field quickly; market-driven approaches allow flexibility but create fragmentation.

## The Problem

What can third parties actually *do* with your banking data — and how is this regulated?

### AISP — Account Information

**Account Information Service Provider**

- **What**: Reads your account data
- **Use cases**:
    - Budgeting apps that show all your accounts in one place
    - Credit assessment based on transaction history
    - Financial planning tools
- **Permission**: Read-only access

### PISP — Payment Initiation
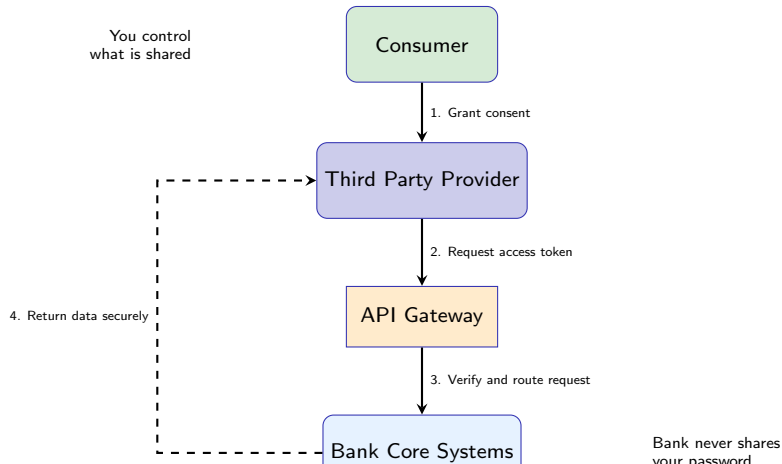
**Payment Initiation Service Provider**

- **What**: Initiates payments from your account
- **Use cases**:
    - E-commerce checkout directly from your bank
    - Bill payment services
    - Money transfer apps
- **Permission**: Write access (with explicit approval)

## The Insight

Read access and write access are regulated differently because the risks differ. Seeing your balance is far less risky than moving your money.
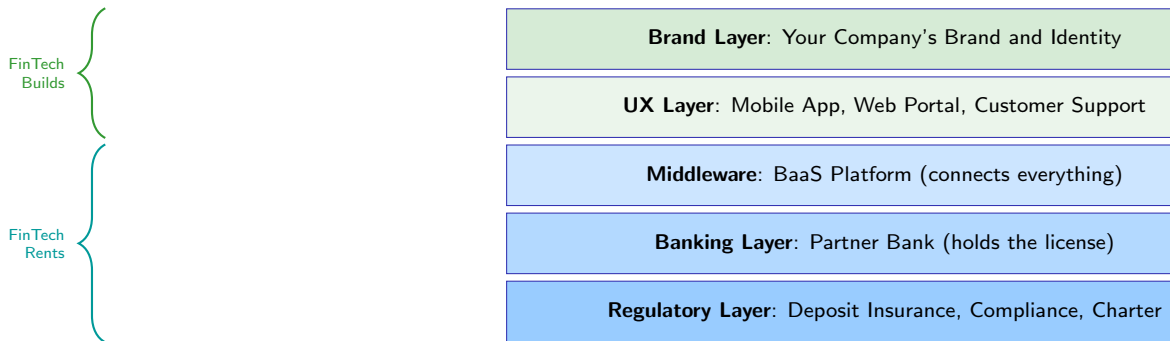
## The Problem

How does the consent flow actually work — and how is your data kept secure?



You control
what is shared

**Consumer**

1. Grant consent

**Third Party Provider**

2. Request access token

**API Gateway**

3. Verify and route request

4. Return data securely

**Bank Core Systems**

Bank never shares
your password

## The Problem

In a BaaS arrangement, what does the FinTech actually build — and what does it rent from others?

**FinTech Builds**

**Brand Layer**: Your Company's Brand and Identity

**UX Layer**: Mobile App, Web Portal, Customer Support

**FinTech Rents**

**Middleware**: BaaS Platform (connects everything)

**Banking Layer**: Partner Bank (holds the license)

**Regulatory Layer**: Deposit Insurance, Compliance, Charter

## The Insight

The FinTech does not build a bank.

# Embedded Finance: Financial Services at the Moment of Need

## The Problem

Why are non-financial companies — retailers, ride-sharing apps, e-commerce platforms — starting to offer financial products?

**What is Embedded Finance?**
Financial services integrated directly into non-financial platforms and experiences — offered at the exact moment a customer needs them.

**Conceptual Examples:**

- An e-commerce platform offering merchant loans based on sales data
- A ride-sharing app providing driver banking and instant payouts
- A retail checkout offering installment payments
- A freelancing platform with built-in invoicing and tax savings

## Why Non-Banks Have Advantages

- **Distribution**: They already have the customers
- **Data**: They know customer behavior intimately
- **Context**: They can offer finance at the exact moment of need
- **Trust**: Customers already have a relationship with the brand

## The Insight

## Hands-On Exercise: Notebook NB03

### Open Banking API Simulation

In Notebook NB03, you will build a simulated open banking environment:

1. Create a mock bank with customer accounts
2. Implement Account Information API endpoints
3. Simulate a token-based authentication flow
4. Build a Payment Initiation service
5. Create an Account Aggregator (multi-bank view)

**What You Will Build:**

- A simulated bank with realistic account structures
- API endpoints for reading accounts, balances, and transactions
- A payment initiation endpoint
- A multi-bank aggregation dashboard

**Learning Goal**: Understand the mechanics of API-based banking by building it yourself — even without prior programming experience, the notebook guides you step by step.

**Notebook: day_02/notebooks/NB03_Open_Banking_API.ipynb**

## Section 2.2 Key Takeaways

1. **APIs unbundled banking**: Any financial service can now be offered separately via standardized interfaces — breaking the bank monopoly on financial products

2. **Regulation drives adoption**: In regions where governments mandate open banking, innovation accelerates; in market-driven regions, adoption is slower and more fragmented

3. **BaaS enables non-banks**: Companies can "rent" banking infrastructure (charter, compliance, ledger) instead of building it from scratch, dramatically lowering the barrier to entry

4. **Embedded finance is the frontier**: Non-financial platforms increasingly offer financial services at the moment of need, making the traditional bank invisible to the end consumer

5. **Value accrues to the customer interface**: Whoever owns the customer relationship captures the most value in the API economy — not necessarily whoever holds the banking license

### Coming Up: Notebook NB03

Make API calls to a simulated open banking endpoint — retrieve accounts, transactions, and initiate a mock payment.

# Data-Driven Finance

## The Problem

Lenders used to rely on personal relationships and gut feelings. How do you scale that to millions of applicants?

**The Solution: Credit Scores**

- A credit score condenses your entire financial history into a **single number**
- The number represents predicted creditworthiness
- Scores span a range from **very poor to excellent**
- Higher score = lower predicted risk = better loan terms

**Where Scores Are Used:**

- Loan approvals and interest rates
- Credit card limits
- Insurance pricing
- Rental applications
- Sometimes even employment screening

## What Goes Into a Score

Scores are built from categories of your financial behavior:

- How reliably you pay bills
- How much debt you carry
- How long you have been borrowing
- How often you apply for new credit
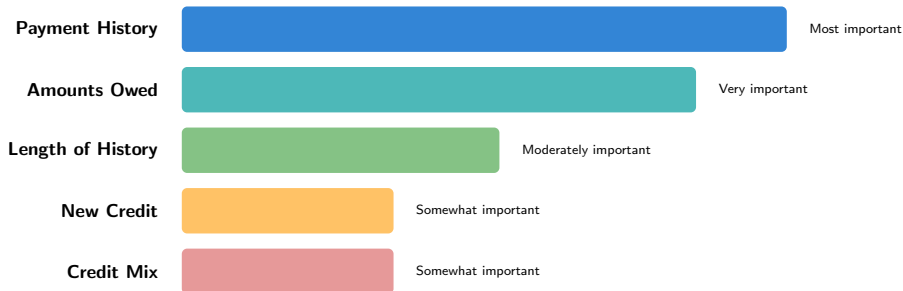- What mix of credit types you use

## The Insight

A single number determines the cost of many major life decisions — your mortgage rate, your credit card limit, sometimes even whether you can rent an apartment.

## The Problem

Not all financial behaviors matter equally. What should a score emphasize?

**Credit Score Components — Ranked by Importance:**

| Component | Bar | Importance |
|---|---|---|
| **Payment History** | | Most important |
| **Amounts Owed** | | Very important |
| **Length of History** | | Moderately important |
| **New Credit** | | Somewhat important |
| **Credit Mix** | | Somewhat important |

## The Insight

Your behavior with existing debt — whether you pay on time and how much you owe — matters far more than anything else. The most important factors are the ones you control through everyday financial discipline.

# Who Gets Left Behind?

## The Problem

What about people who have *no* credit history at all?

**"Credit Invisible" — No Score at All:**

- **Young adults**: Have not had time to build history
- **Recent immigrants**: Foreign credit history does not transfer
- **Cash-economy users**: Pay for everything without credit
- **Divorced individuals**: Shared accounts removed
- **Post-bankruptcy**: Wiped history, starting over

**The "Thin File" Problem:**
Some people have *some* history, but not enough for a reliable score. They fall into a gray zone — not scoreable, but not invisible either.

## The Scale of the Problem

Millions of people across every country are excluded from credit — not because they are risky, but because the system has no data on them.

**The Catch-22:**

- You need credit to build a credit history
- You need a credit history to get credit
- This traps millions in a cycle of exclusion

## The Insight

Millions of creditworthy people are excluded not because they *cannot* repay, but because they lack traditional history. This is the opportunity that alternative data and FinTech try to address.

## The Problem

What if we could assess creditworthiness using everyday financial behavior — not just formal credit history?

| Data Type | What It Reveals | Who Benefits |
|---|---|---|
| Bank transactions | Cash flow patterns, income stability, spending habits | Thin-file borrowers |
| Rent payments | Reliability of regular payments | Young adults, renters |
| Utility bills | Consistent bill payment behavior | Cash-economy users |
| Employment/payroll | Job stability, income verification | Immigrants, gig workers |
| Education history | Future earning potential | Young graduates |
| Shopping behavior | Financial responsibility signals | Underbanked consumers |

## The Insight

Alternative data can bring "credit invisible" people into the system — scoring them on behaviors they already have, rather than formal credit products they lack.

## The Problem

Can computers find patterns in data that humans miss?

**Traditional Models:**

- Simple, well-understood rules
- Easy to explain to regulators and applicants
- Limited to relationships humans define
- Proven track record over decades

*Think of it as*: a carefully designed checklist where each item has a clear weight.

**Machine Learning Models:**

- Can discover complex, hidden patterns
- Handle hundreds of variables simultaneously
- Significantly better at predicting defaults
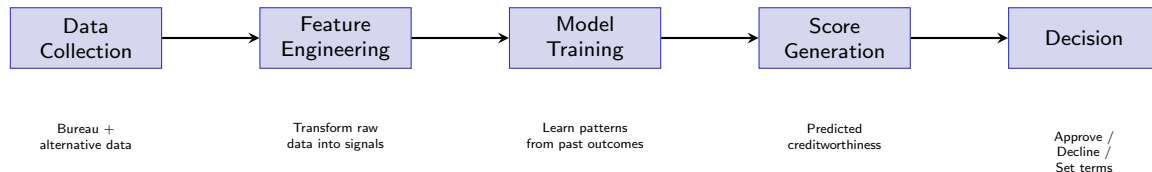- Much harder to explain *why* a decision was made

*Think of it as*: a system that learns its own rules from the data — powerful, but opaque.

## The Insight

Better accuracy comes at the cost of explainability. This is not just a technical annoyance — it is a fundamental tension that shapes regulation, consumer trust, and business strategy in lending.

# The Credit Scoring Pipeline

## The Problem

How does raw data become a lending decision?

```
┌──────────┐     ┌──────────┐     ┌──────────┐     ┌──────────┐     ┌──────────┐
│   Data   │ ──▶ │ Feature  │ ──▶ │  Model   │ ──▶ │  Score   │ ──▶ │ Decision │
│Collection│     │Engineering│     │ Training │     │Generation│     │          │
└──────────┘     └──────────┘     └──────────┘     └──────────┘     └──────────┘
```

Bureau +              Transform raw         Learn patterns        Predicted             Approve /
alternative data      data into signals     from past outcomes    creditworthiness      Decline /
                                                                                        Set terms

**Key Decisions at Each Stage:**
- **Data**: What sources? What are the privacy implications?
- **Features**: What transformations? What should we exclude?
- **Model**: How much accuracy vs. how much explainability?
- **Decision**: Where do we set the approval threshold? When does a human review?

## The Insight

Bias can enter at *every* stage of this pipeline — not just in the model itself, but in which data is collected, how features

# Algorithmic Bias: The Dark Side

## The Problem

Can a "neutral" algorithm discriminate?

**Sources of Bias:**

1. **Historical data bias**:
   If past lending was discriminatory, the data reflects those patterns — and the model learns to repeat them

2. **Proxy variables**:
   Features like location or school can correlate with race or socioeconomic status

3. **Sample bias**:
   Training only on existing customers misses the people who were already excluded

4. **Feature selection bias**:
   Human choices about what data to include embed assumptions

**Real-World Example:**

- A major technology company launched a credit card
- An algorithm set credit limits for applicants
- People in the same household, with shared finances, received **dramatically different credit limits**
- The algorithm could not explain why
- A regulatory investigation followed

**Fairness Concepts:**

- **Demographic parity**: Approval rates similar across groups
- **Equalized odds**: Error rates similar across groups
- **Calibration**: Predictions equally accurate for all groups

## The Insight

Bias in the data means bias in the decisions. Good intentions do not prevent harmful outcomes — you must actively test for and mitigate bias.

# Explainability: The Right to Know Why

## The Problem

If a machine denies you a loan, who explains why?

**Why Explainability Matters:**

- **Regulatory requirement**: In many jurisdictions, lenders *must* tell you why you were declined ("adverse action notice")
- **Consumer trust**: People need to understand decisions that affect their lives
- **Model debugging**: Developers need to find and fix errors
- **Fairness auditing**: Regulators need to verify the model is not discriminating

**What an Adverse Action Notice Looks Like:**
*"Your application was declined because of: high debt relative to income, short credit history, and a recent late payment."*

**Explainability Techniques (Conceptual):**

- **Feature importance**: Which inputs matter most *overall*?
- **SHAP values**: How much did each input push *this specific* decision up or down?
- **Partial dependence**: How does changing one input affect the output?
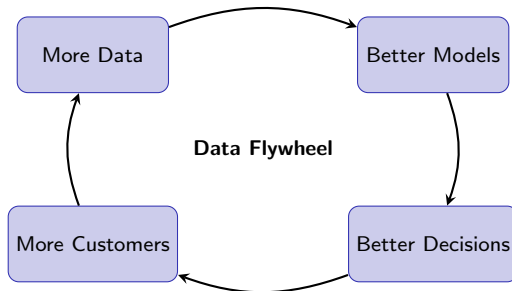
**SHAP in Plain Language:**
Imagine you are splitting a restaurant bill fairly. SHAP assigns each feature its "fair share" of the prediction — showing exactly which factors helped and which hurt.

## The Insight

Explainability is both a regulatory requirement and an ethical imperative. Consumers deserve to understand the decisions that shape their financial lives — and to have a path to challenge those decisions.

# The Data Flywheel

## The Problem

Why do data-rich companies keep getting stronger while newcomers struggle to compete?



**Data Flywheel**

More Data → Better Models → Better Decisions → More Customers → More Data

**How It Works:**

- More data improves model accuracy
- Better models make better lending decisions
- Better decisions attract more customers

## The Insight

First-mover advantage in data creates a compounding moat. Incumbents have more historical data; newer

## Section 2.3 Key Takeaways

1. **Traditional scoring leaves people behind**: Credit scores are powerful but exclude millions of creditworthy people who lack formal credit history
2. **Alternative data expands access**: Bank transactions, rent payments, and employment data can bring excluded people into the credit system
3. **ML improves accuracy but reduces transparency**: Machine learning finds patterns humans miss, but creates "black box" challenges for regulators and consumers
4. **Bias is real and requires active mitigation**: Historical discrimination gets encoded in data; proxy variables can circumvent legal protections; good intentions alone do not prevent harm
5. **Explainability is non-negotiable**: Consumers have a right to know why they were denied credit — this is both a legal requirement and an ethical imperative

### Coming Up: Notebook NB04

Build a credit scoring model with alternative data. See how feature selection affects outcomes and probe for potential bias.
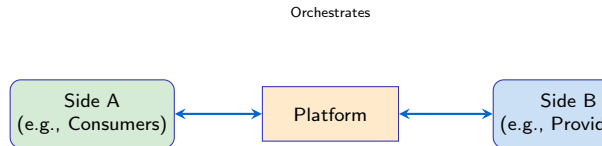
# Platform Economics

## The Problem

What makes a platform fundamentally different from a traditional business?

**The Concept:**
A **platform** is a business that creates value by facilitating exchanges between two or more interdependent groups.

**Key Characteristics:**

- Two or more distinct user groups
- Each group needs the other to participate
- The platform orchestrates and facilitates their interaction
- Value is created by the participants, not the platform itself

Orchestrates

| Side A (e.g., Consumers) | Platform | Side B (e.g., Provid |
| --- | --- | --- |

## The Insight

Platforms don't own the means of production — they own the means of **connection**. This is a fundamentally different source of power.

## The Problem

Why does a payment network become more useful as more people join it?

**Direct (Same-Side) Network Effects:**
More users on the same side makes the platform more valuable for everyone on that side.

*Example*: A peer payment app — the more of your friends who use it, the more useful it is to you.

**Indirect (Cross-Side) Network Effects:**
More users on Side A makes the platform more attractive to Side B, and vice versa.

*Example*: The more cardholders a card network has, the more merchants want to accept it — and vice versa.

**What is an Externality?**
When your action affects others who didn't choose to be affected. Network effects are a *positive externality* — each new user makes the platform better for all existing users.

## The Insight

Each new user adds value for *all* existing users — this is what makes platforms so powerful and why they invest so heavily in early growth.
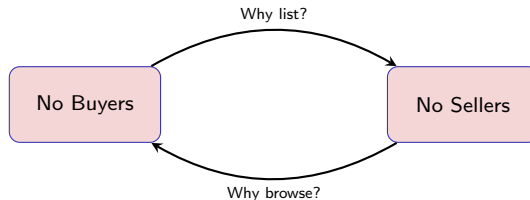
## Critical Question

Does this company have **real** network effects, or just **growth**?

*Growth without network effects is just expensive customer*

## The Problem

How do you launch a platform when each side needs the other to exist first?



**Death Spiral**

**Three Launch Strategies:**

**Subsidize One Side**
One early payment platform famously paid new users to join — absorbing losses to reach critical mass quickly.

**Single-Player Mode**
Make the product useful even without a network — e.g., an app that tracks expenses alone but becomes more powerful when friends join.

**Seed Supply**
Create initial supply yourself or partner with existing providers so the platform has value from day one.

## The Problem

Why do some markets end up with one dominant player while others sustain healthy competition?

**The Concept:**
A market "tips" toward a single dominant player when three conditions align:

1. **Strong network effects** — each new user significantly increases value for all
2. **High switching costs** — it is expensive or difficult to move to a competitor
3. **Low multi-homing** — users find it impractical to use multiple platforms

**Key Distinction:**
- **Winner-take-all**: One company captures nearly the entire market
- **Winner-take-most**: A dominant player emerges but competition survives at the margins

**FinTech Examples:**
- **Tips**: Card networks — strong network effects, high switching costs for merchants
- **Does not tip**: Neobanks — low switching costs, easy to hold multiple accounts

## The Insight

Not all markets tip — understanding *when* they do is the key to evaluating any FinTech investment. The conditions must all be present simultaneously.

## Key Question

Does this FinTech's market have the conditions to tip, or will competition persist?

# Revenue Models in FinTech

## The Problem

How do FinTechs actually make money, especially when many products appear "free"?

**Transaction-Based:**
- A small percentage of each transaction plus a flat fee
- Interchange revenue from card spending
- Foreign exchange markups on currency conversion

**Subscription:**
- Premium tiers with additional features
- Business-to-business software-as-a-service
- Membership models with bundled services

**Interest and Float:**
- Earning interest on customer deposits held temporarily
- Lending margin: borrow at a low rate, lend at a higher rate
- Holding funds in transit and earning interest on the "float"

**Data and Ecosystem:**
- Selling order flow to market makers
- Cross-selling additional products to existing customers
- Licensing aggregated, anonymized insights

## The Insight

The most resilient FinTechs combine multiple revenue streams. Dependence on a single source creates vulnerability — especially if regulators restrict it.

# Unit Economics: The Health Check

## The Problem

How do you tell if a fast-growing company is actually healthy — or just burning money?

**Key Concepts (No Math Required):**

- **CAC** (Customer Acquisition Cost): How much you spend to get one new customer
- **LTV** (Lifetime Value): Total revenue expected from one customer over their entire relationship
- **Payback Period**: How long until a customer "pays back" their acquisition cost
- **Churn**: The rate at which customers leave

**The Core Question:**
Does each customer eventually pay back *more* than it cost to acquire them?

**Healthy vs. Unhealthy:**

- Lifetime value should be **several times** the acquisition cost
- Payback should happen within a **reasonable timeframe**
- Churn should be **low enough** that customers stay long enough to generate returns

## FinTech CAC Challenges

- Trust is required for financial products
- Regulatory constraints limit marketing channels
- High-intent keywords are expensive
- Referral programs can be costly

## The Insight

# Venture Subsidies: Real Growth or Fake Economics?

## The Problem

If a product is free or extremely cheap, is the demand real — or artificial?

**The Blitzscaling Playbook:**

1. Raise large amounts of venture capital
2. Use it to subsidize user acquisition (below-cost pricing, free products, sign-up bonuses)
3. Grow at all costs to reach critical mass
4. Achieve network effects and lock-in
5. Raise prices once dominant

**When This Works:**

- The market truly tips (winner-take-most)
- Network effects create lasting value
- Switching costs prevent users from leaving when prices rise

## When It Doesn't Work

- Multi-homing prevents lock-in
- No real network effects to capture
- Regulation prevents pricing power
- Competition never stops — multiple players survive indefinitely
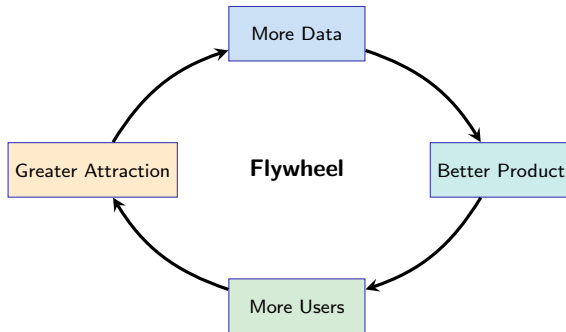
## The "Remove Subsidies" Test

**Ask**: Would customers stay at *sustainable* prices?
**Test**: Mentally remove the subsidies — what happens to demand?
**If demand collapses**: The growth was artificial.

## The Problem

Why do data-rich platforms keep getting stronger while newcomers struggle to catch up?



**How It Works in FinTech:**
- More transactions generate more data, which improves fraud detection, which reduces false declines, which attracts more merchants, which generates more transactions
- More loan applications improve risk models, which enable more accurate pricing, which attracts better borrowers,

## Discussion: Evaluating FinTech Sustainability

### Framework: Six Questions for Any FinTech

1. Does this FinTech have **real network effects**, or just growth fueled by subsidies?
2. Are the **unit economics healthy** — does each customer pay back more than they cost to acquire?
3. Are **switching costs** high enough to retain users when prices rise?
4. Does the **data advantage** compound over time via a flywheel?
5. Can incumbents **easily copy this** — or is there a lasting moat?
6. Will **regulation** help or hurt the company long-term?

**Discussion Exercise:**
Think about a financial app you use regularly. Apply these six questions:

- What would happen if the app raised its prices significantly?
- Could you easily switch to an alternative? Would you?
- Does the app get better the more people use it, or is the experience the same regardless?

*There are no wrong answers — the goal is to practice the framework.*

## Section 2.4 Key Takeaways

1. **Platforms create value differently**: They orchestrate exchanges rather than produce goods — the most powerful FinTechs are platforms, not pipelines
2. **Network effects are the goal, but not guaranteed**: Not every FinTech has real network effects — growth without them is just expensive customer acquisition that evaporates when subsidies end
3. **Winner-take-most requires specific conditions**: Strong network effects combined with high switching costs and low multi-homing — without all three, competition persists
4. **Unit economics determine sustainability**: Lifetime value should be several times the acquisition cost — venture subsidies mask reality until funding stops
5. **Multiple moats beat single advantages**: The strongest FinTechs combine network effects, data flywheels, switching costs, and regulatory positioning

### Core Skill

Always ask: "Would this business work at *sustainable* prices without subsidies?"

## Day 2 Summary: Platform Finance

**What We Covered:**

1. **Digital Payments**
   - Four-layer payment stack
   - Speed vs. protection tradeoffs
   - Real-time rails reshaping competition

2. **API Economy & BaaS**
   - APIs unbundled banking
   - Open banking regulation
   - Embedded finance as the frontier

3. **Data-Driven Finance**
   - Alternative data expands access
   - ML vs. explainability tension
   - Algorithmic bias is real

4. **Platform Economics**
   - Network effects drive dominance
   - Unit economics determine sustainability
   - Data flywheels compound advantages

### Notebooks

NB02: Payment Analysis — NB03: Banking API — NB04: Credit Scoring Model

**The Day 2 Arc**: From how money moves (payments) → how infrastructure is shared (APIs) → how decisions are automated (data/ML) → how business models sustain (platforms). Tomorrow: Blockchain, DeFi, and the crypto ecosystem.