



MIT SLOAN SCHOOL OF MANAGEMENT
15.483 CONSUMER FINANCE: MARKETS,
PRODUCT DESIGN AND FINTECH
SPRING 2018

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Lecture Notes 1
Introduction

Lecture outline

1. Why take this class?
2. Requirements of 15.483
3. Substantive plan of the course
4. Lecture 1: Overview of consumer finance

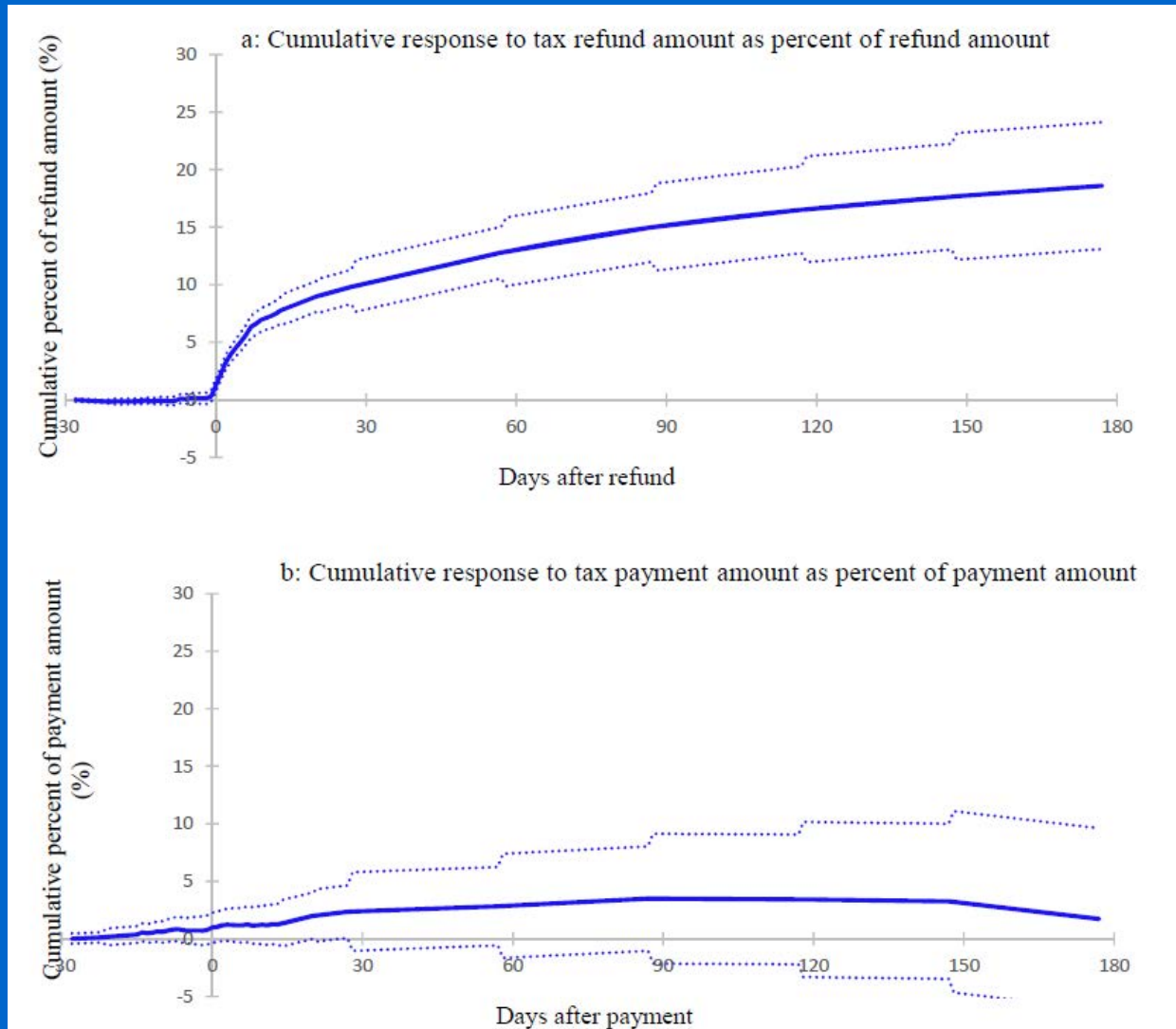
What is this class about?

1. How households make financial decisions
 - The rational model: what **should** they do
 - Incentives, central tendencies, long-term optimal
 - The behavioral model: what they **actually** do
 - Limited attention, heuristics, quick decisions, biases

Example: teaser rates

Example: life insurance vs. annuities

Example: tax rebates and payments



What is this class about?

2. Financial products

- Design and use are critical for consumer wellbeing
- Payments technologies: credit cards, debit cards, cash, EFTs, ...
- Management and advisory tools: Mint.com, Betterment, retirement planners, financial advisers, ...
- Insurance
- Debt: Mortgages, home-equity lending, credit cards, auto debt, student debt, reverse mortgages, bank overdraft products, payday lending, personal loans and peer-to-peer lending, pawn broking, refund-anticipation loans, lay-away plans, informal lending
 - More outstanding consumer debt than corporate debt in the US ([next slide](#))
 - Securitization - consumer debt was at the heart of the US and then global financial crisis of 2007-2009 ([next slide](#))
- Consumer finance also about investments for accumulated savings
 - Bonds, equity, housing, REITS, international,...
 - Mutual funds, individual assets, ETFs, hedge funds, fund of funds,...
 - IRA, Roth IRA, 401(k), college saving accounts, annuities ...

What is this class about?

3. Innovation in financial markets

- More innovation in consumer finance than in security design or financial innovation for corporations
 - Peer to Peer lending, new payment technologies, information and competition in insurance products, developing market household risk management, robo advisers, account aggregators, innovations in collateralization, socialization of finance, crowdfunding
- Consumer Financial Protection Bureau

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Requirements

- Read the syllabus!
- Casepack. Do the readings and come prepared
- Class attendance and participation
 - Exceptions ahead by email to TA
 - No PDA/laptop
 - Nameplates required
 - Arrive before class, leave after class
- Cases, short written assignments, and exercises on material in class
 - Roughly half are group assignments, up to four people
- Course has serious readings and written assignments, no final or final project
- Because we only have $\frac{1}{2}$ semester \Rightarrow a fast tour

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Substantive plan of the course

Class 1: Introduction and overview of consumer finance

Class 2: How people should make decisions: the optimizing model

Class 3: How people do make decisions: Behavioral biases and financial decisions

Class 4: Financial coaching and behavioral economics

Class 5: Selling financial advice: Hello Wallet case on financial advising

Class 6: Risk-based pricing in consumer credit: Credit card markets, adverse selection

Class 7: Insurance markets for households

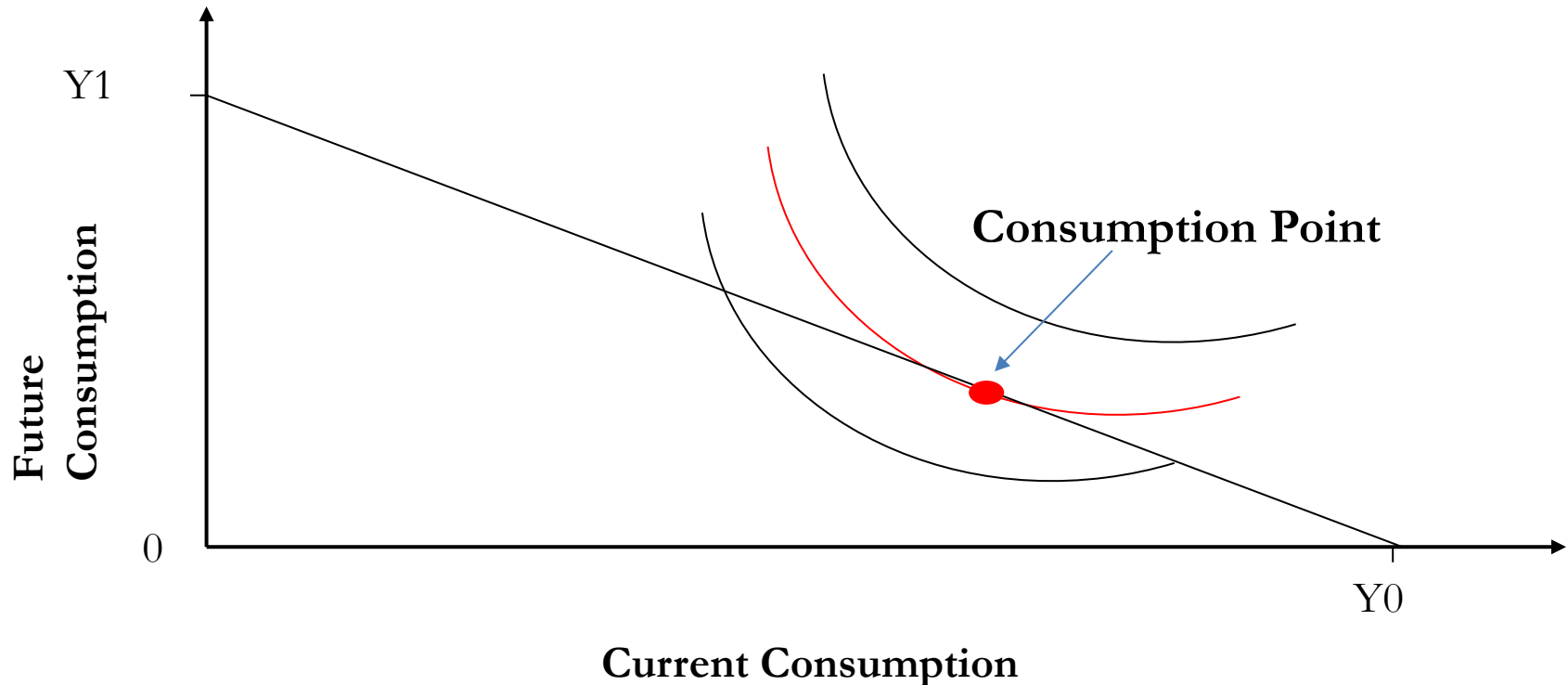
Class 8: Peer to peer lending

Class 9: Securities backed by consumer debts (securitization and US financial crisis)

Class 10: Fintech lending in China: Ant financial

Class 11: Cryptocurrencies and Bitcoin

Class 2: The economic model of consumer financial behavior



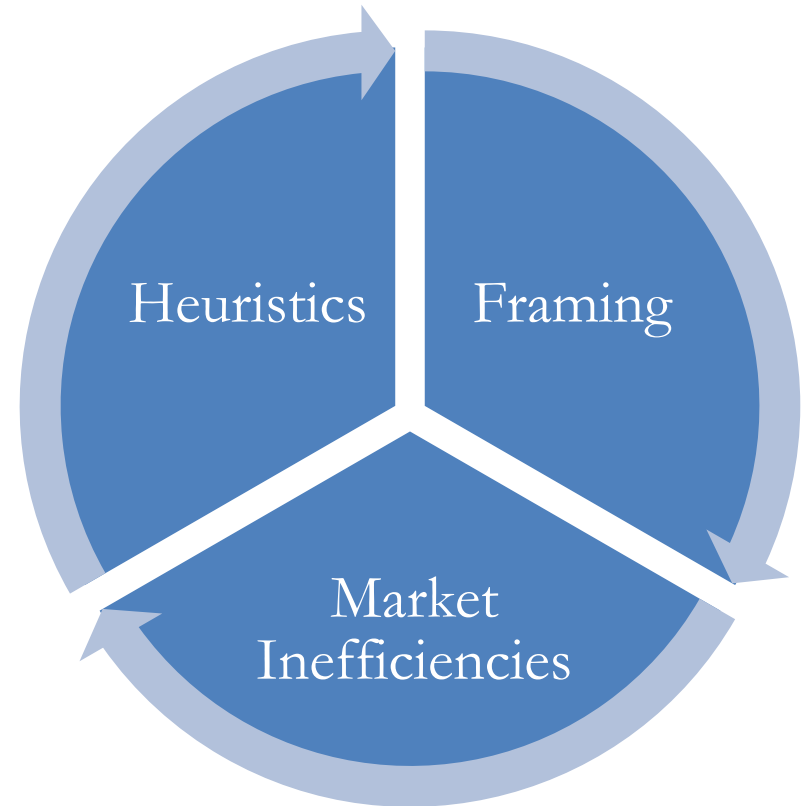
How households **should** behave.

- Underlying assumptions: diminishing marginal utility, knowledge, optimization
- Central implications: consumption smoothing, CCAPM
- Revealed preference and the philosophy of consumer sovereignty

Class 3: Behavioral biases and financial decisions

How households **do** behave.

- Underlying evidence: experiments, biology, psychology, evolution
- Central assumption: mistakes
- Regulation vs.. competition for rents
- Profiting from mistakes vs. selling correcting products



Class 4: Financial coaching and behavioral economics

- Guest lecture: Katy Davis, Managing Director, ideas 42
- Ideas42 is a non-profit organization that uses behavioral science to help solve social problems
- **Financial Healthcheck** → Customize personal wealth plan, and reduce mistake,



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Class 5: Personal Financial Advising



Online financial guidance service



Independent Research

At HelloWallet, our research team constantly analyzes data on retirement, healthcare, and spending behavior to uncover the latest trends. We use our findings to better the HelloWallet product, and share our insights through research articles, webinars, and white papers.

See All Research

Screenshots above from © HelloWallet. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

If households need help, can you set up a business to help them?

See also: DOL Fiduciary Adviser Rule

Who to sell to?
Households?
or
Enterprises?

Class 6: Borrowing markets: Credit cards, big data, adverse selection, and unravelling

- How the market works
- How more information changes credit cost and provision,
- Regulation: The CARD Act was signed into law in May 2009
 - Cost and availability of credit, particularly with respect to non-prime borrowers;
 - The safety and soundness of credit card issuers;
 - The use of risk-based pricing;
 - Credit card product innovation

Class 7: Developing insurance products for households in the developing world

Weather is a major risk for small farmers

Weather is a minor risk for the world financial markets

We will think about adverse selection and moral hazard in the development of new financial products

Example of BASIX is there a profitable insurance product to insure farmers from weather shocks?

Innovative: **not** a product that pays out based on realized losses like home, health or auto insurance

Is there a real benefit?

How do you develop a product and market to people unfamiliar with a new financial product?

Challenged by Upstarts!

[India map](#) removed due to copyright restrictions.

Class 8: Peer to peer lending

\$ = 2013 annual gross volume



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Class 9: Securitization of household debt products and the US financial crisis

- Tour of securitized products and ABS (credit cards, autos, student loans, personal loans, esoteric), CMBS, RMBS, and CLOs
- The size of the market, the participants, and importance
- How the market works: creation, distribution, liquidity
- What happened during the crisis and what the future holds

Image of Joseph Naggar removed due to copyright restrictions.

Guest lecture: **Joseph Naggar**, Partner, GoldenTree Asset Management, an asset management company specializing in corporate and structured credit markets.

Securitization of household debt products and the US financial crisis

- U.S. bonds outstanding have grown from \$2.5 trillion in 1980 to \$36.9 trillion in 2011. Over this period mortgage-related and asset-backed securities accounted for much of this increase
- The amount of mortgage-related and asset-backed securities outstanding grew from \$0.1 trillion in 1980 to \$10.2 trillion by 2011
- Mortgage-related securities include both mortgage-backed securities (MBS) and collateralized mortgage obligations (CMOs)

Graphic of Fannie Mae and Freddie Mac removed due to copyright restrictions.

Source: Lehman Brothers Estimates 11/2007

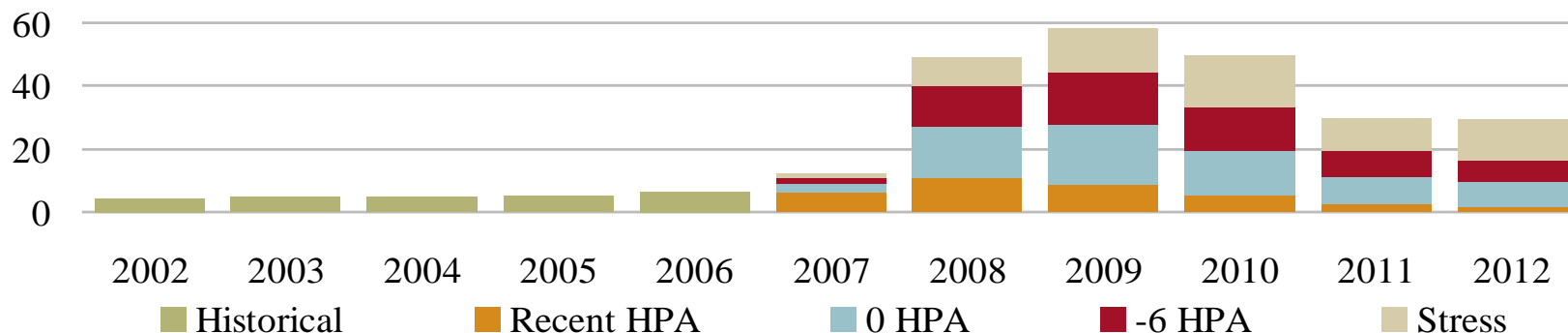
Aggregate Residential Mortgage Losses Can be as Much as \$250bn in Stress Scenarios ...

This Appears Manageable in Itself

Expected Losses Across Housing Scenarios (\$bn)

	Size	Recent	0 HPA	-6 HPA	Stress
Agency	4,250	7.9	13.6	21.8	28.6
Prime	2,350	2.7	6.0	10.0	13.9
Alt-A	1,200	4.9	11.6	19.6	27.9
Subprime	1,200	22.8	77.8	122.5	171.3
Total	9,000	38.3	109.0	174.0	241.7

The Timing of Losses on Residential Mortgages (\$bn)



Class 10: Fintech in China

Guest lecture:
Chen Long

Screenshot from Bloomberg News of Chen Long, CSO of Ant Financial removed due to copyright restrictions.

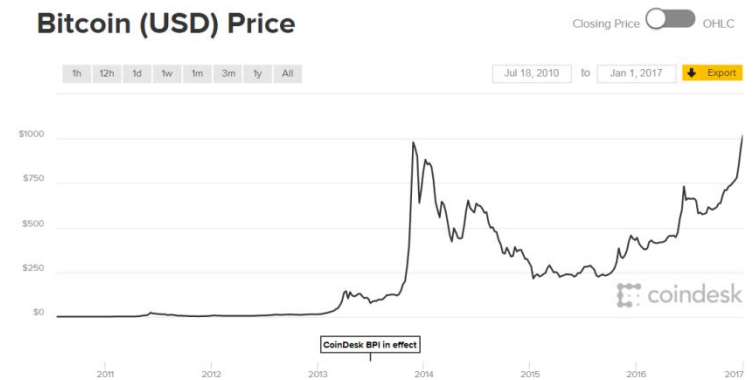


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“Ant Financial is a technology company that brings inclusive financial services to the world. Ant Financial, officially founded in October 2014, originated from Alipay founded in 2004. With the mission of "bring the world equal opportunities", Ant Financial is dedicated to creating an open, shared credit system and financial services platform through technology innovations, and to provide consumers and small businesses with safe and convenient inclusive financial services globally.”

Class 11: Bitcoin as innovative payments technology

- Bitcoin, through blockchain technology has created a public ledger (maintained by miners) that keeps track of a limited supply of virtual coins
- The ledger allows people to use passwords to exchange ownership of these coins
- Is it like a currency? Like gold?
- The ownership of a “coin” on this ledger is now (1/1/18) worth about \$13,500



Conclusion: you will learn about concepts and examples in the changing market for consumer finance



Challenged by Upstarts!

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Behalf, a start-up small-business lender backed by two venture capital firms that makes credit decisions in just a few seconds → Form Alliance

Lending Club, competes with banks and credit cards by matching borrowers and lenders on the Internet → Compete

Zwipe, which makes a credit card with a fingerprint sensor → Partnership

Nymi, that makes a wristband that uses a heartbeat to authenticate a user's identity → Invest in

Dynamics, which makes cards with buttons and displays that allow users to, for example, pay in different currencies or choose credit or debit → Invest in

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Class 1: Introduction and overview of consumer finance

1. Consumer Finance is Everyone Finance.

There are a variety of consumer credit products incl. Credit cards, Personal loans, Rent-to-own contracts, etc



2. Consumer finance is big As of 2015 October:

- U.S. household consumer debt profile:
 - Average credit card debt: **\$16,140**
 - Average mortgage debt: **\$155,361**
 - Average student loan debt: **\$31,946**
- In total, American consumers owe:
 - **\$11.85 trillion** in debt
 - An increase of 1.7% from last year
 - **\$890.9 billion** in credit card debt
 - **\$8.17 trillion** in mortgages
 - **\$1.19 trillion** in student loans
 - An increase of 7.1% from last year

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US Household Debt and Composition

[Bar chart showing U.S. Household debt](#) including mortgages, HE revolving, auto loans, credit card, student loans and other in Trillions of dollars removed due to copyright restrictions.

3. Consumer Credit Products are Many and Varied with Different Challenges

1. Credit cards
2. Bank overdraft products
3. Payday lending
4. Personal loans
5. Home-equity lending
6. Auto-title lending
7. Pawnbroking
8. Refund-anticipation loans
9. Informal lending

New businesses are new challenges

- Financial Consulting
 - ✓ Personal Financial Coach
- New Business
 - ✓ Reverse mortgages
 - ✓ P2P Lending
 - ✓ Direct Credit Insurance
 - ✓ Direct Payment

4. The Net Revenue from Providing Financial Services

[Chart of The Growth of Financial Services](#) removed due to copyright restrictions. See Figure 1 from Robin Greenwood and David Scharfstein, "[The Growth of Finance](#)" JEP 27(2) 2013

5. Sources of value creation

1. **Better Efficiency:** transfer of resources from savers to borrowers
 - Technological efficiency
 - Improved financial product: reverse mortgage, maturity-matching, tailoring to personal risks, etc.
 - Use of new information, e.g. big data
 - Use less information: save costs, e.g. low risk, collateral, etc.
 - Cream skimming, e.g. student loans
2. **Regulatory** arbitrage
 - Bank regulation, fair lending, usury laws
 - Consumer Financial Protection Bureau
3. **Improve (the world)** quality of household decisions
 - Teaser rates, hidden fees vs. an app to manage money and plan better
 - The two faces of payday lending
 - Warning: who borrows from you depends on who the competition lends to

Summary of lecture

1. Take this class to learn about how households **should** make financial decisions, how they **do** make financial decisions, the **products** they use, how these **markets** work, and recent **innovations**
2. Requirements: readings, cases, problem sets
3. The substantive plan of the course
4. Consumer finance is: everyone finance, it is big, its products face incomplete information, it is lucrative, it is a hub of innovation

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