

## 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

## 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

## 2.1 Digital Payments – How Money Actually Moves

# How Money Actually Moves

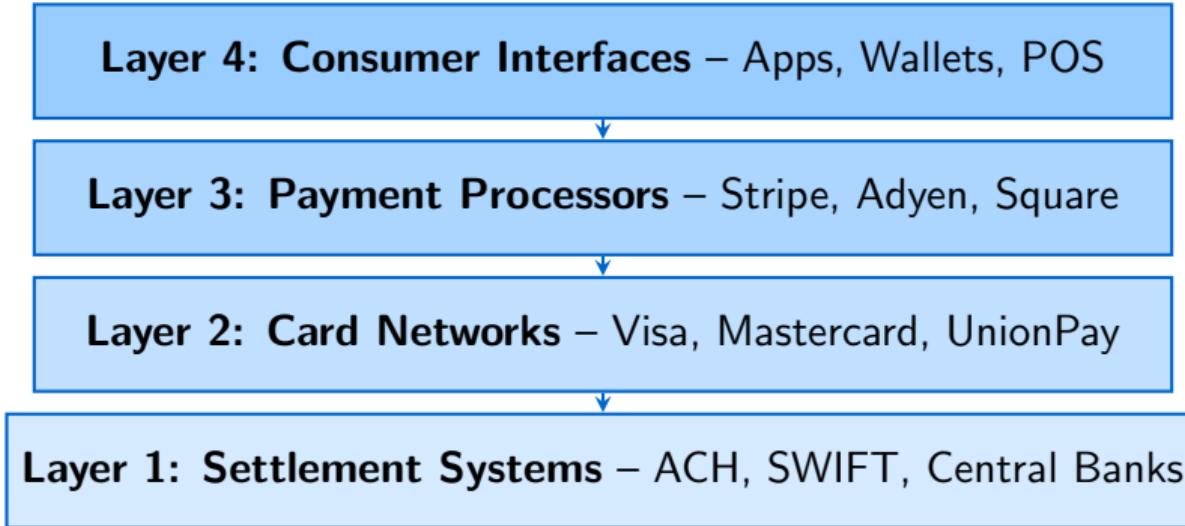
*“Payments are the rails on which all finance travels.”*

### Key Competency

Trace a digital payment from initiation to settlement and identify where value is captured at each layer.

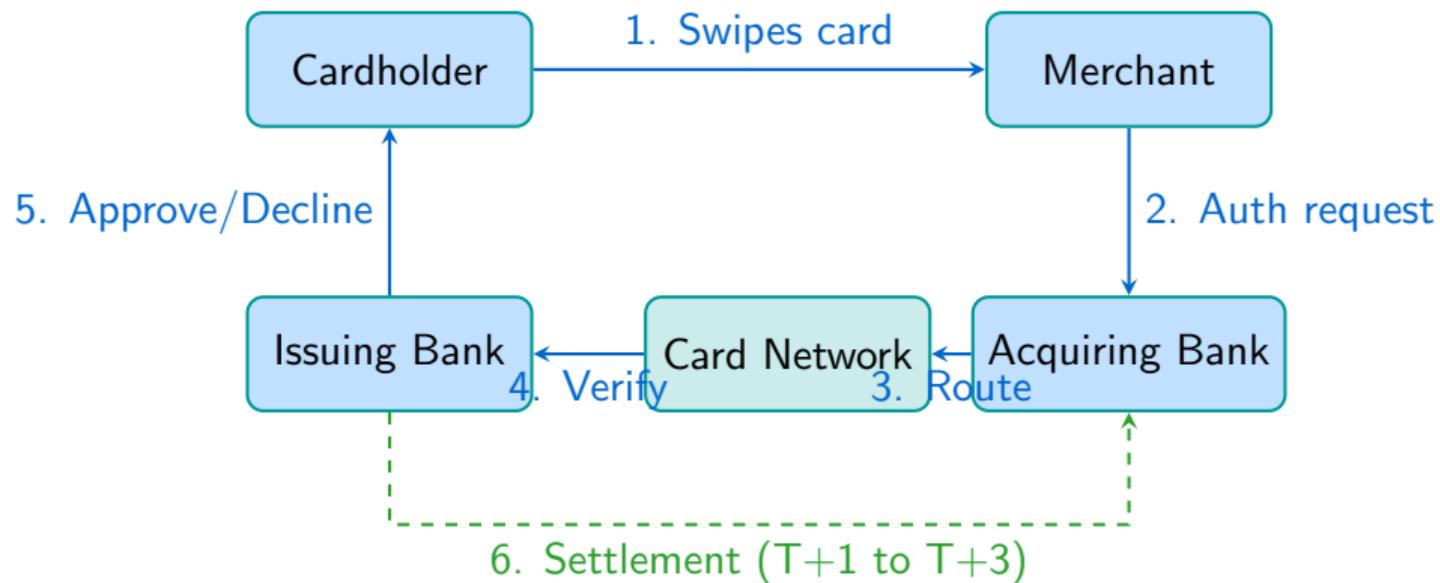
### Hands-on: Notebook NB02 – Payment Transaction Data Analysis

# The Payment Stack: Four Layers



- Each layer extracts fees and adds latency
- FinTech disruption targets specific layers
- Understanding the stack reveals where value is captured

# Card Payment Flow: The Four-Party Model



**Key insight:** Authorization is real-time (<2 seconds), but settlement is batch (1-3 days)

# Interchange Economics: Who Pays What

## Fee Breakdown (Typical US Card Transaction):

- **Interchange:** 1.5-2.5% → Issuing bank
- **Assessment:** 0.13-0.15% → Card network
- **Processor markup:** 0.1-0.5% → Payment processor

**Total: 2.0-3.5%** of transaction value

## Why So Expensive?

- Fraud liability shift
- Reward program funding
- Network effects protection
- Regulatory capture

## EU vs US Comparison

EU interchange capped at 0.2% (debit) / 0.3% (credit) by regulation.  
US averages 2.2% – **10x higher.** Why the difference?

## Payment Methods: Speed vs Cost Matrix

Method	Settlement	Cost	Reversibility
Wire Transfer (SWIFT)	1-5 days	\$15-50 flat	Difficult
ACH (US)	1-3 days	\$0.20-1.50	Reversible (60 days)
Card (Visa/MC)	1-3 days	2-3%	Chargeback rights
SEPA (EU)	Same day	<0.20	Limited
Real-Time (FedNow/PIX)	Seconds	\$0.01-0.05	Final
Crypto (Bitcoin)	10-60 min	Variable	Final
Stablecoins	Seconds-minutes	\$0.01-5	Final

**Key tradeoff:** Speed and finality vs. consumer protection (reversibility)

# Real-Time Payment Systems: Global Adoption

## Live Systems (2024):

- **PIX (Brazil)**: 150M+ users, 3B+ txns/month
- **UPI (India)**: 300M+ users, 10B+ txns/month
- **FPS (UK)**: 4B+ txns/year
- **FedNow (US)**: Launched 2023
- **TIPS (EU)**: Euro-wide instant

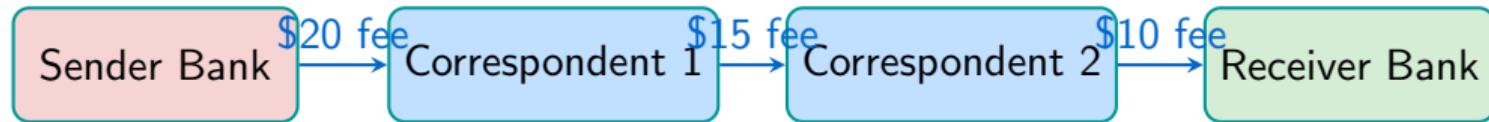
### Impact on FinTech

- Commoditizes payment rails
- Threatens card networks
- Enables new business models
- Government as infrastructure provider

## Strategic Question

If real-time payments are nearly free, where does payment FinTech capture value?

# Cross-Border Payments: The \$150 Trillion Opportunity



**Traditional:** 3-5 days, \$45+ fees

## FinTech Solutions:

### Wise (TransferWise)

Peer-matching + local rails  
70% cheaper

### Ripple/XRP

Blockchain settlement  
Seconds, not days

### Stablecoin Rails

USDC on-chain transfers  
24/7 settlement

# Payment Failures: Understanding the Funnel

## Where Payments Fail:

1. **Insufficient funds:** 30-40%
2. **Fraud blocks:** 20-25%
3. **Network timeouts:** 10-15%
4. **Card expired:** 10-15%
5. **3DS abandonment:** 10-15%
6. **Other:** 5-10%

### Business Impact

- Average decline rate: **15-20%**
- Each 1% improvement = significant revenue
- “False positives” (good txns blocked) cost more than fraud

## Notebook NB02 Exercise

Analyze payment transaction data to identify failure patterns, calculate true costs of declines vs. fraud, and optimize acceptance rates.

# FinTech Payment Innovators: Business Model Analysis

Company	Innovation	Revenue Model
Stripe	Developer-first APIs, embedded finance	2.9% + \$0.30 per txn
Square/Block	Hardware + software bundle, SMB focus	2.6% + \$0.10 per txn
Adyen	Single platform, enterprise	Interchange++ (transparent)
PayPal	Two-sided network, checkout	3.49% + \$0.49 per txn
Wise	Mid-market FX, transparency	0.5-2% of transfer
Plaid	Account connectivity	Per-API-call pricing

**Key insight:** Most FinTechs are *layers on top of* traditional rails, not replacements

# Buy Now Pay Later (BNPL): Disrupting Card Credit

## How BNPL Works:

1. Consumer selects BNPL at checkout
2. BNPL provider pays merchant (minus fee)
3. Consumer repays in 4 installments
4. No interest (if on-time)

**Key Players:** Klarna, Affirm, Afterpay, PayPal Pay in 4

## Revenue Sources

- Merchant fees: 4-8% (higher than cards!)
- Late fees: \$7-10 per missed payment
- Interest on longer-term loans

## Risks

- Credit losses (no traditional underwriting)
- Regulatory scrutiny increasing
- Consumer debt concerns

## Section 2.1 Key Takeaways

1. **Payments are multi-layered:** Consumer interfaces, processors, networks, settlement
2. **Speed vs. protection tradeoff:** Faster payments = less reversibility
3. **Interchange is the prize:** Most value captured by issuing banks
4. **Real-time rails commoditizing:** Government infrastructure threatens card networks
5. **Cross-border is broken:** Huge FinTech opportunity
6. **Most FinTechs are layers:** Building on, not replacing, traditional infrastructure

### Coming Up: Notebook NB02

Analyze real payment transaction data – fees, settlement times, failure rates, and optimization opportunities.

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

### How Non-Banks Offer Financial Services

*“APIs are the technical mechanism that enabled FinTech unbundling.”*

#### Key Competency

Explain how APIs enable non-banks to offer financial services and interact with a simulated banking API.

#### Hands-on: Notebook NB03 – Open Banking API Simulation

# What is an API? (Application Programming Interface)

## Non-Technical Definition:

- A **contract** between software systems
- Defines what you can **request** and what you'll **receive**
- Like a restaurant menu: limited options, standardized format

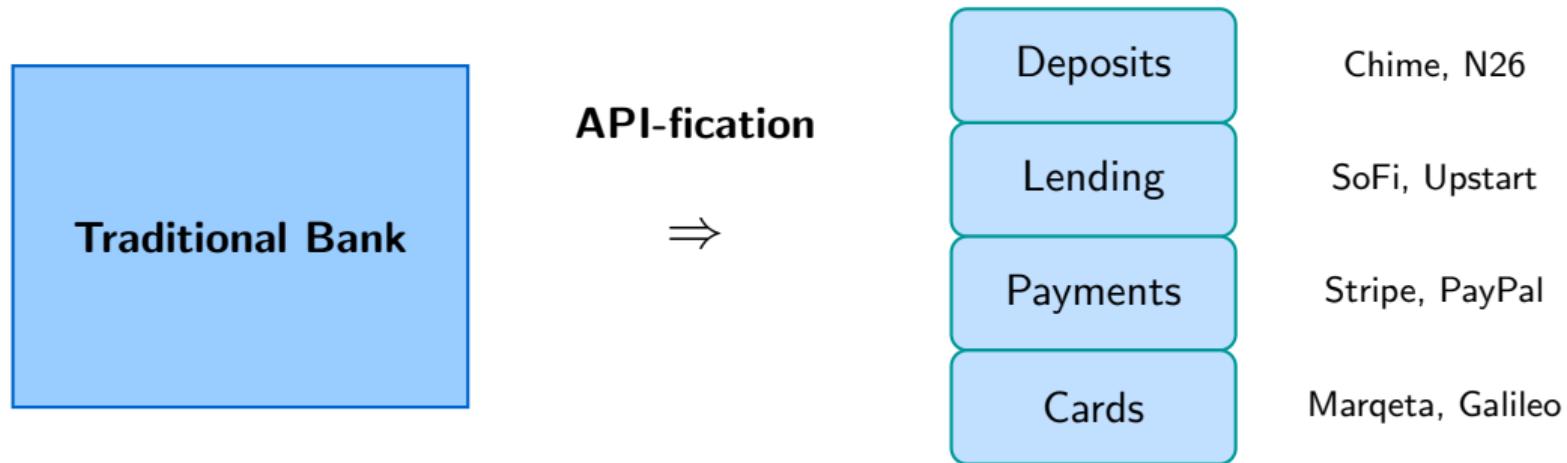
## Banking API Example:

```
1 Response "account;d" :"123","balance" :  
5420.50,"currency" :"USD"
```

## Why APIs Matter for Finance

- **Unbundling:** Break banks into components
- **Speed:** Integration in days, not months
- **Innovation:** Startups access banking infrastructure
- **Competition:** Level playing field

# The Unbundling of Banking



**Result:** Hundreds of non-bank companies offer financial products without banking licenses

# Open Banking Regulation: Forcing the Change

## PSD2 (Europe, 2018):

- Banks **must** provide APIs
- Third parties can access account data (with consent)
- Third parties can initiate payments
- Creates AISPs and PISPs

## UK Open Banking (2018):

- CMA-mandated for 9 largest banks
- Standardized API specifications
- Stricter than PSD2

## US Approach (2023+):

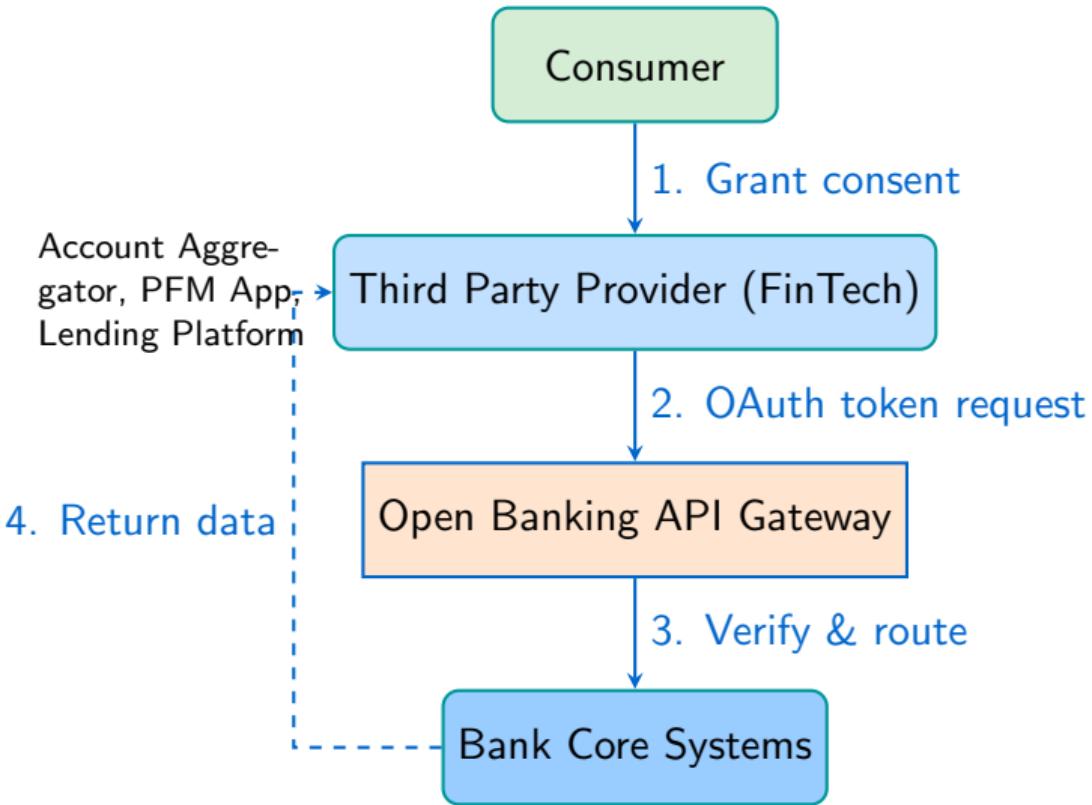
- CFPB Section 1033 rules
- Market-driven (Plaid, Finicity)
- No mandated standards yet
- Screen-scraping still common

### Key Difference

Europe: **Regulated** open banking

US: **Market-driven** data sharing

# Open Banking Architecture

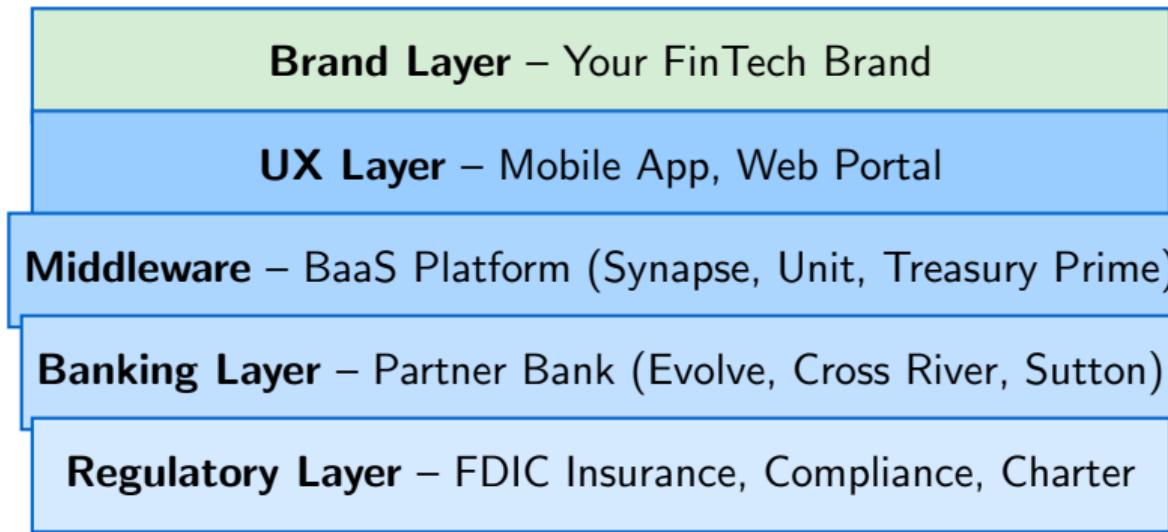


# API Types in Financial Services

API Type	Function	Providers
<b>Account Information</b>	Read balances, transactions	Plaid, Tink, Yodlee
<b>Payment Initiation</b>	Trigger bank transfers	TrueLayer, Token.io
<b>Card Issuance</b>	Create virtual/physical cards	Marqeta, Galileo
<b>Lending</b>	Originate, service loans	Blend, Amount
<b>KYC/Identity</b>	Verify customer identity	Onfido, Jumio
<b>Core Banking</b>	Full ledger functionality	Thought Machine, Mambu

**Key insight:** You can now assemble a “bank” from API components without building anything yourself

# Banking-as-a-Service (BaaS): The Full Stack



**FinTech builds top two layers; rents the rest**

# BaaS Business Model: Who Earns What

## Revenue Split (Typical):

- **FinTech brand:** Customer acquisition, UX
  - Keeps: 40-60% of interchange
  - Earns: Subscription fees, interest spread
- **BaaS platform:** Technology, compliance
  - Takes: 10-20% of interchange
  - Plus: Per-account fees (\$1-3/month)
- **Partner bank:** Charter, FDIC
  - Takes: 20-40% of interchange
  - Plus: Interest on deposits

## Economics Example

**Customer spends \$1,000/month on card**

Interchange: \$15-20 generated

FinTech brand	\$8-10
BaaS platform	\$2-3
Partner bank	\$5-7

## Regulatory Risk

2022-2023: Multiple BaaS partner banks under consent orders. FinTechs exposed to

# Embedded Finance: Beyond FinTech

## Definition:

Financial services integrated into non-financial platforms and experiences

## Examples:

- **Shopify Balance:** Banking for merchants
- **Uber Wallet:** Driver payments
- **Amazon Lending:** Seller financing
- **Apple Card:** Tech-integrated credit
- **Toast Capital:** Restaurant loans

## Why Non-Banks Win

- **Distribution:** Already have customers
- **Data:** Know customer behavior
- **Context:** Offer finance at moment of need
- **Trust:** Existing brand relationship

**Prediction:** “Every company will become a FinTech” (a]16z, 2020)

## OAuth 2.0 Flow:

1. User grants consent on bank site
2. Bank issues authorization code
3. FinTech exchanges code for token
4. Token used for API calls
5. Token expires; refresh required

## Why OAuth?

- User never shares password with FinTech
- Granular permissions (scopes)
- Revocable access

## API Security Challenges

- **Screen scraping:** Still used (user shares password)
- **Token theft:** Single point of failure
- **Rate limiting:** Prevents abuse
- **Consent management:** User often forgets what they authorized

# API Call Example: Account Balance

```
1 import requests
2
3 # Authentication
4 headers = {
5     "Authorization": "Bearer eyJ0eXAiOiJKV1QiLCJhbGc...",
6     "Content-Type": "application/json"
7 }
8
9 # API Call
10 response = requests.get(
11     "https://api.bank.com/v1/accounts/123456/balance",
12     headers=headers
13 )
14
15 # Response
16 {
17     "account_id": "123456",
18     "available_balance": 5420.50,
19     "current_balance": 5520.50,
20     "currency": "USD",
21     "as_of": "2024-01-15T10:30:00Z"
22 }
```

# Data Aggregators: Plaid and the US Model

## How Plaid Works:

1. User authenticates via Plaid Link
2. Plaid connects to 12,000+ institutions
3. Returns standardized data (transactions, balances)
4. FinTech never sees bank credentials

## Plaid Revenue Model:

- Per-connection fees: \$0.25-3.00/user/month
- Per-API-call pricing for some products
- Identity verification add-ons

## Market Position

- 8,000+ FinTech customers
- 1 in 3 US adults connected
- Visa acquisition blocked (\$5.3B, 2021)
- Valued at \$13B (2021)

## Challenge

Banks increasingly resist screen-scraping; want FinTechs to use official APIs

**Key insight:** Each layer adds value (standardization, compliance, UX) and captures margin

## Section 2.2 Key Takeaways

1. **APIs unbundled banking:** Any service can be offered separately
2. **Regulation varies:** EU mandated open banking; US market-driven
3. **BaaS enables non-banks:** Rent a charter, build only what differentiates
4. **Embedded finance is the future:** Every platform becomes financial
5. **Security is OAuth-based:** No password sharing, granular consent
6. **Aggregators are middleware:** Standardize across thousands of banks

### Coming Up: Notebook NB03

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

## 2.3 Data-Driven Finance – Lending, Scoring, and Algorithmic Decisions

### Lending, Scoring, and Algorithmic Decision-Making

*“Data and algorithms are how FinTech platforms price risk differently from banks.”*

#### Key Competency

Explain how alternative data and ML models change credit decisions, and identify potential sources of algorithmic bias.

#### Hands-on: Notebook NB04 – Building a Credit Scoring Model

# Traditional Credit Scoring: FICO and Its Limits

## FICO Score Components:

- Payment history: 35%
- Amounts owed: 30%
- Length of credit history: 15%
- New credit: 10%
- Credit mix: 10%

Score Range: 300-850

“Prime”: 670+

“Subprime”: <670

The opportunity: Millions of creditworthy people excluded by traditional scores

## Limitations

- **45M credit invisible:** No score at all
- **Thin file:** Too little history
- **Stale data:** Updated monthly
- **No income data:** Just credit behavior
- **Backward-looking:** Past predicts future?

# Alternative Data: Beyond the Credit Bureau

Data Type	Signal	Used By
Bank transactions	Cash flow, spending patterns	Plaid, Petal
Rent payments	Payment reliability	Experian Boost
Utility bills	Consistent payments	FICO XD
Employment/payroll	Income stability	Argyle, Pinwheel
Social media	Network, behavior	(controversial)
Device/browser data	Fraud signals	Socure, Sardine
Education history	Future earning potential	Upstart
Shopping behavior	Financial responsibility	Affirm

**Key tension:** More data → better predictions → privacy concerns

## Traditional (Logistic Regression):

- Linear combinations of features
- Easy to interpret (coefficients)
- Required by some regulations
- Limited to known relationships

## ML Models (XGBoost, Neural Nets):

- Non-linear relationships
- Feature interactions automatic
- Higher predictive accuracy
- “Black box” interpretability issues

### Accuracy Improvement

ML models can improve:

- Default prediction: 15-25%
- Approval rates: 10-20% more
- Loss rates: 10-15% lower

**Upstart claim:** 27% more approvals at same loss rate

## Key Decisions at Each Stage

- **Data:** What sources? Privacy implications?
- **Features:** What transformations? What to exclude?
- **Model:** Accuracy vs. interpretability?
- **Decision:** Cutoffs, pricing tiers, human review?

# Feature Engineering Example

```
1 # Raw transaction data
2 transactions = [
3     {"date": "2024-01-15", "amount": -1200, "category": "rent"}, 
4     {"date": "2024-01-14", "amount": 3500, "category": "payroll"}, 
5     {"date": "2024-01-10", "amount": -45, "category": "food"}, 
6     ...
7 ]
8
9 # Engineered features
10 features = {
11     "avg_monthly_income": 3500,
12     "income_volatility": 0.05,          # Low = stable
13     "rent_to_income_ratio": 0.34,       # Below 0.4 = good
14     "days_since_overdraft": 180,        # Higher = better
15     "recurring_payment_count": 12,       # Shows organization
16     "gambling_transaction_flag": 0,      # Red flag if present
17 }
```

**Notebook NB04: Engineer features from transaction data and see how they affect model predictions**

# Algorithmic Bias: The Dark Side

## Sources of Bias:

1. **Historical data:** Past discrimination encoded
2. **Proxy variables:** ZIP code  $\approx$  race
3. **Sample bias:** Training on existing customers
4. **Feature selection:** Human choices embedded

## Legal Framework (US):

- ECOA: No discrimination by protected class
- Disparate impact: Unintentional bias illegal

### Apple Card Investigation (2019)

Same household, shared finances:

**Husband:** \$20,000 limit

**Wife:** \$200 limit

Algorithm couldn't explain why.  
NY DFS investigation followed.

### Testing for Bias

- Demographic parity
- Equal opportunity
- Calibration across groups

# Explainability: The Interpretability Challenge

## Why Explainability Matters:

- Regulatory requirement (adverse action)
- Consumer trust
- Model debugging
- Fairness auditing

## Explainability Techniques:

- SHAP values
- LIME (local explanations)
- Feature importance
- Partial dependence plots

### Adverse Action Example

"Your application was declined because:

1. High credit utilization (78%)
2. Short credit history (2 years)
3. Recent late payment (30+ days)
4. High number of inquiries (6)

"

**Challenge:** ML models may not map cleanly to these reasons

# FinTech Lenders: Business Models

Company	Model	Data Edge	Unit economics	Eco-
<b>Upstart</b>	AI underwriting	Education, employment	em- 25% losses	lower
<b>SoFi</b>	Member ecosystem	Product usage		Cross-sell
<b>Affirm</b>	POS lending	Purchase behavior		Merchant fees
<b>LendingClub</b>	Marketplace	Platform data		Origination fees
<b>Kabbage</b>	SMB lending	Accounting data		Higher rates

**Key insight:** FinTech lenders compete on *data advantage*, not cost of capital

## Insurance (Insurtech):

- Telematics (driving behavior)
- IoT sensors (home/health)
- Claims fraud detection
- Dynamic pricing

## Investment (Robo-advisors):

- Risk profiling algorithms
- Automated rebalancing
- Tax-loss harvesting
- Goal-based allocation

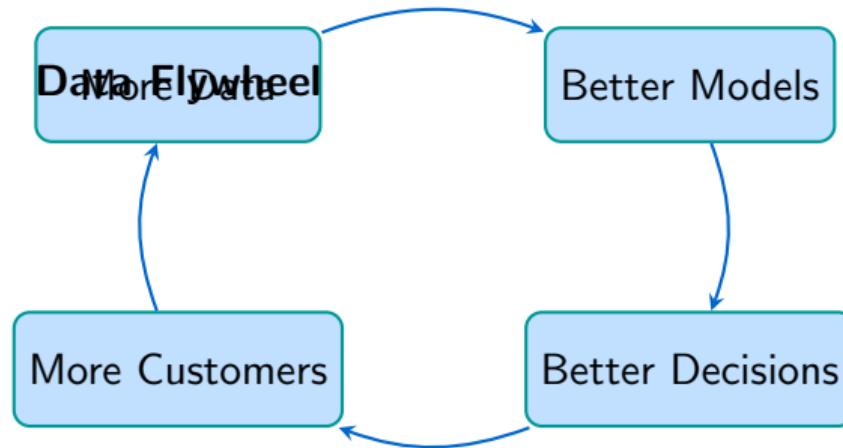
## Fraud Detection:

- Real-time transaction scoring
- Behavioral biometrics
- Device fingerprinting
- Network analysis

## AML/KYC:

- Identity verification
- Document analysis (OCR)
- PEP/sanctions screening
- Suspicious activity patterns

# The Data Flywheel



**Implication:** First-mover advantage in data creates compounding moat

**Challenge:** Incumbents have more historical data; FinTechs have more diverse data

# Regulatory Landscape for ML in Credit

## US Framework:

- **ECOA:** Fair lending
- **FCRA:** Credit reporting
- **CFPB:** Model risk guidance
- **OCC/Fed:** SR 11-7 model risk

## EU Framework:

- **GDPR:** Right to explanation
- **AI Act:** High-risk use case
- **EBA Guidelines:** ML in credit

## Emerging Requirements

- Model documentation
- Bias testing requirements
- Human-in-the-loop mandates
- Algorithmic audits

**Trend:** Regulation catching up to ML adoption

## Section 2.3 Key Takeaways

- 1. Traditional scoring excludes millions:** FICO misses credit-invisible
- 2. Alternative data expands access:** Bank transactions, rent, employment
- 3. ML improves accuracy:** 15-25% better default prediction
- 4. Bias is real and dangerous:** Historical discrimination encoded
- 5. Explainability is required:** Regulatory and ethical imperative
- 6. Data creates moats:** Flywheel effect compounds advantage

### Coming Up: Notebook NB04

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

## 2.4 Platform Economics – Network Effects and FinTech Business Models

# Network Effects, Winner-Take-Most, and FinTech Business Models

*“Understanding platform economics is essential for evaluating which innovations are sustainable vs. venture-subsidized.”*

### Key Competency

Analyze a FinTech business model and assess its sustainability using platform economics concepts.

**Discussion-based session: Applying frameworks to real FinTech cases**



## b0.5 Direct Network Effects:

More users → more value for each user

*Example:* Venmo – more friends = more utility

## Indirect (Cross-Side) Network Effects:

More users on Side A → more value for Side B

*Example:* More Visa cardholders → merchants want to accept Visa

## Implication:

Doubling users quadruples value

```
bnobuyers)[blockchain, fill = dfred!20]NoBuyers; (nosellers)[blockchain, rightof =  
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[arrow, bend left=30] (nobuyers)tonode[above]Whylist?(nosellers); [arrow, bendleft =  
30](nosellers)tonode[below]Whybrowse?(nobuyers);  
[below of=nobuyers, xshift = 3cm, yshift = 1cm]Death Spiral;
```

## Platform Launch Strategies:

### Subsidize one side

PayPal paid users \$10 to sign up

### Single-player mode

Venmo: useful even alone (payment tracking)

### Fake it

Dating apps seeded with fake profiles

# Winner-Take-Most Dynamics

## When Markets Tip:

- Strong network effects
- High multi-homing costs
- Standardization benefits
- Data advantages compound

## FinTech Examples:

- Payments: Visa/MC duopoly
- Stock trading: NYSE dominance
- Crypto: ETH for smart contracts

**Key question:** Does this FinTech's market tip, or does competition persist?

## Multi-Homing Prevents Tipping

When users easily use multiple platforms:

- Less lock-in
- Competition persists
- Margins compress

**Example:** Drivers on Uber AND Lyft

# FinTech Business Model Canvas

Element	Questions	Examples
<b>Value Proposition</b>	What pain point? Better than alternatives how?	Speed, cost, access, UX
<b>Revenue Model</b>	Transaction fees? Subscription? Spread? Data?	2.9% + \$0.30, \$10/mo
<b>Cost Structure</b>	CAC? Infrastructure? Regulatory?	Marketing, cloud, compliance
<b>Network Effects</b>	Direct? Indirect? Data flywheel?	User-to-user, merchant-consumer
<b>Moat</b>	What prevents competition?	Switching costs, data, regulatory
<b>Scalability</b>	Marginal cost of growth?	Near-zero (software) vs. human-dependent

## Transaction-Based:

- **Interchange:** Card-based revenue
- **Spread:** Bid-ask, FX markup
- **Percentage fees:** 2.9% of payment
- **Flat fees:** \$0.30 per transaction

## Subscription:

- **Premium features:** Robinhood Gold
- **B2B SaaS:** Stripe Atlas
- **Membership:** Amazon Prime

## Interest/Float:

- **Deposit spread:** Earn 5%, pay 1%
- **Lending margin:** Borrow low, lend high
- **Float:** Hold funds, earn interest

## Data/Ecosystem:

- **PFOF:** Payment for order flow
- **Cross-sell:** Land and expand
- **Data licensing:** Aggregate insights

# Case Study: Robinhood's Business Model

## Value Proposition:

Commission-free trading, gamified UX, fractional shares

## Revenue Breakdown (2023):

- PFOF: 50%
- Net interest: 35%
- Gold subscriptions: 10%
- Other: 5%

## Network Effects:

Weak – no user-to-user interaction

## PFOF Controversy

Robinhood sells order flow to market makers (Citadel).

**Critics:** Conflict of interest – whose interests first?

**Defense:** Still best execution; users get “free”

## Sustainability?

- PFOF may be banned (EU did)
- Rising rates helped interest income
- Switching costs are low

# Case Study: Stripe's Business Model

## Value Proposition:

Developer-first payment infrastructure; “7 lines of code”

## Revenue Model:

- 2.9% + \$0.30 per transaction
- Plus products: Radar, Atlas, Connect
- Volume discounts for enterprise

## Moat:

- Developer lock-in (integration effort)
- Product breadth (one vendor)
- Brand in tech community

## Platform Strategy

**Land:** Simple payments API

**Expand:** Billing, fraud, treasury, identity, lending

**Lock-in:** Deep integration, switching cost

## Network Effects:

- Indirect: More merchants → better fraud models
- Data flywheel: Scale improves ML
- Developer ecosystem: Third-party tools

# Venture Subsidies: Real Growth or Fake Economics?

## The Blitzscaling Playbook:

1. Raise venture capital
2. Subsidize user acquisition
3. Grow at all costs
4. Achieve network effects
5. Raise prices once dominant

## Examples:

- Uber: Years of subsidized rides
- DoorDash: Negative unit economics
- BNPL players: Free credit

## When It Doesn't Work

- Multi-homing prevents lock-in
- No network effects to capture
- Regulation prevents pricing power
- Competition never stops

## Analysis Framework

**Ask:** Would users stay at *sustainable* prices?

**Test:** Remove subsidies mentally – what happens?

# Unit Economics: CAC, LTV, and Payback

## Key Metrics:

- **CAC:** Customer Acquisition Cost
- **LTV:** Lifetime Value
- **Payback:** Months to recover CAC
- **Churn:** % customers leaving

## Healthy Benchmarks:

- $LTV/CAC > 3x$
- Payback  $< 18$  months
- Churn  $< 5\%$  annual (B2B)

### FinTech CAC Challenges

- Trust required for financial products
- Regulatory constraints on marketing
- High-intent keywords expensive
- Referral programs costly

### Typical FinTech CACs:

Neobank: \$100-300

Trading app: \$50-150

B2B SaaS: \$500-2,000

# Regulation as Moat

## Regulatory Barriers Protect:

- Banking charters (capital requirements)
- Insurance licenses (state-by-state)
- Broker-dealer registration
- Money transmitter licenses

## FinTechs Navigate Via:

- BaaS partnerships (rent a charter)
- Special purpose charters (OCC)
- Industrial loan companies (Utah)
- Regulatory arbitrage

## Regulation as Strategy

Once compliant, regulation becomes **moat**:

- Competitors must also comply
- Time to license = runway
- Relationships with regulators valuable

## Risk

Regulatory capture can flip:

What protects you can also restrict you

## Incumbent Response: Build, Buy, or Partner

Strategy	Pros	Cons
<b>Build</b> (Internal)	Control, integration	Slow, cultural mismatch
<b>Buy</b> (Acquire)	Speed, talent, customers	Expensive, integration risk
<b>Partner</b> (API/BaaS)	Fast, low commitment	Dependency, margin sharing
<b>Copy</b> (Fast follow)	Proven concept	Behind, no differentiation
<b>Invest</b> (Minority stake)	Option value, intel	Limited control

### Examples:

- **Buy:** JPMorgan acquires InstaMed, WePay, Nutmeg
- **Partner:** Goldman + Apple (Apple Card)

# Discussion: Evaluating FinTech Sustainability

## Framework Questions

1. Does this FinTech have **real network effects**, or just growth?
2. What is the **unit economics** without subsidies?
3. Are **switching costs** high enough to retain users?
4. Does the **data advantage** compound over time?
5. Can incumbents **copy this** easily?
6. Will **regulation** help or hurt long-term?

**Discussion Exercise:** Apply this framework to Chime, Klarna, or Revolut

## Section 2.4 Key Takeaways

- 1. Platforms create value differently:** Orchestration, not production
- 2. Network effects are the goal:** But not every FinTech has them
- 3. Winner-take-most requires conditions:** Multi-homing prevents tipping
- 4. Revenue models vary widely:** Transaction, subscription, spread, data
- 5. Venture subsidies mask reality:** Ask what happens at sustainable prices
- 6. Regulation can be moat or barrier:** Depends on strategic positioning

### Day 2 Complete

From payment mechanics → API infrastructure → ML intelligence → platform economics.

Tomorrow: Blockchain, DeFi, and the crypto ecosystem.

# Day 2 Summary: Platform Finance

## What We Covered:

### 1. Digital Payments

- Four-layer stack
- Interchange economics
- Real-time payment revolution

### 2. API Economy & BaaS

- Banking unbundling
- Open banking regulation
- Embedded finance

### 3. Data-Driven Finance

- Alternative data
- ML credit scoring
- Algorithmic bias

### 4. Platform Economics

- Network effects
- Business model analysis
- Sustainability assessment

## Notebooks

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