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

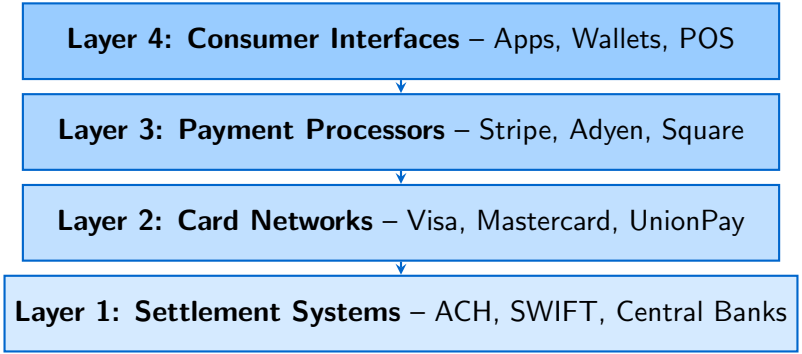
"Payments are the rails on which all finance travels."

Key Competency

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

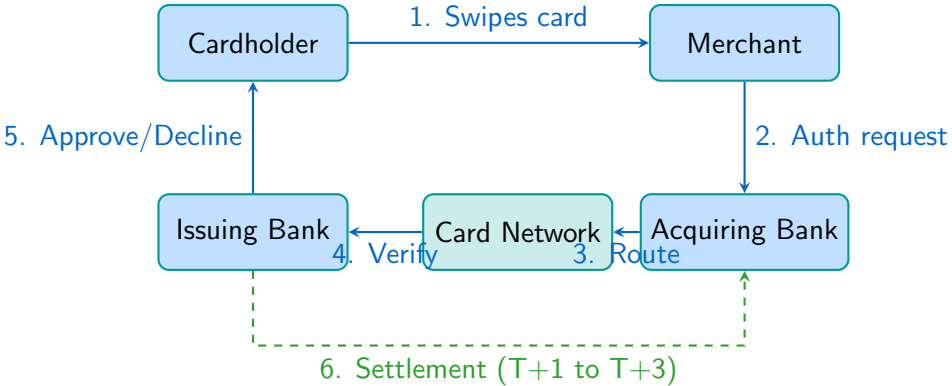
Hands-on: Notebook NB02 – Payment Transaction Data Analysis

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

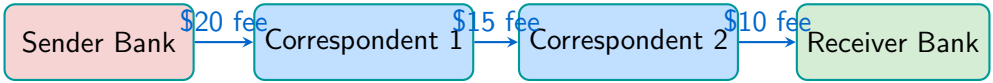
Impact on FinTech

- 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

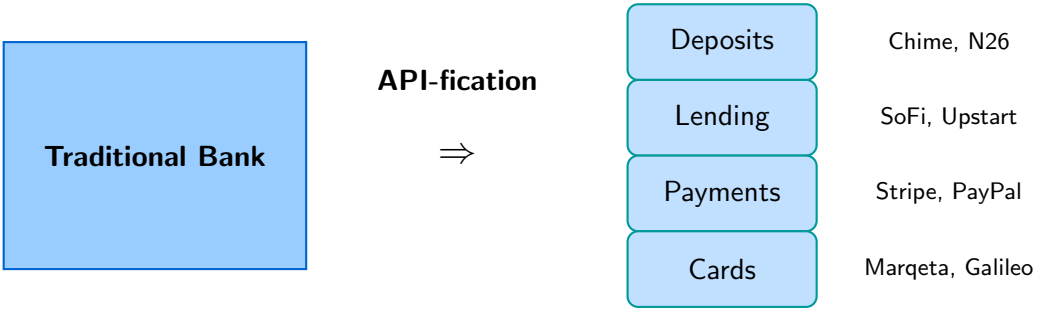
Banking API Example:

```
Response  "account_id" : "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

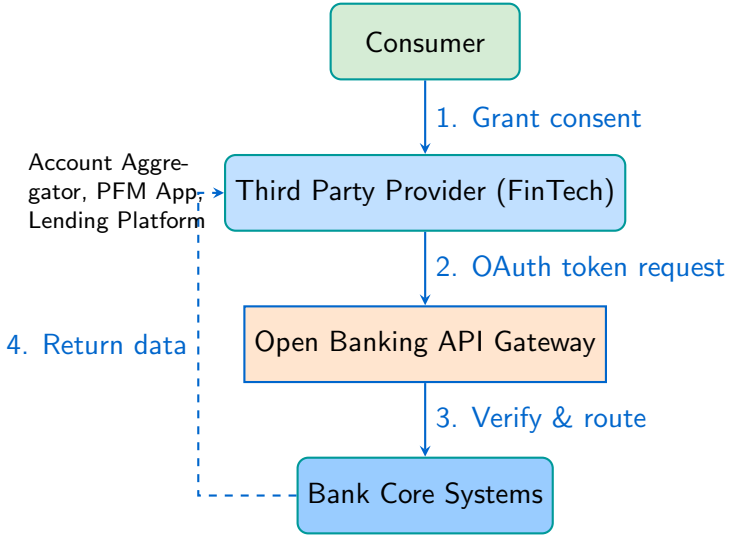
US Approach (2023+):

- 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

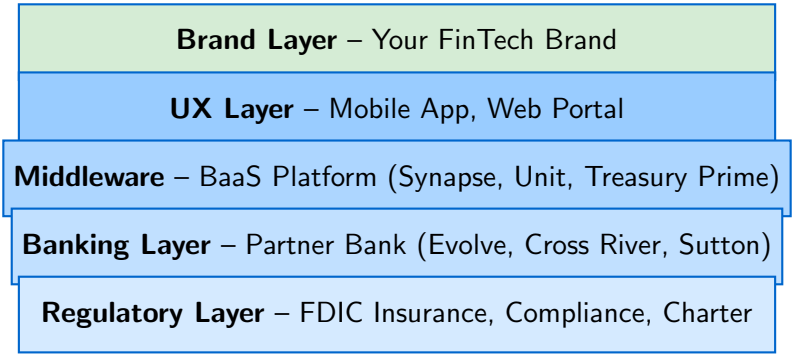


API Types in Financial Services

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

API Security: Authentication & Authorization

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

```python
import requests

# Authentication
headers = {
    "Authorization": "Bearer eyJ0eXAiOiJKV1QiLCJhbGc...",
    "Content-Type": "application/json"
}

# API Call
response = requests.get(
    "https://api.bank.com/v1/accounts/123456/balance",
    headers=headers
)

# Response
{
    "account_id": "123456",
    "available_balance": 5420.50,
    "current_balance": 5520.50,
    "currency": "USD",
    "as_of": "2024-01-15T10:30:00Z"
}
```

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

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?

The opportunity: Millions of creditworthy people excluded by traditional scores

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 $\rightarrow$ better predictions $\rightarrow$ privacy concerns

Machine Learning in Credit: How It Works

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

```python
# Raw transaction data
transactions = [
    {"date": "2024-01-15", "amount": -1200, "category": "rent"},
    {"date": "2024-01-14", "amount": 3500, "category": "payroll"},
    {"date": "2024-01-10", "amount": -45, "category": "food"},
    ...
]

# Engineered features
features = {
    "avg_monthly_income": 3500,
    "income_volatility": 0.05,       # Low = stable
    "rent_to_income_ratio": 0.34,    # Below 0.4 = good
    "days_since_overdraft": 180,     # Higher = better
    "recurring_payment_count": 12,   # Shows organization
    "gambling_transaction_flag": 0, # Red flag if present
}
```

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
Upstart	AI underwriting	Education, employment	25% lower losses
SoFi	Member ecosystem	Product usage	Cross-sell
Affirm	POS lending	Purchase behavior	Merchant fees
LendingClub	Marketplace	Platform data	Origination fees
Kabbage	SMB lending	Accounting data	Higher rates

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

Beyond Credit: Algorithmic Decisions in Finance

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

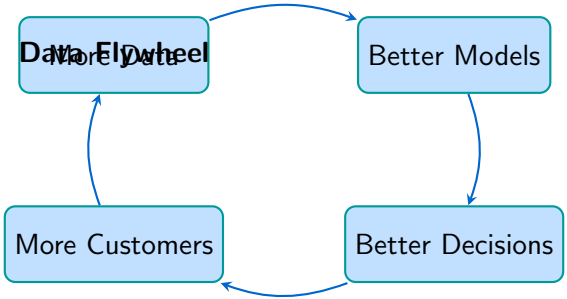
Fraud Detection:

- 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
bno$_b$*uyers*)[*blockchain*, *fill* = *dfred*!20]*NoBuyers*; (*no*$_s$*ellers*)[*blockchain*, *rightof* = *no*$_b$*uyers*, *xshift* = 2*cm*, *fill* = *dfred*!20]*NoSellers*;
[arrow, bend left=30] (no$_b$*uyers*)*tonode*[*above*]*Whylist*?(*no*$_s$*ellers*); [*arrow*, *bendleft* = 30](*no*$_s$*ellers*)*tonode*[*below*]*Whybrowse*?(*no*$_b$*uyers*);
[below of=no$_b$*uyers*, *xshift* = 3*cm*, *yshift* = 1*cm*]**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

Multi-Homing Prevents Tipping

When users easily use multiple platforms:

- Less lock-in
- Competition persists
- Margins compress

Example: Drivers on Uber AND Lyft

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

FinTech Business Model Canvas

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

Revenue Models in FinTech

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
Build (Internal)	Control, integration	Slow, cultural mismatch
Buy (Acquire)	Speed, talent, customers	Expensive, integration risk
Partner (API/BaaS)	Fast, low commitment	Dependency, margin sharing
Copy (Fast follow)	Proven concept	Behind, no differentiation
Invest (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