Data&Society

Peer-to-Peer Lending

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Introduction

The collapse of the financial system starting in 2008 shattered public confidence in the traditional intermediaries of the financial system - the regulated banks. Not only did the mainstream financial system implode leaving millions of borrowers baring an extraordinary debt burden, the contraction that followed left individuals and small businesses cutoff from fresh sources of credit. "Disintermediation," the idea that we can have credit without banks, became a political rallying cry for those interested in reforming the financial system to better serve the interests of consumers. As the Financial Times has put it, peer-to-peer lending companies offered to "revolutionize credit by cutting out, or disintermediating, banks from the traditional lending process."[2] Although the amount of credit available through peer-to-peer lending is miniscule in comparison to traditional credit, the public attention given to this phenomenon is significant.

Peer-to-peer lending started out as a relatively simple system for facilitating loans between individuals online, but has since grown into a complex ecosystem of technologies, institutions, and auxiliary startups. While by definition, the term "peer-to-peer" designates exchange between individuals, the term has increasingly become a misnomer for this industry, which is increasingly

[1] I am very grateful for the contributions and insights made by Alex Rosenblat, Martha Poon, and danah boyd in the research and production of this primer.

[2] Alloway, Tracy. "Big Banks Muscle in on Peer-to-Peer Lending." *Financial Times*, October 28, 2013, accessed March 23, 2015, http://www.ft.com/intl/cms/s/0/b0696414-3f3f-11e3-9657-00144feabdc0.html#axzz3WYdyUBa7.

referred to as "marketplace" lending. Initially, borrowers could crowdfund loans by appealing to multiple small investors. But today, the majority of peer-to-peer loans are purchased by large investors like banks, hedge funds, and wealth management firms. The entry of these investors has motivated a growth of startups and other actors dedicated to advising investors, performing loan data analysis, and automating the investment process. The promise of disintermediation, or removing the banks from the equation, has given way to a wide array of intermediaries, including but not limited to banks.

Calls for increased regulation of alternative consumer lending have centered around greater monitoring of data accuracy in underwriting, scrutiny on compliance with laws like the Equal Credit Opportunity Act at the level of credit decision-making, and the Fair Credit Reporting Act at the level of consumer information and transparency. Unlike other forms of online lending, however, peer-to-peer lending platforms typically rely on mainstream credit data to approve loan requests and to assign interest rates. Lenders then use loan-level data to select and further screen loans for investment. In this system, loan decisions are diffused across multiple investors, an arrangement which poses challenges to defining what discrimination might look like in this context, or where accountability might lie.

Peer-to-peer lending also complicates visions of what a fair lending model might look like. While consumer protection laws in lending are designed to deter discrimination against protected categories such as race, sex, and religion, the norms of what constitutes fairness towards consumers is not set by legal mandate and may change over time. Going beyond the point where underwriting decisions are made, efforts to discern where to locate questions of fairness and discrimination in the peer-to-peer lending world may depend on examining the business model and broader ecosystem in which peer-to-peer lending is situated. The goal of this primer is to map out this ecosystem and ask where incentives to profit and obligations of accountability for protecting consumers lie, and what functions are served through the circulation of loan data across the loan funding process.

What is peer-to-peer lending?

Peer-to-peer lending is used to describe online marketplaces where lenders (also referred interchangeably as investors) can lend to individuals or small businesses. In 2005, the first peer-to-peer lending platform, Zopa, was established in the UK, followed shortly in the U.S. by Prosper, Lending

Club, and others. Today, there are over a dozen peer-to-peer lending companies in the U.S., although Lending Club and Prosper comprise 98% of the market as of 2014.[3] Lending Club has disbursed more than $4 billion in loans, while its nearest competitor, Prosper Marketplace, disbursed $1.6 billion.[4] The peer-to-peer lending industry has also founded its own international conference that meets annually (Lendit Conference held in the U.S., Europe, and China)[5] and trade association (U.K.-based Peer2Peer Finance Association).[6] While there are some variations in business models across peer-to-peer lending companies, this overview will focus primarily on the practices of these two major actors.

Types of peer-to-peer lending platforms:

Peer-to-peer lending has spread across various segments of the lending market. Some peer-to-peer lending companies target specific loan types, including:

- **Consumer loans:** Consumer lending includes debt consolidation and refinancing, home improvement, major purchases, and more recently, medical loans. Some lending platforms (e.g. BlueYield, Neo Finance) specialize in specific types of consumer loans, such as auto loans. While Prosper and Lending Club offer a variety of loan categories, the majority (77% of all loans on Lending Club[7]) of consumer loans are used either to refinance existing loans or to pay off credit card debt. The types of loans available are usually small-scale for consumer loans. On Lending Club, the average loan is $13,076[8] while the maximum sum that can be borrowed is $35,000 on both Prosper and Lending Club. Loans on most platforms typically have terms ranging from 3 to 5 years.[9]

[3] "Banking without Banks." *The Economist*, March 1, 2014, accessed April 27, 2015, http://www.economist.com/news/finance-and-economics/21597932-offering-both-borrowers-and-lenders-better-deal-websites-put-two.

[4] Buhayar, Noah. "Where Peer-to-Peer Loans Are Born." *Bloomberg*, April 16, 2015, accessed April 27, 2015, http://www.bloomberg.com/news/articles/2015-04-16/webbank-where-peer-to-peer-loans-are-born.

[5] "About LendIt," *LendIt Conference*, accessed April 20, 2015, http://www.lendit.co/about.

[6] "About P2P Finance," *Peer2Peer Finance Association*, accessed April 21, 2015, http://p2pfa.info/about-p2p-finance.

[7] Lending Club, "Lending Club Statistics," accessed April 8, 2015, https://www.lendingclub.com/info/statistics.action.

[8] de la Merced, Michael J. "Lending Web Site Gains a Shareholder in Google." *New York Times*, May 2, 2013, accessed March 21, 2015, http://dealbook.nytimes.com/2013/05/02/google-to-invest-in-lending-club/.

[9] Morse, Adair. *Peer-to-Peer Crowdfunding: Information and the Potential for Disruption in Consumer Lending* (January 17, 2015), p. 5. Available at SSRN: http://ssrn.com/abstract=2551272.

- **Small business loans:** Some peer-to-peer lending companies, like Funding Circle, OnDeck, and Raiseworks, focus exclusively on small business loans. In some cases, small business lenders have partnered with banks, which have agreed to refer loans to them that do not fit their credit criteria.[10]
- **Student loans:** Some lending platforms, like CommonBond and SoFi, specialize in student loans. There are two types of student loans offered in peer-to-peer lending; (1) student debt consolidation, and (2) direct student loans for qualified graduate degree programs.[11]
- **Real Estate loans:** Real estate lenders (e.g. RealtyMogul, LendingHome, Fundrise) differ to an extent from other markets for peer-to-peer lending. Loans are typically secured by real estate,[12] and individuals can only register as lenders if they qualify as "accredited" investors.

Most peer-to-peer lending platforms offer their services domestically. However, some lending platforms have not completed state-specific securities registration in all 50 states, so borrowers and/or lenders in some states are unable to register on their websites.[13] Exceptions include lenders like BTCJam and Bitbond, which offer Bitcoin-based lending and can lend internationally.

Peer-to-Peer lending as an "alternative" system:

Alternatives to mainstream lending have long existed. Most recently, the online lending industry has taken up a variety of business models, including short-term and installment-based payday lending, revolving lines of credit for small businesses, and peer-to-peer lending. By connecting individual borrowers to prospective lenders via online platforms, peer-to-peer lending companies claim to provide an alternative and more efficient lending model to mainstream financial institutions. Yet despite its growth, the online lending sector comprises only about $25 billion[14] within a consumer credit market currently valued at $3 trillion.[15] Lending Club, the largest peer-to-peer lending platform,

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[10] Chen, Shindy. "For Small Businesses, Funds are Now a Click Away," *Huffington Post*, February, 12, 2015. http://www.huffingtonpost.com/shindy-chen/for-small-businesses-funds-are-now-a-click-away_b_6646620.html.

[11] Farrington, Robert. "The Rise of Peer to Peer Student Loans,' *Forbes*, August 13, 2014. http://www.forbes.com/sites/robertfarrington/2014/08/13/the-rise-of-peer-to-peer-student-loans.

[12] "The Newest Entrant to the P2P Market: Real Estate Secured Loans," *RealtyMogul*, accessed April 16, 2015, https://www.realtymogul.com/blog/the-newest-entrant-to-the-p2p-market-real-estate-secured-loans.

[13] U.S. Government Accountability Office. *Person to Person Lending: New Regulatory Challenges Could Emerge as the Industry Grows.* GAO-11-613. (Washington, DC.: U.S. Government Accountability Office, July 2011), p. 27. Available at http://www.gao.gov/new.items/d11613.pdf.

[14] McLannahan, Ben. "Peer-to-Peer Parties Past Talk of Credit Reckoning." *Financial Times*, April 2, 2015, accessed April 27, 2015, http://www.ft.com/intl/cms/s/0/0808d99e-d953-11e4-8ed9-00144feab7de.html#axzz3WYdyUBa7.

[15] Ford, Jonathan. "Banks Are Taking a Risk by Treating Peer-to-Peer Lenders Lightly." *Financial Times*. December 14, 2014, accessed April 8, 2015, http://www.ft.com/intl/cms/s/0/306ef9a0-8394-11e4-8a84-00144feabdc0.html.

has a market value of about $7 billion as of 2015.[16]

Originally, the primary attribute that characterized peer-to-peer lending as "alternative" was a promise to 'return' to informal and direct lending within a community of trusted peers. The ambition to 'cut out the middle-man' or to otherwise reduce friction in facilitating access to products and services has been a core element behind the drive of Internet-based commerce; whether through companies like Amazon, or more recently in the emergence of on-demand service companies like Uber, which uses a mobile app to connect drivers with passengers.

The promises made by and about the peer-to-peer lending industry in its initial form can be broadly summarized as follows:

Efficiency through technology and disintermediation:

- Taking lending online streamlines the loan application process, allowing for faster and more convenient access to financial services than would be possible with a traditional bank's bureaucracy and slow loan application turnover.
- By eliminating the brick-and-mortar operating costs inherent to banks, peer-to-peer lending companies can translate the savings into lower interest rates for borrowers.[17]

Financial inclusion through better underwriting:

- Peer-to-peer lending companies claim to discover creditworthy consumers who have been underserved by mainstream financial institutions, largely because of "thin" credit histories or, in the case of small businesses, due to lack of small business loan options.
- Proprietary algorithms owned by peer-to-peer lending companies use a wider range of credit variables and can present a more "accurate" picture of a borrower's credit risk.
- Consumers can build their credit scores by using peer-to-peer loans to refinance/consolidate credit card debt. As a result, they can receive lower rates on future peer-to-peer loans as well as gain greater access to mainstream credit.

Greater transparency in the loan process:

[16] Buhayar, "Where Peer-to-Peer Loans are Born."

[17] "Peer-to-Peer Lending: Ready to Grow, Despite a Few Red Flags." *Knowledge@Wharton*, accessed April 8, 2015, http://knowledge.wharton.upenn.edu/article/peer-peer-lending-ready-grow-despite-red-flags/.

- By making historical loan data publicly available (in this case, specifically U.S.-based Prosper and Lending Club), peer-to-peer lending companies are creating greater transparency by allowing their users to view past loan performance.
- Peer-to-peer lending platforms reduce the risks, lack of trust, and information asymmetries inherent in transactions between strangers by performing the task of underwriting loans.
- By using the data available, investors are able to perform their own data analysis, and thereby possess greater agency in where and how they invest their money.[18]

However, the picture today is very different. In recent years peer-to-peer lending has shifted away from many of the above promises that positioned it as an alternative to mainstream lending. As individual lenders have come to be replaced by large investors and the lending process has acquired new layers of intermediation, the industry has rebranded itself as "marketplace lending."[19]

From peer-to-peer to marketplace lending

Microfinance and alternative consumer scoring:

Peer-to-peer lending has parallels in the emergence of "microfinance," as well as in donation-based "crowdfunding" sites like Kickstarter and GoFundMe, where individuals can raise capital by setting up campaigns to solicit contributions for entrepreneurial projects. Like peer-to-peer lending in its earlier form, crowdfunding involves setting up an online profile where the person seeking funding can plead their case in narrative form. The role of the crowdfunding site is to provide a platform for connecting geographically dispersed funders to particular causes they care about.

Microfinance has its origins in the international nonprofit sector and projects for economic development in impoverished populations of the Global South. In 1983, banker and economist Muhammad Yunus established Grameen Bank, which disbursed small loans to fund micro-

[18] Magee, Christine. "Trillion-Dollar Alternative Lending Industry Is A VC Gold Mine." *TechCrunch*, March 15, 2015, accessed April 8, 2015. http://social.techcrunch.com/2015/03/05/trillion-dollar-alternative-lending-industry-is-a-vc-gold-mine/.

[19] Wack, Kevin, Colin Wilhelm, and John Adams. "Innovation of the Year: Online Marketplace Lending," *American Banker*, December 17, 2014, accessed May 12, 2015, http://www.americanbanker.com/news/bank-technology/innovation-of-the-year-online-marketplace-lending-1071693-1.html.

enterprises, primarily to impoverished women in Bangladesh.[20] In 2005, the nonprofit Kiva took the idea of microfinance online, and used online profiles to appeal to prospective lenders in countries like the U.S.[21]

Microfinance emerged in parallel with calls for universal Internet access as a means to bring impoverished people into the global economic system. A 2015 report from the UK Government Office for Science lays out a vision that financial technology (also known as FinTech) should "play a role in reaching the 2.5 billion unbanked around the world, by offering mobile payments and microfinance solutions to ensure financial inclusion when traditional banking is unavailable or inaccessible."[22]

The use of alternative data arose in this context from an incentive to score populations in countries where fewer institutions exist to document individuals' financial histories, and where many lack bank accounts and access to credit.[23] Various FinTech startups have emerged that serve to generate scores for 'emerging markets' internationally. For example, InVenture, a California-based startup that operates in East Africa, India, and South Africa,[24] uses mobile technology to monitor and collect data on borrower behavior in real-time, such as the length of phone calls as a measure of social relationships that allegedly signal credit risk.[25] The emergence of alternative scoring mechanisms in the U.S. context[26] has more diffuse causes, such as the constriction of banks' willingness to lend (and to lend in small amounts) in light of the 2007-2008 financial crisis and the recession; consumers' efforts to seek out alternatives in the wake of diminished mainstream credit access; profit incentives that have specific regulatory directions; and the ease of access and availability of online data on consumers, including retail purchase histories, social media activity, and demographic information.

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[20] Wahid, Abu N. M. "The Grameen Bank and Poverty Alleviation in Bangladesh: Theory, Evidence and Limitations." *American Journal of Economics and Sociology* 53, no. 1 (January 1, 1994): 1–15.

[21] "History," *Kiva.org*, accessed April 8, 2015, http://www.kiva.org/about/history.

[22] U.K. Government Office for Science, "FinTech Futures: The UK as a World Leader in Financial Technologies," March 2015. Available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/413095/gs-15-3-fintech-futures.pdf.

23 Schreiner, Mark. "Credit Scoring for Microfinance: Can It Work?" Journal of Microfinance 2, no. 2 (September 1, 2000): 106.

[24] Lidsky, David. "Inventure," *Fast Company*, accessed April 8, 2015, http://www.fastcompany.com/3039583/most-innovative-companies-2015/inventure.

[25] InVenture, "Modern Credit for a Mobile World," accessed April 8, 2015, http://inventure.com/.

[26] For an overview of alternative data in the U.S. consumer credit marketplace, see the 2014 report by Upturn, "Knowing the Score: New Data, Underwriting, and Marketing in the Consumer Credit Marketplace," *Upturn*, October 2014. https://www.teamupturn.com/static/files/Knowing_the_Score_Oct_2014_v1_1.pdf.

Collaborative finance:

Like crowdfunding and microfinance, the emergence of peer-to-peer lending has its origins in what is sometimes called "collaborative finance." Fueled by the "growth of mass collaboration via the Internet," its advocates argue that collaborative finance is characterized by "transparency, openness, and sharing" horizontally among peers.[27] Originally, Lending Club was envisioned as a tool for turning social network sites and their social graphs into a resource for facilitating small loans between friends. It was first launched as a Facebook application in 2007, offering to match up borrowers and lenders from a pool of "trusted contacts."[28] Lending Club had an algorithm called LendingMatch, which identified shared connections through Facebook.[29] Similarly, users on Prosper initially could form online affinity groups based on common social bonds, such as college alumni or people who share a profession or hometown. Individuals organized and maintained these affinity groups, who in turn could get better rates as a group.[30] Loan listings resembled online dating profiles, including profile pictures of borrowers and biographical narratives. Some peer-to-peer lending platforms, like LendFriend, continue along this model, marketing themselves as digital intermediaries for borrowing money from family and friends,[31] while sites like Prosper have retained a "Friends & Family" loan option.[32]

The ecosystem of peer-to-peer/marketplace lending today

Peer-to-peer lending platforms today are sustained by a wide array of actors. The promise of disintermediation has given way to a collection of intermediaries, including banks, secondary markets facilitated by note trading platforms, third-party investing tools that analyze loan data and automate the investing process, wealth advisory firms that help large investors manage portfolios of loans, and

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27 Tapscott, Don, and Anthony D. Williams. *Macrowikinomics: New solutions for a connected planet.* Penguin, 2010, p. 42.

28 "Developer Partner Case Study: Lending Club," *LendingClub Corporation*, 2007, accessed April 8, 2015, https://www.lendingclub.com/fileDownload.action?file=facebook-case-study.pdf&type=press.

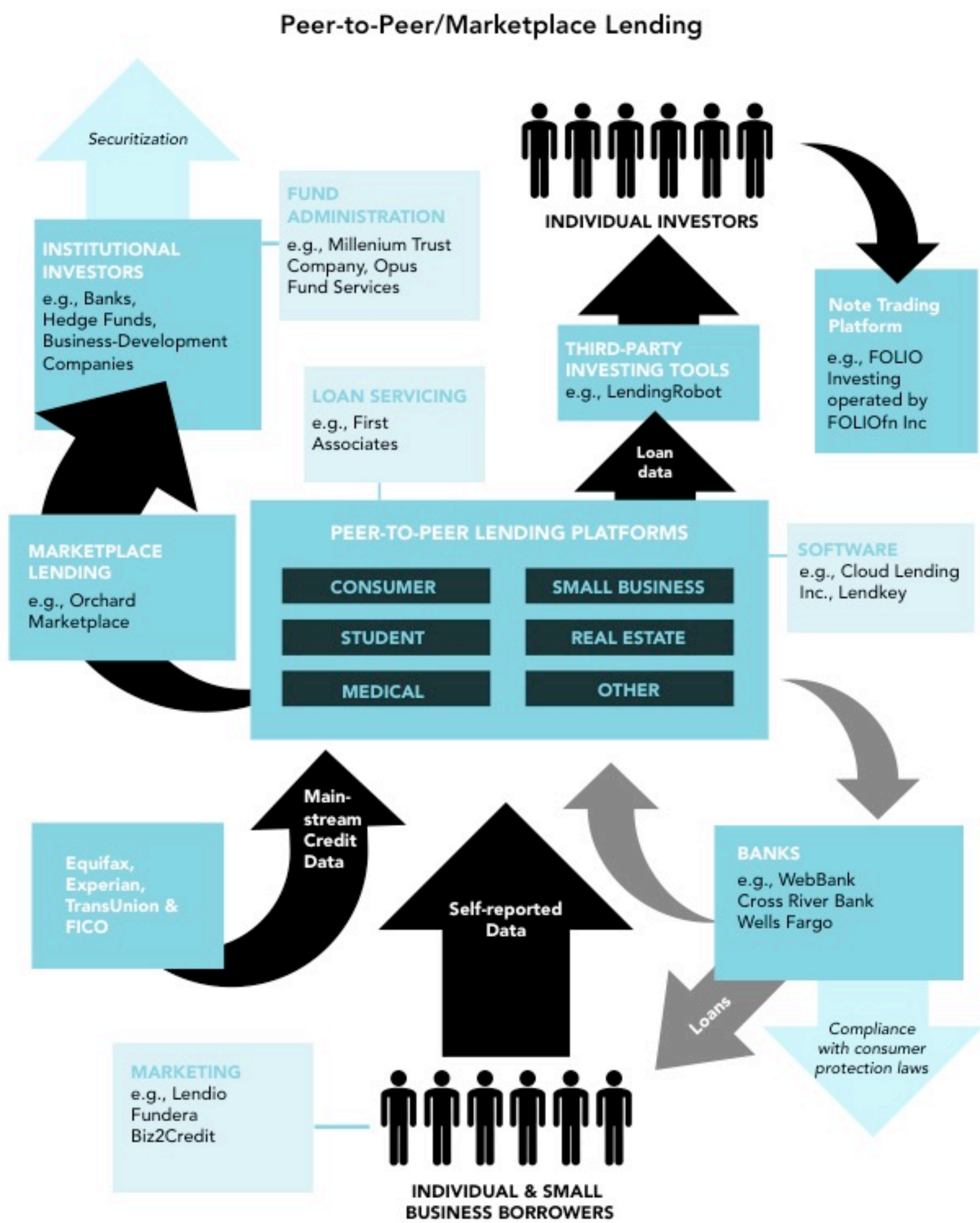
29 Kaplan, Dan. "Lending Club brings person to person loans to Facebook," *Venture Beat*, May 24, 2007, accessed April 9, 2015, http://venturebeat.com/2007/05/24/lending-club-brings-person-to-person-loans-to-facebook.

30 Herzenstein, Michal, Rick L. Andrews, Uptal Dholakia, and Evgeny Lyandres. "The democratization of personal consumer loans? Determinants of success in online peer-to-peer lending communities." *Boston University School of Management Research Paper* 2009-14 (2008); p. 6.

31 "LendFriend," *LendFriend*, accessed April 8, 2015. http://lendfriend.com/p2p/

32 "Friends and Family Loans at Great Rates - Get a Loan Today!" *Prosper Marketplace*, accessed April 8, 2015. https://www.prosper.com/loans/loan-types/friends-family-loans/.

marketplace platforms that match lenders and borrowers within a larger pool of peer-to-peer loan originators. Today, the peer-to-peer lending landscape can be represented broadly below:



How it works:

Peer-to-peer lending has been described as operating like an "eBay for credit," taking the entire loan process online and allowing lenders to 'shop' around for appealing investments.[33] A person visiting a peer lending website may register either as a borrower or as a lender. However, peer-to-peer lending platforms that have not registered their loans as securities with the Securities and Exchange Commission can only permit "accredited" investors to sign up as lenders.[34] An accredited investor must meet certain income and wealth requirements, such as having a net worth of over $1 million.[35]

Prosper and Lending Club do not limit lending to "accredited" investors. On sites like Prosper, an approved borrower can list a loan request, but this does not guarantee that it will get funded. Lenders browse loan listings and can view profile information such as a loan's assigned risk class and interest rate, as well as the borrower's username and state of residence. Additionally, there is an optional written narrative section where the borrower can explain why they need the loan or provide self-reported information about themselves, such as their occupation or life circumstances. However, borrowers are not permitted to disclose identifying information, such as name, address or information that reveals the borrower's race, religion, sex, among other personal attributes.[36]

Using loan listing profiles, lenders can decide how they wish to spread their money across multiple loans. There is a level of risk involved for lenders; the loans are unsecured, which entails that lenders stand to lose money if borrowers default and collections agencies are unable to recuperate the payments.[37] For this reason, lenders typically invest money in small amounts across multiple loans to minimize risk, in amounts as low as $25. Rather than browse individual loan listings manually, many lenders (both individual and institutional) use automated investing tools that analyze loan performance data and automatically select and fund loans with the aim of maximizing returns while conforming to lenders' preferences. In the past, a peer-to-peer loan listing could take weeks to get

[33] Manjoo, Farhad. "The Bank of Mom and Pop." *Slate*, April 19, 2011, accessed April 24, 2015, http://www.slate.com/articles/technology/technology/2011/04/the_bank_of_mom_and_pop.html.

[34] "Accredited Investors," *U.S. Securities and Exchange Commission*, accessed April 24, 2015. http://www.sec.gov/answers/accred.htm.

[35] "Investor Bulletin: Accredited Investors," *U.S. Securities and Exchange Commission*, accessed April 24, 2015. http://www.investor.gov/news-alerts/investor-bulletins/investor-bulletin-accredited-investors.

[36] "Borrower Registration Agreement," *Prosper Marketplace*, accessed May 13, 2015, https://www.prosper.com/account/common/agreement_view.aspx?agreement_type_id=7.

[37] Cohan, William D. "Bypassing the Bankers." *The Atlantic*, September 2014, accessed April 24, 2015, http://www.theatlantic.com/magazine/archive/2014/09/bypassing-the-bankers/375068/.

funded by multiple lenders. Today, loans can get listed and funded in a matter of seconds as a result of automated investing.[38]

Credit scoring:

Peer-to-peer lending companies use FICO scores as a baseline for screening out loan applicants below a given score, but also rely on additional self-reported information that traditionally are not reported to credit bureaus. Some documentation does not differ from what a loan officer would solicit at a bank, such as pay stubs as proof of income, but peer-to-peer lending companies may also request less conventional information, such as college major in the case of student loans. However, peer-to-peer lending generally differs from "big data" lenders like ZestFinance, which rely heavily on alternative data on borrowers.[39] Platforms like Prosper use variables such as a borrower's income, debt-to-income ratio, number of inquiries on the credit bureau, and loan payment performance on prior Prosper loans, among others.[40] Lending Club generates an internal score drawn from an "internally developed algorithm that analyzes the performance of Borrower Members and takes into account the applicant's FICO score, credit attributes, and other application data."[41]

On peer-to-peer lending sites, borrowers complete an online application and provide information about themselves. If the loan application is approved, the peer lending company typically obtains a credit report on the applicant. A portion of borrowers undergo a verification process where they are asked for documentation such as pay stubs, although sites like Lending Club only verify information such as income around 60% of the time.[42] Self-reported information is also compared with a borrower's credit report.

This data is then used to assign a loan grade using a proprietary scoring system, such as the "Prosper Rating" or Lending Club's "Model Rank." The loan grade is also determined based on the lending

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[38] Newberry, Jorge. "P2P Lending is Not Dead," *Huffington Post*, April 9, 2015, accessed April 23, 2015, http://www.huffingtonpost.com/jorge-newbery/p2p-lending-is-not-dead_b_7028292.html.

[39] Lohr, Steve. "Banking Start-Ups Adopt New Tools for Lending," *New York Times*, January 18, 2015, accessed April 8, 2015, http://www.nytimes.com/2015/01/19/technology/banking-start-ups-adopt-new-tools-for-lending.html.

[40] "Prosper Score," *Prosper Marketplace*, accessed April 8, 2015. https://www.prosper.com/help/topics/general-prosper_score/.

[41] "How We Set Rates," *LendingClub Corporation*, accessed April 8 2015. https://www.lendingclub.com/public/how-we-set-interest-rates.action.

[42] "More Information About Our 'Verified Income' Filter," *LendingClub Corporation*, Accessed April 27, 2015. http://blog.lendingclub.com/more-information-about-our-verified-income-filter/.

platform's historical loan performance and payment history, which is used to predict how a particular loan is likely to perform.[43] The loan grade sets a range of possible interest rates. For example, a loan on Lending Club with a letter grade A (highest score) on the Model Rank, has an average 7.64% interest rate, whereas loans with grades F and G (lowest score) have an average 22.53% interest rate.[44] Lenders can view this grade as well as the interest rate and other information, but do not have access to the borrower's name or other identifying information. On Prosper and Lending Club, interest rates for loans range from 6.68% to 35.97% (35.36% for Prosper)[45] APR depending on internally-assigned loan grade, with average interest rates of 15.5% (Lending Club) and 16.3% (Prosper).[46]

Other peer-to-peer lending companies also rely on more nontraditional forms of 'soft' information in addition to credit scores and reports. Upstart, a lending site which targets young college graduates,[47] asks for self-reported borrower information such as universities attended, college major, GPA, SAT scores, salary, current place of employment, residence situation (e.g. own or rent), cost of rent, and amount of money in checking/savings account.[48] OnDeck, which provides loans to small businesses, uses reviews on Yelp and Google Places, in addition to other variables such as a business's cash flow data.[49]

Who borrows with peer-to-peer lending?

Peer-to-peer lending platforms have not released data on the demographics of registered borrowers or individual lenders. However, a few things are known. Using a snapshot of loan data from Lending Club, one study characterized borrowers as "debt-laden, middle-to-high income, individuals who are consolidating credit cards and other debt."[50] As noted earlier, most individual borrowers turn to peer-

[43] Renton, Peter. "How Lending Club and Prosper Set Interest Rates." *Lend Academy*, accessed April 8, 2015. http://www.lendacademy.com/how-lending-club-and-prosper-set-interest-rates/.

[44] "Lending Club Statistics," *LendingClub Corporation*, accessed April 8 2015. https://www.lendingclub.com/info/demand-and-credit-profile.action.

[45] "Personal Loans: Rates & Fees for Borrowers," *Prosper Marketplace*, accessed April 8, 2015. https://www.prosper.com/loans/rates-and-fees/.

[46] "Peer-to-Peer Lending: Ready to Grow, Despite a Few Red Flags." *Knowledge@Wharton*, accessed April 8, 2015. http://knowledge.wharton.upenn.edu/article/peer-peer-lending-ready-grow-despite-red-flags/.

[47] Ludwig, Adam. "Upstart's P2P Lending Platform Aims at Young Borrowers," *Techonomy*, accessed April 8, 2015, http://techonomy.com/2014/08/upstarts-p2p-lending-platform-aims-young-borrowers/.

[48] "Upstart," *Upstart*, accessed April 12, 2015. https://www.upstart.com/.

[49] "Need A Business Loan? Impress The Algorithm, Not The Loan Officer." *Forbes*, March 27, 2013, accessed April 8, 2015, http://www.forbes.com/sites/jjcolao/2013/03/27/need-a-business-loan-impress-the-algorithm-not-the-loan-officer/.

[50] Morse, Peer-to-Peer Crowdfunding: Information and the Potential for Disruption in Consumer Lending, p. 4

to-peer lending in order to consolidate existing debt. Lenders like CircleBackLending advertise on their website to people "feeling overwhelmed" by credit card and personal debt, who are "frustrated from the inability to negotiate a lower interest rate with credit companies and creditors."[51] Peer-to-peer lending companies like LendStreet advertise themselves as a means for people to refinance their debt and help rebuild their credit.[52] As with payday loans, speed and convenience may be another factor that draws people to peer-to-peer lending. But while 12 million adults annually rely on the payday lending industry in the U.S.,[53] peer-to-peer loans have relatively higher barriers to access. And while payday loans are used primarily to cover ordinary living expenses throughout the year (rather than special, one-time expenses),[54] peer-to-peer loans are sought after for a variety of reasons.

In their initial years, peer-to-peer lending companies had fewer borrowing restrictions.[55] In the case of Prosper, most potential borrowers were allowed to request funds, on the assumption that lenders would self-regulate by using rational judgment to reject risky loan listings. However, this system resulted in high default rates, and led to more stringent screening of loan applications by the lending sites themselves. Today, the two major U.S.-based companies, Prosper and Lending Club, are among the most exclusive. Prosper and Lending Club now claim to focus exclusively on "prime" and "near-prime" borrowers.[56] Among the borrower requirements for Lending Club are "satisfactory" debt-to-income ratios, a credit history longer than 36 months, and a limited number of credit inquiries in the last six months.[57] Lending Club and Prosper set their minimum FICO scores at 660[58] and 640 respectively, although the average FICO credit score of a Lending Club borrower is 699.[59] Among borrowers that meet the minimum credit score, only 10% of loan applications get funded on either

[51] "Your Debt Consolidation," *CircleBackLending*, accessed April 8, 2015. https://www.circlebacklending.com/loan_types.php
[52] "Lend Street," *LendStreet*, accessed April 8, 2015. https://www.lendstreet.com/
[53] "Payday Lending in America: Who Borrows, Where they Borrow, and Why," *Pew Charitable Trusts*, July 2012, p. 4. Accessed March 17, 2015. Available at http://www.pewtrusts.org/~/media/legacy/uploadedfiles/pcs_assets/2012/PewPaydayLendingReportpdf.pdf.
[54] Ibid, p. 4.
[55] Feldman, Amy and Beth Pinsker. "P2P Lending Pulls in Big Investors - Should You Bite?" *Reuters*, August 27, 2013, accessed April 19, 2015, http://www.reuters.com/article/2013/08/27/us-debt-loans-p2p-idUSBRE97Q0YQ20130827.
[56] Cortese, Amy. "Loans That Avoid Banks? Maybe Not." *The New York Times*, May 3, 2014, accessed April 19, 2015, http://www.nytimes.com/2014/05/04/business/loans-that-avoid-banks-maybe-not.html.
[57] Cox, Jeff. "A shadow banking sector has gotten 65 times larger," *CNBC*, March 15, 2015, accessed May 13, 2015, http://www.cnbc.com/id/102496711.
[58] Verstein, Andrew. "The Misregulation of Person-to-Person Lending" *UCDL Rev.* 45 (2011): 445.
[59] "Earn Solid Returns," *LendingClub Corporation*, accessed May 13, 2015, https://www.lendingclub.com/public/steady-returns.action.

Prosper or Lending Club.[60] Other peer lending platforms, such as Peerform, have a lower cut-off point, and accept borrower applications with FICO scores as low as 600, contending that the FICO score is not necessarily the most accurate indicator of credit risk.[61]

Young college graduates are another demographic that regularly seeks loans. Lenders like SoFi and Upstart,[62] which focus on young and student borrowers, identify their market as "millennials," particularly young professionals with assessed high earning potential or steady income, but who have short credit histories and/or difficulty obtaining bank loans.[63] This suggests that while the target demographic may not be low-income borrowers who would otherwise turn to payday lending, peer-to-peer lending may be used by individuals who are financially distressed by debt, or individuals with thin credit files in the case of student loans.

Institutional investors:

Media coverage often continues to characterize peer-to-peer lending as the "bank of Mom and Pop," although small-scale lenders are playing an increasingly marginal role.[64] In 2012 and 2013, Prosper and Lending Club added "whole loan" offerings, as opposed to fractional loans that are funded through piecemeal investment by multiple lenders.[65] In 2014, around 65% of over $3 billion in loans on Lending Club and Prosper were funded by institutional investors who purchased whole loans.[66] Among large investors include banks, hedge funds, business-development companies, and others.[67]

Investors like community banks have begun making loans through peer-to-peer lending platforms in

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[60] Salmon, Felix. "The Problem with Peer-to-Peer Lending." *Reuters Blogs*. January 19, 2010, accessed April 8, 2015, http://blogs.reuters.com/felix-salmon/2010/01/19/the-problem-with-peer-to-peer-lending/.

[61] Renton, Peter. "Peerform Making a Comeback With a New Underwriting Model," *Lend Academy*, May 13, 2014, accessed April 8, 2015. http://www.lendacademy.com/peerform-making-a-comeback-with-a-new-underwriting-model/.

[62] Ludwig, Adam. "Upstart's P2P Lending Platform Aims at Young Borrowers," *Forbes*, August 18, 2014, accessed April 23, 2015, http://www.forbes.com/sites/techonomy/2014/08/18/upstarts-p2p-lending-platform-aims-at-young-borrowers/.

[63] Groenfeldt, Tom. "Your New Loan Officer is Software," *Forbes*, June 25, 2014, accessed April 23, 2015, http://www.forbes.com/sites/tomgroenfeldt/2014/06/25/your-new-loan-officer-is-software/.

[64] Manjoo, Farhad. "The Bank of Mom and Pop."

[65] "Impact of Whole Loan Funding on Prosper | Orchard." *Orchard Platform*, accessed April 8, 2015, http://www.orchardplatform.com/blog/impact-of-whole-loan-funding-on-prosper/.

[66] "Wall Street Is Hogging the Peer-to-Peer Lending Market." *Quartz*, March 4, 2015, accessed April 8, 2015. http://qz.com/355848/wall-street-is-hogging-the-peer-to-peer-lending-market/.

[67] Light, Joe. "Would You Lend Money to These People?" *Wall Street Journal*, April 14, 2012, accessed April 20, 2015, http://www.wsj.com/articles/SB10001424052702304587704577333801201736034.

order to reduce the cost of underwriting small consumer loans. For example, BancAlliance, a network of community banks, partnered in 2015 with Lending Club to purchase loans on the platform, as well as to facilitate bank customers' loans.[68] Ron Suber, the CEO of Prosper has stated that he envisions peer-to-peer lending as a component that "plugs in" to banks to provide loans at a cheaper rate. One criticism of this shift, however, is that it is being used by banking institutions as a means to sidestep regulatory requirements. [69]

The influx of large investors also means that a large proportion of available loan listings become unavailable to any actor who does not have the money to purchase a loan wholesale. One implication of this shift is increased competition for better-quality borrowers,[70] which may eventually lead to a loosening of underwriting standards.[71] The entry of institutional investors has also made loan securitization possible, in which large amounts of loans can be bundled into securitized bonds and sold to other investors.[72]

Regulation:

While peer-to-peer lending is commonly described as a system that "bypasses" banks, there is usually a bank sponsor involved in the lending process due to Securities and Exchange Commission (SEC) regulation. Peer-to-peer lending companies are not originators of loans themselves, nor do registered lenders invest directly in loans. Rather, they purchase payment-dependent notes that correspond to a share of a borrower's loans.[73] At Prosper and Lending Club, for example, loans originate from WebBank, a Utah-chartered Industrial Bank that specializes in FinTech startup clients.[74] WebBank disburses loans to borrowers and sells them to the lending platform "in exchange for principal amount

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[68] Tracy, Ryan. "Lending Club, Small U.S. Banks Plan New Consumer-Loan Program," *Wall Street Journal*, February 9, 2015, accessed April 20, 2015, http://www.wsj.com/articles/lending-club-small-u-s-banks-plan-new-consumer-loan-program-1423458187.

[69] Moore, Elaine and Tracy Alloway. "Peer-to-peer lending: The wisdom of the crowd," *Financial Times*, May 19, 2014, accessed March 19, 2015, http://www.ft.com/intl/cms/s/0/94eb60e6-df23-11e3-a4cf-00144feabdc0.html#axzz3YdxN4wHI.

[70] McLannahan, Ben. "Peer-to-Peer Parties Past Talk of Credit Reckoning." *Financial Times*, April 2, 2015, accessed April 8, 2015. http://www.ft.com/intl/cms/s/0/0808d99e-d953-11e4-8ed9-00144feab7de.html#axzz3WYdyUBa7.

[71] "Peer-to-Peer Lenders Can't Find Enough Borrowers." *Quartz*, March 24, 2015, accessed April 8, 2015. http://qz.com/367535/peer-to-peer-lenders-cant-find-enough-borrowers/.

[72] Eavis, Peter. "A Step Toward 'Peer to Peer' Lending Securitization," *The New York Times*, October 1, 2013, accessed April 1, 2015, http://dealbook.nytimes.com/2013/10/01/a-step-toward-peer-to-peer-lending-securitization/.

[73] U.S. Government Accountability Office, *Person-to-Person Lending*, p. 13

[74] "Webbank: Where Peer-to-Peer Loans are Born," *Bloomberg*, April 16, 2015, accessed April 22, 2015, http://www.bloomberg.com/news/articles/2015-04-16/webbank-where-peer-to-peer-loans-are-born/.

received from sale of platform note."[75] Borrowers are then scheduled for repayments including interest through monthly automatic bank transfer. While principal and interest go to the lender, the lending companies make a profit by charging a range of fees to both borrowers and lenders; borrowers pay closing fees on loans, as well as late payment fees, while lenders are charged annual servicing fees. If a borrower defaults on a loan, the lending company will assign a third-party collections agency to attempt to collect the overdue amount.[76]

Because the loans are unsecured, recourse options are limited in the event of default, and peer-to-peer lending companies must work to attract and maintain the confidence of lenders. The lending companies themselves do not have a direct stake in loan repayment, but they do have a stake in maximizing the volume of borrowers who apply for loans on their platforms. As a result, the success of a given loan from the standpoint of company profit lies in the length of time in which an individual is registered as a borrower on the peer-to-peer lending platform and can be charged fees along the loan process from listing to closing.

As stated previously, peer-to-peer lending companies usually operate by selling payment-dependent notes to investors, which are considered securities under the federal Securities Act of 1933. Lending Club and Prosper partner with WebBank, which is regulated by the Utah Department of Financial Institutions and the Federal Deposit Insurance Corporation (FDIC).[77] WebBank is subject to consumer lending regulations, including the Truth in Lending Act, Equal Credit Opportunity Act, Fair Credit Reporting Act, Fair Debt Collection Practices Act,[78] as well as the Electronic Fund Transfer Act and federal Electronic Signatures in Global and National Commerce Act (ESIGN).[79] As a result, Prosper and Lending Club are responsible for providing necessary disclosures on loans to WebBank,[80] and WebBank performs transaction-level testing of credit decisions to determine compliance with anti-discrimination requirements of ECOA.[81] In 2011, the U.S. Government Accountability Office issued a

[75] U.S. Government Accountability Office, *Person-to-Person Lending*, p. 12
[76] "Fees," *Prosper Marketplace*, accessed April 19, 2015. https://www.prosper.com/help/contextual/fees/.
[77] "Important Things to Know About Protection," *Prosper Marketplace*, Accessed April 21, 2015. https://www.prosper.com/help/general/#protection.
[78] "How is Lending Club regulated?" *LendingClub Corporation*, accessed April 20, 2015, http://kb.lendingclub.com/borrower/articles/Borrower/How-is-Lending-Club-regulated-borrower/.
[79] "Important Things to Know About Your Protection," *Prosper Marketplace*, accessed April 2, 2015, https://www.prosper.com/help/general/#protection.
[80] U.S. Government Accountability Office, *Person-to-Person Lending*, p. 32
[81] Ibid, p. 32

report on emerging regulatory challenges to peer-to-peer lending. The report assessed possible approaches to regulating peer-to-peer lending, noting two possibilities; (1) the current model: a "bifurcated" system that protects lenders under securities regulation and borrowers through financial services regulators (including the CFPB), or (2) a Consumer Financial Protection Bureau-centered approach, where investments would be considered consumer financial products instead of securities, and the CFPB would oversee protection of both lenders and borrowers.[82]

One criticism of current regulation is that it provides inadequate protection to peer-to-peer lending consumers. For one, peer-to-peer lending platforms do not always verify self-reported information, and on some platforms, borrowers can provide information about themselves in narrative form that is unverified. If a borrower commits fraud by lying on a loan application, then it is unclear what can be done if the lending company disclaims liability for inaccuracies.[83]

While the Equal Credit Opportunity Act was created to prevent credit discrimination against protected classes like race, religion, or sex,[84] the way in which loans are funded on peer-to-peer lending platforms poses a challenge to pinpointing where or when discrimination might take place. This is because, while peer-to-peer lending companies are responsible for screening borrowers and assigning proprietary scores and interest rates, they "abdicate the decision to fund a loan to disparate consumers who are not ECOA creditors."[85] The decision of whether or not a loan gets funded is diffused across many different lenders, each performing their own loan data analysis and filtering among available loans. As a result, the very business model of peer-to-peer lending may diffuse accountability and make it unclear how reasons can be given for adverse credit decisions.

Actors in the peer-to-peer lending space:

In recent years, the industry has given rise to an array of startup-driven technologies that have turned

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[82]Lee, Alex. "Peer to peer lending: the murky future with America's new consumer protector," *Reuters*, January 25, 2012, accessed February 28, 2015, http://blogs.reuters.com/financial-regulatory-forum/2012/01/25/peer-to-peer-lending-the-murky-future-with-america%E2%80%99s-new-consumer-protector/.

[83] Slattery, Paul. "Square Pegs in a Round Hole: SEC Regulation of Online Peer-to-Peer Lending and the CFPB Alternative." *Yale J. on Reg. 30* (2013), p. 259.

[84] "Your Equal Credit Opportunity Rights," *Federal Trade Commission*, accessed April 19, 2015. http://www.consumer.ftc.gov/articles/0347-your-equal-credit-opportunity-rights.

[85] Slattery, "Square Pegs in a Round Hole: SEC Regulation of Online Peer-to-Peer Lending and the CFPB Alternative," p. 269.

lending into a professional and competitive practice powered by sophisticated investing tools. Additionally, startups have emerged that are dedicated to funneling loans to institutional investors and helping them to build and manage large portfolios of loans. The New York Times claims there are more than a dozen investment funds dedicated to investing in peer-to-peer loans.[86] What follows is a brief overview of different actors involved in the peer-to-peer lending process.

Marketplace lending platforms:

In 2014, an investment and analytics startup called Orchard Platform launched an online marketplace that aggregates lending platforms "much the way Amazon aggregates independent merchants," in order to support large institutional investors in assessing loan performance data and buying up loans on a large scale.[87] While some lending platforms like Lending Club already work directly with large investors, Orchard has aggregated into one database peer-to-peer platforms dealing in consumer, small business, real estate, and other types of loans. For example, in 2015 Orchard partnered with Kabbage, an online small business lender, to connect its consumer loan product, Karrot, to Orchard's pool of large investors.[88] On Orchard, investors can search and filter loans, receive real-time statistics on loan performance, and use a range of tools to analyze the loan-level data originating from multiple lending platforms.[89] One result of aggregating originating loan platforms is that loans of all types, whether used to purchase a car or to pay off credit card or student debt, are brought into one market. Orchard has also created the Orchard U.S. Consumer Marketplace Index, an index which "tracks the performance of the aggregate amount of loans to consumers originated and funded on eligible US-based online lending platforms."[90] Other platforms like Fundera and Lendio allow individual borrowers and small businesses to shop between loan options on different peer-to-peer lending platforms, much in the way that online travel booking sites like Expedia allow people to search flight options.

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[86] Cortese, Amy. "Loans That Avoid Banks? Maybe Not." *The New York Times*, May 3, 2014. http://www.nytimes.com/2014/05/04/business/loans-that-avoid-banks-maybe-not.html.

[87] Wilhelm, Colin. "Are Online Lending Platforms Beating Banks at Big Data?" *American Banker*, November 5, 2014, accessed April 8, 2015. http://www.americanbanker.com/news/technology/are-online-lending-platforms-beating-banks-at-big-data-1071070-1.html.

[88] Burton, Matt. "Orchard Platform and Karrot Announce Partnership," *Orchard Platform*, March 26, 2015, accessed April http://www.orchardplatform.com/blog/orchard-platform-and-karrot-announce-partnership.

[89] "Investors," *Orchard Platform*, accessed April 20, 2015, http://www.orchardplatform.com/investors/.

[90] "Orchard U.S. Consumer Marketplace Lending Index," *Orchard Platform*, accessed April 20, 2015, http://www.orchardindexes.com/.

Third-party investing tools:

In its initial form, investing in peer-to-peer loans was conducted entirely by individuals who manually browsed the loan listings, and used personal judgment to compare the profile information of different borrowers. To lower risk, lenders chose to spread investments in small amounts across multiple loans. However, the manual selection of loans is a time-consuming process, and the rise of automated investing tools has changed the way loans are funded on peer-to-peer lending sites.

Lending Club and Prosper make all of their historical loan data publicly available for download. For Lending Club, for example, this includes 57 different attributes for each loan, such as interest rate, last month payment was received, current status of the loan, loan grade, total credit revolving balance, the total number of credit lines currently in the borrower's credit file, among others. [91] The availability of this data has driven the emergence of a range of third party investing tools and credit risk analytics firms, which help professional investors to predict loan repayment and returns. Among these firms is PeerIQ, which describes itself as a "financial information services company" that aids in risk management of peer-to-peer loan investment.[92]

The availability of loan data beyond a loan grade allows investors to create "secondary credit models," in which the decision of whether or not to invest in a loan is subject to further analysis and selection of loans can be customized to the risk preferences of investors.[93] While some peer-to-peer lending sites have their own tools for investing, like Prosper's Quick Invest,[94] other third-party startups have emerged. Sites like LendingRobot offer "high-speed automation software and machine-learning algorithms" to automate the process of investing on peer-to-peer lending platforms.[95] Emmanuel Marot, one of the founders of LendingRobot, stated that he was inspired by software used in "auction sniping" on eBay.[96] Auction sniping is the practice of placing the highest bid on a timed online auction as late as one second before the end of the auction, giving no time for the previous

[91] "Lending Club Statistics," *LendingClub Corporation*, accessed April 8, 2015. https://www.lendingclub.com/info/download-data.action.
[92] "PeerIQ," *PeerIQ*, accessed April 21, 2015. http://www.peeriq.com/.
[93] "Algorithm Investing - Part 1: What Is a Secondary Credit Model?" *LendingMemo*, accessed April 8, 2015. http://www.lendingmemo.com/credit-model-lending-club-prosper/.
[94] "Find Loans Using Quick Invest," *Prosper Marketplace*, accessed April 8, 2015, https://www.prosper.com/invest/quick-invest/.
[95] O'Hear, Steve. "LendingRobot Scores $3M To Automate Investing On P2P Lending Platforms Lending Club And Prosper." *TechCrunch*, January 20, 2015, accessed April 8, 2015. http://social.techcrunch.com/2015/01/20/lendingrobot/.
[96] "Q & A with LendingRobot - Third Party Automated Investing Tool for Lending Club," *Peer & Social Lending*, accessed April 8, 2015. http://peersociallending.com/interviews/lendingrobot-third-party-automated-investing-tool/.

bidder to react. To gain a competitive edge, "bid snipers" use software designed for this purpose, and which is much faster than a manual bid. A wide array of other third-party investing tools exist, such as PeertoPeerQuant,[97] Nickel Steamroller,[98] and BlueVestment.[99]

Note Trading:

After gaining approval from the Securities and Exchange Commission in 2008, the major peer-to-peer lenders, Prosper and Lending Club, created secondary loan markets where lenders can sell notes to each other. As described previously, in peer-to-peer lending, borrowers are issued loans while lenders receive promissory notes in exchange. Instead of waiting the three to five years of a loan term to fully receive returns, lenders on Prosper[100] and Lending Club[101] can choose to buy and sell notes from each other. The trading platform used by Prosper and Lending Club (FOLIO Investing) is operated by FOLIOfn Inc, a registered brokerage and investment company. To trade notes, investors are required to set up an account with FOLIOfn, and can use the funds in their Lending Club/Prosper accounts to purchase notes.[102]

Fund administration & loan servicing:

Large institutional investors may rely on firms like Opus Fund Services or the Millenium Trust Company, which specialize in fund administration and have recently entered the field of peer-to-peer lending. Third-party loan servicing firms like First Associates provide backup and loan servicing to peer-to-peer lending companies.[103]

Peer-to-Peer Lending and Fairness/Discrimination

Efforts to regulate new forms of online lending have concentrated on enforcement of data accuracy in

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[97] "PeerToPeerQuant," *Peer to Peer Quant*, accessed April 8, 2015, https://www.peertopeerquant.com/.
[98] "Nickel Steam Roller," *Nickel Steam Roller*, accessed April 8, 2015, https://www.nickelsteamroller.com.
[99] "BlueVestment," *BlueVestment*, accessed April 8, 2015, https://bluevestment.com/.
[100] "Trade Notes with a Registered Broker Dealer," *Prosper Marketplace*, accessed April 8, 2015, https://www.prosper.com/invest/trade.aspx.
[101] "Note Trading Platform," *LendingClub Corporation*, accessed April 8, 2015, https://www.lendingclub.com/foliofn/aboutTrading.action.
[102] Dale, Arden. "Peer-To-Peer Lenders Get Into Secondary Market," *Wall Street Journal*, October 20, 2008, accessed March 19, 2015, http://www.wsj.com/articles/SB122452677967050867.
[103] "Marketplace Lending / Peer-to-Peer," *First Associates*, accessed April 18, 2015, http://1stassociates.com/assets/marketplace-lending/.

the credit decision-making process. Yet one of the challenges to framing questions about fairness and discrimination in relation to the peer-to-peer lending industry is that its lending model generally does not rely on "big data" underwriting in the same way that other forms of online lending do. On the level of credit-scoring, borrowers on peer-to-peer lending platforms are typically screened based on FICO scores, and proprietary scoring systems rely largely on mainstream sources of credit data and on self-reported information that is compared against credit reports and documentation such as pay stubs. Peer-to-peer lending companies like Lending Club claim to use social media data and public information solely for marketing purposes and for preventing fraud, rather than in making credit decisions.[104] However, as this overview has shown, loan-level data plays a significant role beyond the point of initial credit decision-making, as lenders compete for desirable loans to invest in by analyzing historical loan performance data.

Some forms of alternative lending like payday loans, have a well-documented literature on existing unfair or discriminatory practices.[105] By contrast, little research exists on the fairness and potential perils of the peer-to-peer lending industry. Moreover, this model for lending has existed for roughly a decade but has changed drastically in the last few years as more intermediaries become involved in the loan funding process. As a result, there are more unknowns with regards to how peer-to-peer lending operates and how it might look like in the future. Little is known, for example, about the demographics of borrowers or individual lenders.

The peer-to-peer lending industry has many practices and promises that make it an attractive alternative to mainstream financial institutions, gaining the legitimacy that other forms of alternative lending have not. The two major U.S. peer-to-peer lenders, Prosper and Lending Club, have high barriers of entry for borrowers (only 10% of loan applications are approved), low default rates (e.g. between 3 and 4% on Lending Club[106]), and single or double-digit interest rates (compared to payday

[104] Betancourt, Leah. "How Companies Are Using Your Social Media Data." *Mashable*, March 2, 2010, accessed April 8, 2015, http://mashable.com/2010/03/02/data-mining-social-media/.

[105] For an overview of predatory practices in the online payday loan industry, *see* The Pew Charitable Trusts, "Fraud and Abuse Online: Harmful Practices in Internet Payday Lending," accessed April 8, 2015, http://www.pewtrusts.org/~/media/Assets/2014/10/Payday-Lending-Report/Fraud_and_Abuse_Online_Harmful_Practices_in_Internet_Payday_Lending.pdf.

[106] Cohan, William D. "Bypassing the Bankers." *The Atlantic*, September 2014, accessed March 10, 2015, http://www.theatlantic.com/magazine/archive/2014/09/bypassing-the-bankers/375068/.

loans, where annual interest rates average roughly 400%[107]). However, as the industry evolves, and large institutional investors use increasingly sophisticated tools to filter and compete for better-quality loans, questions arise as to how peer-to-peer lending platforms will look like as supply of borrowers must keep up with investor demand, and as individual lenders are increasingly crowded out by large investors.[108]

As a result, the peer-to-peer lending industry raises new questions:

- In the peer-to-peer lending model, companies draw a profit from servicing and late payment fees rather than from repayment of principal and interest on the loan. In such a model, where do incentives for accountability towards consumers lie?
- Regulation like the Fair Credit Reporting Act and Equal Credit Opportunity Act were designed to protect consumers at the point of consumer credit decision-making, in a binary model where a loan is either rejected or approved based on factors such as credit score. Peer-to-peer lending complicates this process. While a borrower is approved or rejected based on mainstream credit data in compliance with consumer protection laws, whether or not a loan listing actually gets funded depends on the multiple decisions of the crowd. As a result, the loan decision is diffused across multiple actors and is often mediated by multiple layers of automated decision-making. Under this model, it may be difficult or impossible to pinpoint a concrete cause as to why or why not a loan was funded. In such a context, how can discrimination be defined and recognized?
- In peer-to-peer lending, bank intermediaries like WebBank are responsible for demonstrating lending companies' compliance with anti-discrimination laws. However, compliance with such laws does not guarantee the fairness of the business model towards consumers as a whole. What standards should exist for judging fairness in this industry?
- How will underwriting standards change as institutional investors increasingly purchase a larger proportion of available loans? Will peer-to-peer lending companies be able to draw in sufficient volume of borrowers, and will there be consequences to new tactics (such as marketing) for attracting borrowers?

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[107] Dwoskin, Elizabeth. "'Big Data' Doesn't Yield Better Loans." *Wall Street Journal*, March 18, 2014, accessed March 10, 2015, http://www.wsj.com/articles/SB10001424052702304732804579425631517880424.

[108] McLannahan, Ben. "Peer-to-Peer Parties Past Talk of Credit Reckoning." *Financial Times*, April 2, 2015, accessed April 8, 2015. http://www.ft.com/intl/cms/s/0/0808d99e-d953-11e4-8ed9-00144feab7de.html#axzz3WYdyUBa7.

- Who benefits and/or profits from the use of loan-level data to stratify borrowers along a continuum of calculated credit risk? As investors use analytic tools to build portfolios of loans, what relation does it bear to the best interests of borrowers, as opposed to investors' goals of maximizing returns?

While presently, much about the future of peer-to-peer lending remains unknown, the direction in which it has taken reveals the emergence of a new landscape of challenges for civil rights, for which existing regulatory frameworks may not be prepared to tackle. Issues of fairness in lending may need to move beyond scrutiny of data accuracy and transparency of practices, to develop an understanding of how new technologies may alter the underlying roles and structures for accountability of lending institutions.

The Data & Society Research Institute Program on Data & Fairness will investigate the potential benefits and challenges put forward in this primer. Through partnerships, collaboration, original research, and technology development, the program seeks cooperation across sectors to innovate and implement thoughtful, balanced, and evidence-based responses to our current and future data-centered issues.

Data & Society is a research institute in New York City that is focused on social, cultural, and ethical issues arising from data-centric technological development. To provide frameworks that can help address emergent tensions, D&S is committed to identifying issues at the intersection of technology and society, providing research that can ground public debates, and building a network of researchers and practitioners that can offer insight and direction. To advance public understanding of the issues, D&S brings together diverse constituencies, hosts events, does directed research, creates policy frameworks, and builds demonstration projects that grapple with the challenges and opportunities of a data-saturated world.

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Notes

peer-to-peer lending, finance, online lending, fintech, fairness