Retail Fintech: Platforms and Advisors

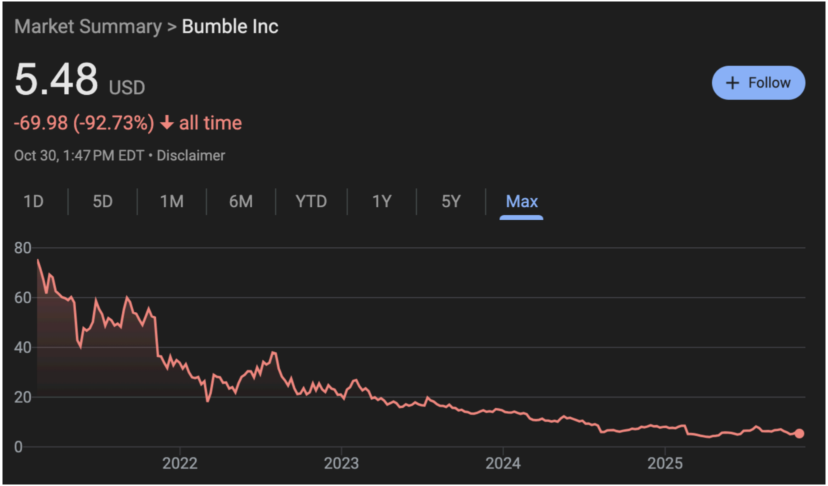
MGT 4074 Fintech & Crypto Tokens, Fall 2025

Joseph Hall

Georgia Institute of Technology

November 3, 2025

1. In the News
2. Retail Fintech
3. Passive Investing and ETFs
4. Robot Advisors
5. Crowdfunding


Market Summary > Bumble Inc
5.48 USD
+ Follow
-69.98 (-92.73%) all time
Oct 30, 1:47 PM EDT • Disclaimer
1D 5D 1M 6M YTD 1Y 5Y Max
80
60
40
20
0
2022
2023
2024
2025

- As of 2023, 10% of partnered Americans met their significant other on an app
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  - App will ban a driver who cancels too many rides
  - Many dating app customers are (or hope to be) one-time players! Can't punish them with future exclusion from the marketplace.
- An opportunity for DeFi?

REUTERS

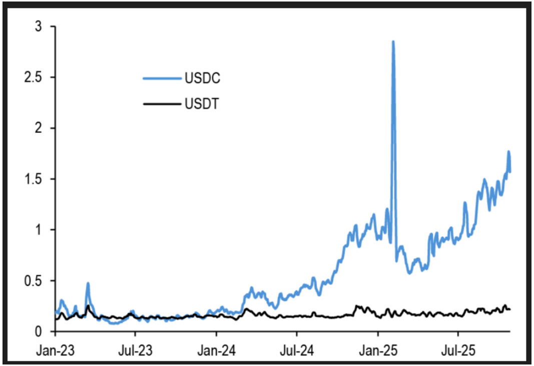
US CFPB asks to exit Biden-era case against MoneyGram

Dallas-based MoneyGram International, Inc. (NASDAQ: MGI) is a financial services company that enables consumers to send money, known as remittances. A significant portion of the company's money-transfer transactions are initiated by immigrants or refugees in the United States sending money back to their native countries. The company's reach is broad, operating in more than 200 countries and territories, and serving 47 million customers in 2021. The company is led by Chairman and CEO W. Alex Holmes. In 2021, it had $1.2 billion in revenue.

Stranded customers waiting for their money: Customers paid MoneyGram to transmit money as quickly as possible but MoneyGram failed to do so and instead held up funds unnecessarily. Holding the money in limbo resulted in needless delays and harmed people who were relying on that money to pay for necessary living expenses. In addition, the company repeatedly failed to accurately disclose how long it would take to make funds available to the recipients abroad.

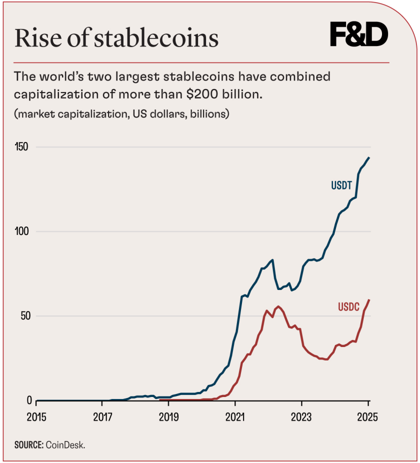
MoneyGram in January 2018 voluntarily implemented its policy of requiring government-issued identification for each transaction for senders and recipients at all its locations. Later that year, the company agreed to pay $125 million to regulators and entered into an extended deferred prosecution agreement with the U.S. Justice Department to settle allegations that it failed to take steps to crack down on fraudulent money transfers.

MoneyGram likely lost about 10% to 15% of its revenue between 2018 and 2019 with the lower threshold it implemented, said Mike Grondahl, an analyst at Northland Securities Inc. who has followed MoneyGram since 2010. He said while the company has since moved past those challenges, new customers could still balk at providing that level of information.



- Tether still leads in market cap 183B to 76B
- This chain velocity measure does not include L2s (why?)

Source: JP Morgan Flows & Liquidity


Rise of stablecoins
F&D
The world's two largest stablecoins have combined capitalization of more than $200 billion.
(market capitalization, US dollars, billions)
150
100
50
0
USDT
USDC
2015
2017
2019
2021
2023
2025
SOURCE: CoinDesk.

CZ served four months and paid \$50 million fine, plus \$4.3 *billion* paid by Binance, for "Implementing a sham compliance program that would fool US regulators into believing they were screening for suspicious or illicit activity, while simultaneously allowing illicit transactions to continue unimpeded"

The indictment included hilarioius quotes unearthed by prosecutors, such as "We are operating a fking unlicensed securities exchange in the USA bro" from the Chief Compliance Officer.

Source: Molly White for "Citation Needed" Newsletter

- "Fintech" in the context of lending is a loose term, generally referring to **non-bank lenders** who employ some kind of innovative business practice
- Their innovation is usually in either **digital user experience**, **automated underwriting**, or both
- They often rely on **bank partnership or licensing agreements** to do business, especially in the United States
- They live in **regulatory grey areas**, often relying on **prosecutorial discretion** to operate
- The simplest distinction is they **do not take deposits** and do not benefit from deposit insurance
- In finance, **retail** just means any high-volume business that accepts generic walk-in customers off the street

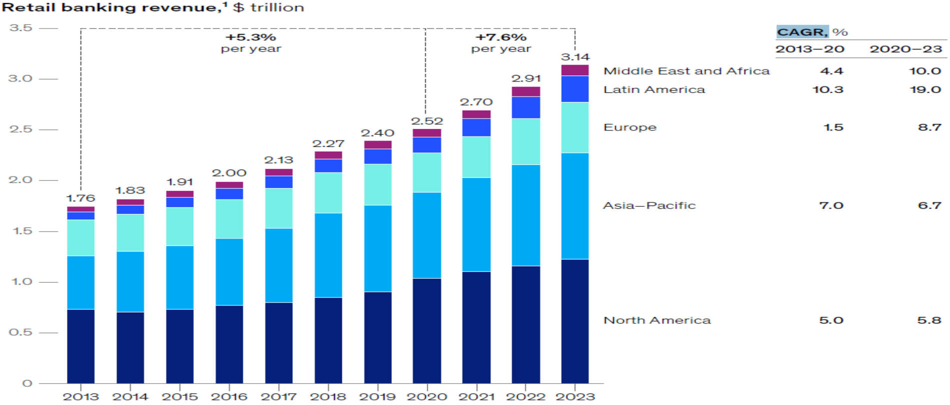
Retail Lending vs. Wholesale Lending

Feature	**Retail Lending**	**Wholesale Lending**
Target Customers	Individuals and Small Business	Large Corporations and Institutions
Loan Size	Small to Medium	Large
Volume	High volume, low value	Low volume, high value
Underwriting Process	Standardized, automated	Customized, manual
Risk Profile	Diversified across many borrowers	Concentrated in fewer borrowers
Examples	Mortgages, credit cards, personal loans	Corporate loans, syndicated loans, interbank lending

Types of lenders in the retail lending sector:

Feature	Banks	Nonbank Financial Institutions	Crowdfunding / P2P Platforms	Fintech Lenders
License	Full banking license	Lending license, no deposit-taking	Platform model, sometimes regulatory exemption	Lending license or bank partnerships
Funding Source	Deposits, capital markets	Capital markets, retained earnings	Retail and institutional investors	VC, bank partnerships, securitization
Tech Foundation	Legacy systems + digital upgrades	Traditional, slow to digitize	Platform-native	Digital-first, app-native
Underwriting Approach	Credit scores, income verification	Traditional credit checks	Peer or social info, light underwriting	AI, alternative data, behavioral analytics
Channels	Branch + online	Branch + limited digital	Online-only	Fully digital, mobile-first
Customer Target	Broad: retail + businesses	Mostly individual consumers	Individuals and small businesses	Targeted niches (e.g., BNPL, students)
Regulation Intensity	High (banking regulators)	Moderate	Varies by jurisdiction	Lighter, evolving regulatory environment
Speed and UX	Moderate to slow	Moderate	Fast, depends on investor match	Instant, seamless digital experience
Innovation Pace	Low to moderate	Low	Moderate to high	High, rapid innovation cycles

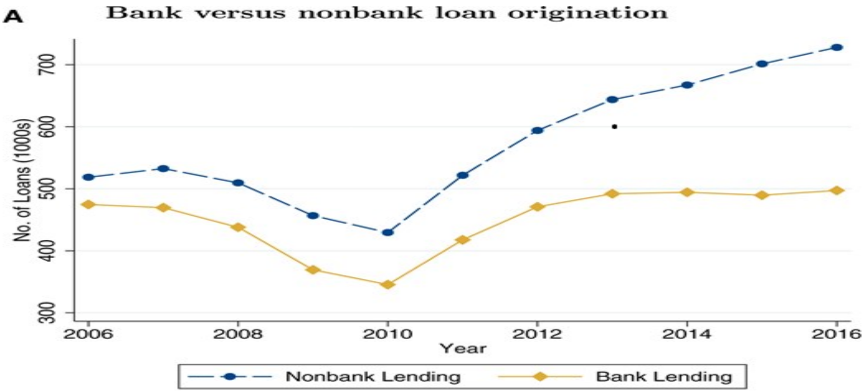
Banks alone are huge in retail lending (**CAGR** = "Cumulative Annual Growth Rate"):



Unlike regulated banks, public data is not reliable for Non-bank financial institutions, crowdfunding & P2P platforms, and FinTech lenders!

However, Philipp Schnabl (NYU) and Manasa Gopal (Georgia Tech) study Uniform Commercial Code ("**UCC**") filings of securitized, non-real-estate U.S. business loans made by non-banks ("fintechs")

- Creditors have the right to file a record with the UCC registry specifying a loan and the underlying collateral, which is referred to as a "UCC filing".
- A UCC filing records the security interest in the underlying asset, analogous to mortgages for real estate, and determines the priority order of creditors in bankruptcy.
- If the borrower pledges a piece of collateral to multiple lenders, the lender with the earliest filing date has priority over other lenders.

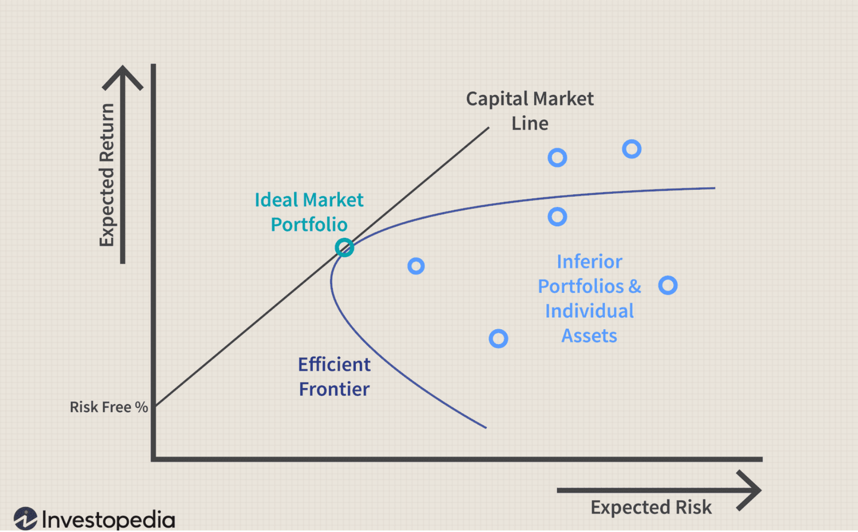


Note: nonbank lending here includes all lending that are not by bank.

Schnabl & Gopal (2022) find that heavier regulatory cost on banks post-2008 is one explanation for the relatively faster growth of nonbank lending.

Passive investing has gained momentum over active investing, with ETFs increasingly replacing mutual funds.

- Modern portfolio theory (Mainly the Capital Asset Pricing Model, or "CAPM") laid the groundwork for the growth of passive investing, also called index investing.
  - Developed by Nobel Prize laureates Harry Markowitz, William Sharpe, and their peers.
  - Passive investing does not rely on skill or technical analysis to beat the markets through security selection or timing.
  - Instead, it focuses on tracking broad market indices and minimizing fees.
- John Bogle, founder of Vanguard Group, created the first index mutual fund in 1975.
  - Vanguard's low-cost, passive mutual funds and ETFs now manage more than $8 trillion across 422 funds.


Expected Return
Capital Market Line
Ideal Market Portfolio
Inferior Portfolios & Individual Assets
Efficient Frontier
Risk Free %
Expected Risk
Investopedia

The CAPM is the workhorse model of modern financial advice.

- The CAPM assumes:
  1. Markets are frictionless (no fees or minimum purchases)
  2. Returns and covariances of all assets are common knowledge
  3. All investors prefer high returns and low variance

If these assumptions hold, it can be proven that:

- The total market index fund is the optimal asset
- There is no reason to pay an advisor any fee, as any investment they recommend is inferior to the total market index fund

The CAPM formula says that the **only** differences in expected returns are explained by correlation with the market.

In other words, the **only** way to get high returns is to add leverage (increase variance).

$$E[r] = \beta \times E[r_m - r_f] + r_f$$

Where

$$\beta = \frac{Cov(r, r_m)}{Var(r_m)}$$

If a portfolio manager claims to beat the market, be skeptical! Most so-called "alpha" is actually "levered beta".

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Duarte, Fonseca, Goodman and Parker (2024) train a cutting-edge neural network to optimally save for retirement in the presence of a wide variety of realistic frictions and quirks (labor income, social security, unemployment insurance, etc... over 100 parameters!)

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They compare this optimal solution to a simple target-date fund ("TDF").
Question: What % of lifetime wealth does the optimal solution earn you, relative to the TDF?

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Answer: 3% (that does not compound – that is the total).

Passive index funds have grown in popularity globally

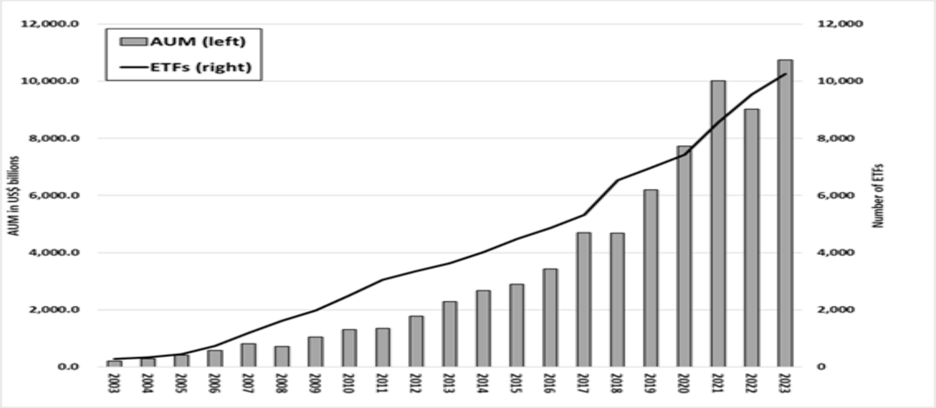
- Investors have focused on the high fees charged by asset managers and their underperformance relative to market benchmarks.
- Active managers charge a management expense ratio (MER) of 1% to 2% of AUM each year, as well as other fees (front-end and back-end load).
  - A MER measures the fund's annual operating expenses as a percentage of AUM. It includes management salaries, marketing and administration costs, and distribution costs.
- Only 25% of all active funds delivered a higher return than passive funds over the decade ending in 2021.
- The market share of actively managed funds has fallen from 81% in 2010 to 60% in 2020.

An Exchange Traded Fund (ETF) is an investment fund that trades on a stock exchange, like a share.

- Each ETF holds a portfolio of securities such as stocks, bonds, or other asset classes.
- An ETF charges a MER between 0.03% and 1.00%, has no minimum investment, and trades throughout the day like a stock.
- ETFs were created as a cheaper, more liquid substitute to mutual funds.
  - The first ETF, created in 1993, was the Standard & Poor's Depositary Receipts (SPDR), tracking the S&P 500. It is the largest ETF in the world with $450 billion AUM at year-end 2022.
  - ETFs are available for different
    - Asset classes: stocks, bonds, commodities, precious metals, bitcoin, real estate
    - Sectors: health care, technology
    - Markets and regions: emerging markets, Japan
    - Strategies: currency hedged, low volatility, dividend income

The value of ETFs passed $10 trillion in 2023 with more than 10,250 ETFs traded globally.

Figure 8.1. Growth of Exchange Traded Funds



Source: https://etfgi.com/

- In 2014, Robinhood launched a mobile trading app with the mission to democratize finance.
  - Co-founders Vlad Tenev and Baiju Bhatt were Stanford roommates who worked in high-frequency trading.
  - The app offered zero-commission trading for younger, less wealthy millennial investors.
  - Claimed revenue would come from margin trading and securities lending.
  - Raised $3 million seed funding in 2013; approved by FINRA to operate as a broker-dealer.
- Rapid growth: 2 million customers by 2017, 6 million by 2018, 10 million by 2019.
  - In 2019, raised $323 million in Series E funding; valued at $7.6 billion.

- 2019: FINRA fined Robinhood $1.25M by FINRA for violations related to customer equity orders
  - Directed trades to 4 broker-dealers who paid for order flow. Did not get much attention though...
- 2020 COVID-19 hit; online retail trading exploded
  - $280 million Series F funding, $8.3 billion valuation
- Aug 2020 Fortune "The Inside Story ..."

- *"The perfect stock trading app for the videogame generation was supposed to 'democratize finance' with zero-commission trades. But the primary plan was to get rich by selling customer trades to the market's most notorious operators."* — **Fortune, Aug 19, 2020**
- Story exposed Robinhood's monetization strategy, called **payment for order flow**.
  - Sophisticated proprietary traders pay Robinhood for the privilege of being the counterparties to unsophisticated retail traders
  - If you are getting a service for free, *you are the product!*

- Retail investors continued to flock to Robinhood, with customers hitting 12.5 million
  - Aug 2020 $200 million Series G, $11.2 billion valuation
- January 2021 Meme stock craze where retail squeezed shorts
  - Sharp rise in GameStop stock led Robinhood to restrict trading for several days, infuriating retail traders.
  - DTCC demanded Robinhood post $3 billion in cash as collateral against risky trades by its customers;
  - Raised over weekend from existing investors
  - Feb and Mar 2020: Ordered to give testimony to Congress
- July 2021 Robinhood priced IPO at $38 per share, or $31.7 billion valuation
  - Co-founders worth $5 billion

Figure 8.3: Robinhood vs. S&P500 Composite Index

Robo-Advisors: Spoiler Alert – Goliath Beats David

- Robo-advisors offer automated online investment using algorithms to provide personalized portfolio recommendations.
- Emerged in 2008 as low-cost, simple alternatives for DIY investors or those avoiding financial advisors.
- Despite early attention, most independent robo-advisors were either shut down or acquired.
- As of 2022, robo-advisors manage $1.8 trillion — less than 2% of the $100 trillion global wealth management market.
- The gap between “too poor for your asset allocation to really matter”, and “rich enough to hire a real person” might just not exist.

The Rise of the Robo-advisor

- Robos automate investment for retail customers and charge a low fee, 0.25% to 0.50% of assets under management (AUM).
  - Most human wealth advisors charge 1-3%
- You connect over the internet or a mobile app, then answer questions about: (1) your savings goals; (2) return expectations; (3) risk tolerance
- The robo algorithm maps your answers to a portfolio recommendation that is implemented automatically once funds are transferred into an account.
- Money is invested in low-cost exchange traded funds (ETFs), typically a 60/40 mix of equities and bonds.
- The portfolio is automatically rebalanced: quarterly, monthly, or daily, to maintain the target asset allocation.
- It is all shown on a simple, clean & attractive dashboard.

The Early Disruptors

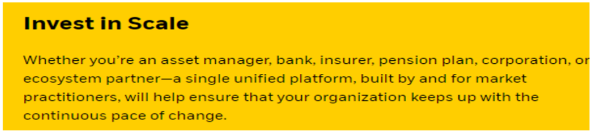
- The first U.S. robo-advisor, **Betterment**, was founded in 2007 and launched in 2010.
  - Followed by: Wealthfront (2011); Personal Capital (2011); FutureAdvisor (2012)
  - Robo-advisors also appeared globally: **Canada:** Nest Wealth, Wealthsimple; **UK:** Nutmeg; **Australia:** Stockspot, Raiz; **Europe:** MoneyFarm, OwlHub

Table 8.1. The US Robo-advisor Pioneers

Robo	Launch	2022 AUM (US$ billions)	Account Minimum	Advisory Fee
Betterment	2010	33.8	None	0.25%–0.40%
Wealthfront	2011	24.9	$500	0.25%
Personal Capital	2011	22.9	$100,000	0.89%
FutureAdvisor (BlackRock)	2012	1.8	$5,000	0.50%
Vanguard Personal Advisor Services	2013	268.0	$50,000	0.30%
Schwab Intelligent Portfolios	2014	76.1	$5,000	Free
Acorns	2014	6.2	None	$3 per month
SigFig	2014	2.3	$2,000	0.25%

Source: Backend Benchmarking.

- BlackRock has been licensing its in-house portfolio management platform, Aladdin, to institutional investors, corporations, and financial advisors.
    - Aladdin stands for Asset Liability, Debt and Derivative Investment Network.
    - It is licensed to 16 retail wealth management firms including JPMorgan Stanley and UBS Group.
- The platform combines front, middle, and back-office functions for managing client portfolios.
    - It helps build portfolios aligned with investors' goals and risk tolerance.
    - Advisors can show clients their investments, exposure to risk, and performance.



https://www.blackrock.com/aladdin

Robot Advisors have gained a foothold in two customer segments:

- Underserved customers: Millennials, especially HENRYs (High Earners, Not Rich Yet) with high expected lifetime wealth but no liquidity
    - Distrustful of incumbents
    - Tech-savvy; preferred digital interface available 24/7
    - Attracted to automated service, low minimum investments, and transparent fees
- **Price-sensitive customers**: Older individuals with $100,000–$1,000,000 to invest, unwilling to pay high advisory fees
    - Did not want ancillary services bundled with advice
    - DIY investors—by necessity, not by choice
    - Wanted access to professional investment advice

The Robo-advisor Value Proposition is:

- **Customer experience**: fast, easy to use, enjoyable, and convenient (available 24/7)
- **Transparent, low fees**: Low or no minimum investment Advisory fee as low as 0.25% of AUM or $2/month
  - Customers also pay MER of third-party ETFs (0.12%–0.23% of AUM)
- **State-of-the-art technology**: not encumbered by the legacy computer systems of incumbents
- **Return-enhancing strategies**: annual, quarterly or daily tax-loss harvesting, multi-factor smart beta portfolios, risk parity portfolios.
- **Speak to adviser**: many offer ability to speak to a financial advisor by phone or online chat

- Main obstacle is **cost to acquire customers** (estimated at \$500+ in advertising and marketing).
  - Average robo fee 0.35% $\times$ \$10,000 account = \$35/year
  - Payback period = \$500 / \$35 = 14.4 years
- Technology is not a source of sustainable competitive advantage
  - Widely available and can be copied by fast followers.
- Consider **working with incumbents** (B2B), instead of attacking them (B2C)
  - Pivoting to a B2B model and partnering with an incumbent is an attractive growth opportunity.
  - Examples: Betterment for Advisors, SigFig, Wealthsimple for Advisors

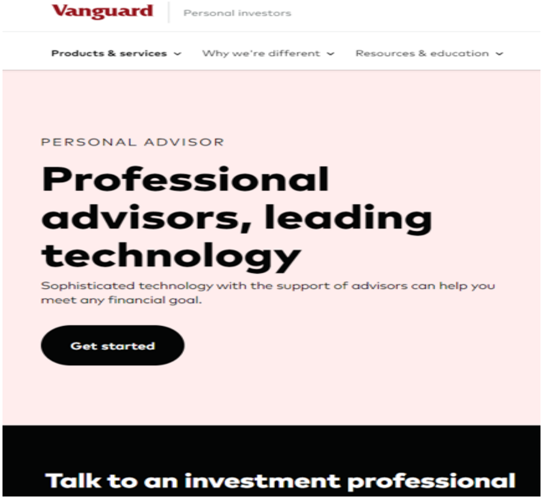
In mid-2013 Vanguard began piloting in-house robo called *Personal Advisor Services*.

- Launched 2015 with a minimum account size of $50,000
  - Annual fee of 0.30% for the first $5 million in AUM, with rates declining for higher account balances.
  - Recommended portfolio of low-fee Vanguard ETFs
- By end 2018, $112 billion, 50% of U.S. robo industry
- By end 2022, $268 billion: 3.5× AUM of Charles Schwab, and 4.6× combined AUM of Wealthfront + Betterment

Table 8.2. Vanguard US Robo-Advisor Options and Services

Robo Offering	Personal Advisor Services	Vanguard Digital Advisor
Launched	2015	2019
Minimum account balance	$50,000	$3,000
Advisory fee	0.30%	0.15%–0.20%
Source of ETFs	Vanguard	Vanguard and third-party
ETF management expense ratio	0.03%–0.22%	0.03%–0.40%
Tax-efficient investing	Yes	Yes

Website: Vanguard's personal-hybrid robo-advisor



Wealthfront provides **sophisticated financial advice to everyone at a low cost**

- Co-founders: VC Andrew Rachleff, ex-trader Dan Carroll
- Rachleff saw portfolio modeling could be automated; left VC in 2005; teaching disruption to Stanford MBAs
- Tried different ideas over 3 years (e.g., crowd-based social investing on Facebook, mimic trades of professional investors)

Pivoted to robo-advisor model in 2011

- Hired 3 software engineers; built platform in 3 months
- Targeted millennials working at successful tech start-ups like Facebook and LinkedIn
- Customers complete questionnaire; maps to one of 20 risk profiles with associated asset allocation using ETFs

- Grew through word-of-mouth.
  - One-third of new clients acquired through referrals
  - Spent $0 on marketing, focused on product R&D
  - No human contact at all
  - Charge low fees and still generate gross margin of 90%
- Expanded services only if could be fully automated
  - Tax-loss harvesting, multi-factor smart beta, risk parity strategies
  - Customer insights and investment recommendations
  - Diversified into financial planning including: Retirement, college, real estate, and time-off-to-travel planning
- In 2022 UBS offered to buy Wealthfront for $1.4b
  - Fell apart in late 2022 when UBS shareholders protested

Wealthfront https://www.wealthfront.com/

Cash Bonds Automated Investing Stocks Learn

LONG-TERM GOALS MODERATE RISK

Automated, diversified index investing.

Come bears or bulls, our expert-built portfolios help you stay diversified for your goals. Limit your risk, minimize your taxes, and maximize your returns — all with built-in automated easy-ness.

- Personalized with up to 17 global asset classes
- Automated reinvestment and rebalancing
- Tax-Loss Harvesting can boost your after-tax returns with tax savings
- Designed to keep the cost of investing low

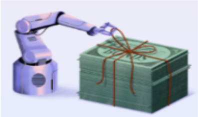
Your tax-optimized portfolio is ready!

High tax rate portfolios focus on increasing state tax savings with more treasuries. They include fewer floating rate and corporate bonds since those are taxable.

Learn how we tax-optimize

Blended 30-day SEC yield 5.88%
As of Dec 7, 2023 After fee
Total return since inception (03/30/2023): 4.53%

- Short-term treasuries 60%
- Corporate bonds 30%
- Floating rate bonds 8%
- Long-term treasuries 2%



Sustainable Investing to Tackle Climate Change

- In 2020, global sustainable investments reached $35.3 trillion, or more than one-third of total AUM.
- Sustainable investing integrates environmental, social, and governance (ESG) factors into asset selection and portfolio construction. Also called responsible investing.
- Fintechs like UK's *Clim8 Invest* provided a simple way to invest in clean energy, clean technology, sustainable food, clean water, and recycling.
  - Clim8 offered two investment funds holding stocks, bonds, and ETFs.
  - Customers could invest with as little as £25, choosing from three risk profiles: Cautious, Balanced, and Adventurous.
  - Management fee was 0.60% of AUM.
  - Clim8 shut down in May 2023: growth was too slow and funding dried up

- Crowdfunding platforms allow individuals, businesses, and social causes to raise capital directly from the crowd in the form of debt, equity, donations, or rewards
    - Also called alternative finance
    - Debt crowdfunding platforms are Commonly called peer-to-peer (P2P) lenders or marketplace lenders
- These fintechs started between 2005 to 2009
    - Zopa (UK), launched in 2005, was the pioneer among online portals
    - OnDeck and Prosper launched in 2006;
    - CreditKarma and LendingClub in 2007;
    - Indiegogo and GoFundMe in 2008
    - Funding Circle, Kabbage, and Kickstarter in 2009
- Described as the “most disruptive way to raise money”

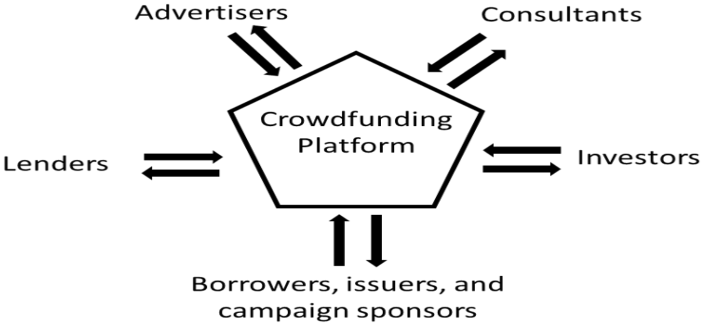
- Technology made crowdfunding possible
  - Fintechs leveraged the internet, mobile phones, software, APIs, cloud computing, and social media
- Platform growth
  - In 2022, Crunchbase reported 1,500 active crowdfunding platforms headquartered in the USA
  - An additional 200 platforms had closed
- Evolution of funding sources
  - Originally crowdfunding was P2P, connecting individuals with retail investors ("the crowd")
  - Now, most funding comes from institutional investors:
    - Hedge funds, pension funds, insurance companies, banks, and professional investors
  - To reflect this broader capital source, the term **marketplace lending** is used

Business Models

- Many crowdfunding platforms are multi-sided markets with users on various sides

Network effects are crucial: a higher number of users increases the value to:

- The platform operator; The entity raising capital; The crowd(funders)



As crowdfunding finance has matured, the hope that online portals would disrupt banks and transform capital raising has faded.

- Challenges faced by online portals
  - Struggled to monetize users and cover the high customer acquisition costs: estimated at $500 to $1,000 per customer
  - Disclosures of the largest, publicly listed online portals show years of losses with share prices falling steadily.
- Many platforms have pivoted from their original vision
  - Closed to retail investors: Zopa, Prosper
  - Became digital banks: LendingClub, SoFi
  - Acquired by incumbents: Kabbage, OnDeck
  - Many went bankrupt and disappeared

Regarding the five dimensions of financial intermediation, Crowdfunding portals have succeeded in some areas but failed in others:

- Reduced information asymmetry between savers and borrowers/investors by increasing disclosure
- Mixed on transaction costs; lowered the cost and increased the speed to post a campaign, but charge high origination fees and high interest rates.
- Do not solve the liquidity problem; little ability to resell securities purchased on a crowdfunding platform.
- Do not provide risk sharing; investors bear the risks of default. Crowdfunding portal has no skin-in-the-game.
- Have not built trust with episodes of fraud, misrepresentation, and principal-agent problems found in the traditional financial system.

Two types of crowdfunding:

- **Investment**: debt or equity investors for return
- **Non-investment**: donate money to charities & people

Table 7.1. Types of Crowdfunding Portals and Investors

Category	Capital Raised In 2020[1]	Description	Parties To Transaction
Investment Crowdfunding			
1. Debt	\$101 billion (89% share)	Portal issues a loan to an individual or small business. Two types: P2P/marketplace lending or balance sheet lending.	Lender → Borrower
2. Equity	\$4.4 billion (4% share)	Portal sells ownership stakes in a business, real estate, or stream of cash flows from a business (revenues, profit-sharing, or royalties).	Investor → Issuer
Non-Investment Crowdfunding			
3. Donation-based	\$7.0 billion (6% share)	Portal asks individuals to contribute to a fundraising campaign with no promise of any benefit to the donor.	Donor → Sponsor (or recipient)
4. Rewards-based	\$1.3 billion (1% share)	Portal raises money to finance development of a new product or service.	Backer (or supporter) → Sponsor (or recipient)

1. Cambridge Centre for Alternative Finance.

Correia (UGA), Han, and Wang (UIUC) study online loans made through online lenders like Green Day Online and compare them to traditional "storefront" loans.

They find that, even looking at different loans made to *the same borrower*, online loans have **higher interest rates** and **higher default rates**

Not explained by differences in collateral, contract design, or credit score implications

In addition to within-borrower effects, online lenders face **negative selection**: worse borrowers are more likely to seek loans online

	Online	Storefront
Loan Amount ($)	316	456
Repayment Amount ($)	303	490
Loan Maturity (days)	20	19
Default rate	9%	4%
APR	434%	297%
Cost per $100 ($)	19.5	12.4
# of Loans	217,596	119,094
# of Unique Borrowers	49,877	17,484

Random Clarity Sample

- Individuals borrow up to \$50,000 and small businesses up to \$500,000 for terms up to 5 years.
  - US study (2012-17): avg online borrower is 49 year old with below average credit score borrowing \$8,500 for 3.25 years.
- Small businesses have increasingly turned to online lenders to access capital, raising \$43 billion or 43% of online lending globally in 2020.

Table 7.2. Terms for Consumer Loans on US P2P/Marketplace Lenders

Company	Interest Rate (APR)	Minimum FICO Score	Term	Loan Amounts
Prosper	7.0% to 36%	640	3 to 5 years	$2,000 to $50,000
Happy Money	10.5% to 30%	640	2 to 5 years	$5,000 to $40,000
Peerform	6.0% to 30%	600	3 to 5 years	$4,000 to $25,000
Upstart	6.7% to 36%	600	3 to 5 years	$1,000 to $50,000

Source: Company websites, as of April 2023.

Institutional investors have leveraged technology to automate the investment process.

- Connect to portal using API, screen and analyze postings in real-time using proprietary computer algorithms (or robots) that make decision to invest or not.
- A study of LendingClub found that robot investors outperformed less sophisticated investors.

Does marketplace lending increase financial inclusion?

- Some studies find that AI can identify “invisible prime” borrowers who are turned down by traditional lenders due to low FICO scores but are more creditworthy.
- Overall, evidence is mixed, with no clear consensus in the literature on whether AI can meaningfully outperform traditional credit scores.

Lendified is fully automated balance sheet lender for small and medium enterprises (SMEs)

- Founded in Toronto 2015 by two ex-bankers
- Offers loans up to $150,000 with terms up to 24 months

Businesses apply online (under 10 minutes), get an instant decision, and receive funding in 48 hours

- Lendified's software, Judi.ai, connects via API to the applicant's bank account and generates a cash flow forecast. This forecast is analyzed by a proprietary credit engine to evaluate the ability to finance the loan.
- Loan may be collateralized by inventory or accounts receivable to reduce the risk and the cost of borrowing.
- Cut loan adjudication costs by 90%, make decision in minutes, not weeks.

Regulation of equity crowdfunding: Most start-ups fail so regulators limit how much retail investors may invest in any campaign

- SEC's 2024 "Regulation Crowdfunding" sets limit on investment at greater of $2,200 or 5% of annual income up to $150,000 (or 10% of annual income above $150,000). SEC Regulation on Equity Crowdfunding
- Canada sets cap at CA$2,500 per deal, or CA$10,000 if a registered dealer has supplied advice
- Other platforms restricted to accredited (high net–worth) investors, such as AngelList

- Donation-based crowdfunding ask individuals to contribute to a fundraising campaign with no promise of any benefit to the donor
  - Artistic projects, civic projects, charities, medical expenses, or disaster relief.
  - GoFundMe is the world's largest with $5 billion+ raised.
- Rewards-based crowdfunding raises money to finance the development of a new product or service.
  - Entrepreneur pre-sells a future product to backers (or supporters) who are promised a reward when the project is completed.
  - Kickstarter and Indiegogo are biggest in USA.

Support Art, Comics, Crafts, Dance, Design, Fashion, Film & Video, Food, Games, Journalism, Music, Photography, Publishing, Technology, and Theater.

- Since launch in 2009, 23 million people pledged \$7.75 billion of which 250,000+ projects funded (41% success)
- Most successful projects raise less than \$10,000, but close to 800 have raised \$1 million+
  - Pebble Time smartwatch (\$20 million), Veronica Mars movie project (\$6 million), Reading Rainbow project (\$5 million).
- Creator sets goal and raises funding up to 60 days.
- Set up a project page with video and description that explains story behind creative project. Outline the rewards backers will receive when completed.
- Monetization: platform (underwriting) fee of 5% of total funds raised, plus payment processing fee of 3% + \$0.20 per pledge.
- https://www.kickstarter.com/

Successful Companies and Crowdfunding Campaigns

Successful Crowdfunding Rlatforms			
KICKSTARTE Total money raised: $7,1 billion	INDIEGOGO Total money raised: $2,2 billion	gofundme Total money raised: $2,0 billion	patreon Total money raised $440 M

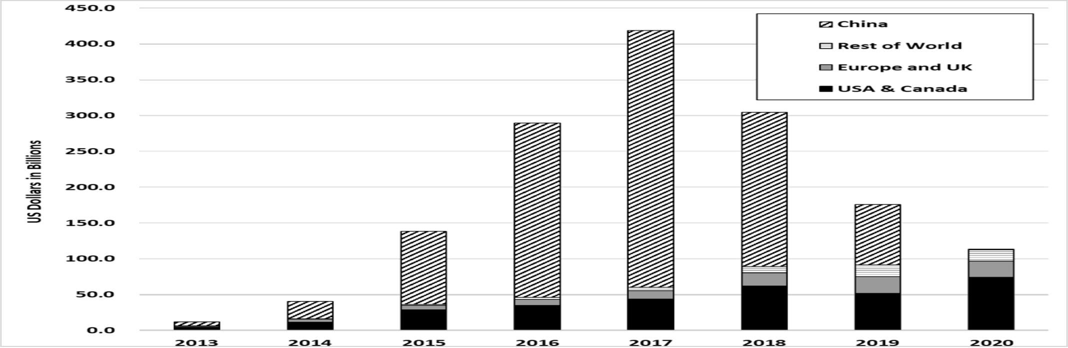
Companies That Started with Crowdfunding			
oculus Kickstarter, raised $2,4M	pebble watch Kickstarter, raised $10M	EXPLODING KITTENS Kickstarter, raised 88,8M	BREWDOG Crowdcube, raised €7,3M

Alternative finance grew rapidly over 15 years, reaching US$419 billion in 2017, with China reaching **86% of the global market!**

- Widespread fraud, bankruptcies and a regulatory crackdown saw of hundreds of Chinese portals close. Millions of investors lost their life savings.
- Fraud case: Ezubao
    - founded 2014, became one of China's largest P2P platforms, raising $8 billion within 2 years.
    - In early 2016, news outlets reported that 20 people associated with the platform had been arrested for fraud.
    - Chinese retail investors staged protests in front of police stations, publicly blaming the platform operators and lax regulators for their losses.

By 2020, $114 billion was raised globally: USA 65%, Europe 20%, and China 1%.

- Alternative finance has raised close to $1.5 trillion over 2013-2020.
- Alternative finance was summarily banned entirely in China.
- Ex-China growth continues.



Alternative Finance Market Size and Growth

- In 2020, debt crowdfunding was 89% of funding raised, equity 4%, and non-investment (donation, rewards) 7%.

Table 7.3. Global Crowdfunding Volumes, 2019–2020

	2019		2020		Y-O-Y
	US$ billions	%	US$ billions	%	Growth (%)
DEBT:					
P2P/marketplace lending	128.5	73.1	53.2	46.8	–59
Balance sheet lending	34.6	19.7	42.9	37.7	24
Other debt-based	5.0	2.8	5.0	4.4	0
SUBTOTAL	168.1	95.7	101.0	88.9	–40
EQUITY:					
Real estate crowdfunding	2.9	1.6	2.8	2.4	–3
Equity-based crowdfunding	1.1	0.6	1.5	1.3	39
Other equity-based	0.1	0.0	0.1	0.1	92
SUBTOTAL	4.0	2.3	4.4	3.9	9
INVESTMENT	172.1	98.0	105.4	92.7	–39
Donation-based crowdfunding	2.7	1.5	7.0	6.2	161
Rewards-based crowdfunding	0.9	0.5	1.3	1.1	39
NON-INVESTMENT	3.6	2.0	8.3	7.3	131
TOTAL RAISED	175.7	100.0	113.7	100.0	–35

Source: Cambridge Centre for Alternative Finance, 2021.

Regulation is a high barrier to entry

- U.S. crowdfunding platforms are covered by federal and state licensing requirements, consumer protection laws, securities laws, anti-money laundering laws, and national securities association (FINRA) rules.
- They must register with the U.S. Securities and Exchange Commission (SEC), become a FINRA member, and meet ongoing reporting and disclosure requirements.

In 2016, the Office of the Comptroller of the Currency (OCC) announced plans to issue a special fintech charter that would allow online portals to be supervised federally and not by states.

- Square applied in 2017 and received its charter in 2020.
- SoFi applied in 2017 and received its charter in 2022.
- Many fintechs have not applied, preferring to use banking-as-a-service

They charge fees to users on various sides of their multi-sided platforms: (1) Issuers or borrowers on one side; (2) Investors or lenders on the other

- Sign-up fee: may charge a listing fee regardless of success or failure of campaign
- Subscription fee: or charge a monthly or annual fee that allows issuers to run campaigns over a fixed period
- Underwriting fee: 1% to 5% of any capital raised
- Carry percentage / warrants: platform may invest in the campaign and share upside if successful
- Payment processing fee: 3% on payments plus an amount per pledge paid (similar to a credit card issuer)
- Management fee: a percentage of assets under management (AUM)

Online lending portals charge fees to both the borrower and the lender:

- Loan interest rate: 6% to 30% APR, or more
- Origination fee: 3.0% to 6.5% of amount raised
- Late or missed payment fee: specified in the loan contract (called an indenture);
  - Example: overdue payment fee equal to 15% of missing loan payments
- Servicing fee: 1% to 3% of each payment
- Marketing (or Transaction) fee: charge a bank, a hedge fund, or a high net–worth individual a fee to cover the expense of acquiring customers. LendingClub charges banks 1% to 6% of the face amount of the loan.

Competition and Financial Inclusion

- Entered markets with fewer bank branches, lower incomes, more minority households, underbanked rural communities, industries with fewer banking relationships,
- Entered markets where complaints about bank misconduct are higher, and where banks have pulled back during past economic downturns (including 2008 global financial crisis).

Other studies disagree, saying they target borrowers with higher credit scores and education

- Online lenders do not target risky or marginal borrowers who have low access to finance, but instead provide credit to borrowers who already have access via banks.
- Fintech mortgage lenders process mortgage applications 20% faster than other lenders but charge a premium interest rate and serve more educated and older borrowers with good access to finance.

Discrimination and Bias in Alternative Finance

- Female entrepreneurs represented only 35% of Kickstarter campaigns but had higher funding success.
- Experienced male and female investors show no gender bias when investing in projects. But inexperienced female investors favored female founders.
- African American men are significantly less likely than similar white founders to receive equity crowdfunding.
- Latinx (Latin American origin) and African American borrowers were charged significantly higher interest rates on online mortgages.
- Algorithmic decision-making tools such as machine learning may incorporate bias. When trained on data that itself incorporates human biases based on gender, race, income levels, and other factors.

LendingClub is a U.S.-based financial technology company known for launching one of the first major peer-to-peer (P2P) lending platforms in the world.

- Founded in 2006, it began as a marketplace where individual borrowers could access personal loans funded by individual or institutional investors.
- 2007: Becomes the first P2P lender to register its offerings with the SEC
- 2014: Went public on the NYSE, raising $870 million — one of the largest fintech IPOs
- 2021: Acquired Radius Bank, becoming a fully chartered digital bank — a major pivot from marketplace lending to traditional banking

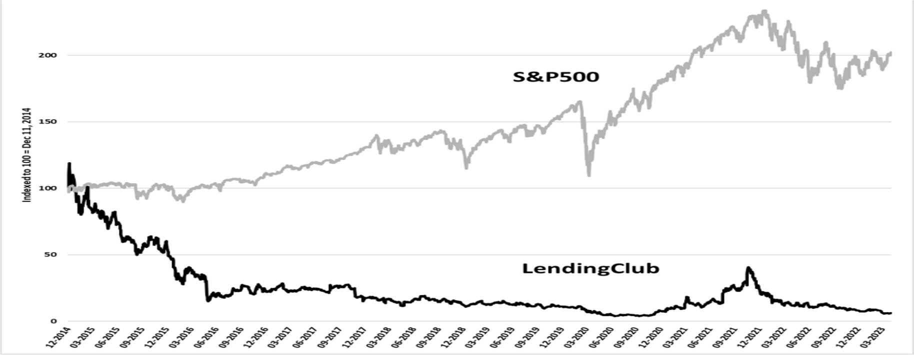
Year	Billion	Key Events
2007	0.002	Launched as Facebook app
2008	0.01	Early P2P lending model
2009	0.03	Shift to direct lending
2010	0.2	Secures major funding
2011	0.5	Institutional investors join
2012	1.0	Expands loan categories
2013	2.1	Prepares for IPO
2014	4.3	Goes public (NYSE: LC)
2015	8.4	Record growth post-IPO

Year	Billion	Key Events
2016	8.8	CEO resignation scandal
2017	7.9	Regulatory crackdown
2018	10.9	Acquires Radius Bank
2019	12.2	Peak origination volume
2020	4.3	COVID-19 shutdowns
2021	10.4	Rebound; digital banking push
2022	13.1	steady growth
2023	7.4	Rate hikes slow lending

LendingClub was listed on the NYSE in 2014 at $15.00 per share

- LC had originated $6 billion in loans over 7-years but was still unprofitable.
- The stock price rose to $25.74, then declined steadily.

Figure 7.4. LendingClub vs. S&P 500 Composite Index



Social Finance (SoFi) was founded as a P2P lender

- Started in San Francisco in 2011 by four Stanford business school students who saw gap for alumni to fund MBA students at leading U.S. universities.
  - By 2013, SoFi had funded $200 million in loans to 2,500 undergraduate and graduate students at 100 eligible schools.
  - SoFi moved away from this base, raising funding from angels, VCs and banks. They securitized their loan book.
  - They focused on building relationships with former borrowers (called members) through singles events, wine tastings, career counseling, and home-buying workshops.

SoFi has grown to become a one-stop shop for financial services that allows members to borrow, save, spend, invest, and protect their money.

- In mid-2021, SoFi went public in a SPAC-related IPO that valued the fintech at $9 billion.
- SoFi was the largest non-bank unsecured consumer lender in the United States.

Despite the success and media attention, SoFi has lost money in its last three fiscal years

- Operating expenses exceed revenues by a large margin

Table 7.7. SoFi Selected Financial Statements, 2020–2022

	2020	2021	2022		2020	2021	2022
INCOME STATEMENT		US$ millions				% of Revenues	
Net interest income	178	252	584		31	26	37
Noninterest income	388	733	989		69	74	63
Revenues	566	985	1,574		100	100	100
Less: Provision for credit losses	0	8	54		0	1	3
Less: Noninterest expense	894	1,458	1,838		158	148	117
Less: Income tax	−104	3	2		−18	0	0
Net income (loss)	−224	−484	−320		−40	−49	−20
BALANCE SHEET		US$ millions				% of Assets	
Cash and securities	873	495	1,422	10	5	7	10
Loans and other assets	7,691	8,682	17,586	90	95	93	90
Assets	8,563	9,176	19,008	100	100	100	100
Liabilities	5,510	4,479	13,479	64	49	71	64
Equity	3,054	4,698	5,528	36	51	29	36