MARKETPLACE LENDING
THE NEXT TRILLION-DOLLAR ASSET CLASS

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Marketplace lending is changing how consumers access credit and how investors profit from consumer lending. Marketplace loans, also known as peer-to-peer (P2P) loans, are now a mainstream source of credit for borrowers looking for debt and reasonable interest rates. For investors, marketplace loans are as stable and secure as bonds but, thanks to the platforms’ low cost structure, offer much higher yields. Marketplace investors fund loans at rates between 5% and 28%, with an average return more than 5 times higher than duration equivalent corporate debt. Since 2006, loan origination by marketplace lenders has grown from less than $100 million to over $10 billion annually. Despite this level of growth, marketplace lenders still reject the majority of applicants and 99% of marketplace investors owning more than 100 loans have positive returns. Marketplace lending still has room to grow. Morgan Stanley estimates that the marketplace lenders will originate $100 billion annually by 2020. This white paper covers the mechanics of marketplace lending, loan lifecycles, investment rationale and investment approaches.
WHAT IS MARKETPLACE LENDING?

Marketplace lending is the practice of matching borrowers with lenders through low-overhead, online exchanges. Borrowers can access capital faster and at lower rates, while investors are able to deploy capital into a pool of platform-selected borrowers, enabling them to potentially earn strong, consistent returns.
The marketplace lending process is managed by marketplace lending platforms. These platforms are technology companies that market to borrowers, underwrite consumer credit, and facilitate investor purchases of loans online. The platform manages all traditional lending operations—marketing, borrower screening, underwriting, and servicing. But instead of carrying loans on their books, they sell the debt directly to third-party investors—individuals or institutions—who bear the risk and earn returns. The platforms then earn a fee for facilitating the transaction between borrower and investor, typically between 2% and 5%, as well as for servicing the loan.

The two biggest players in the market are Lending Club and Prosper. Both firms’ focus is consumer credit refinancing, though emerging specialties include medical and small business loans, together they control over 50% of the market and have doubled their loan volume annually since 2007. Lending Club originated over $8 billion. To take advantage of this growing opportunity, over 30 other marketplace lending platforms have launched in their wake.

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<th>Loan Size</th>
<th>Average Loan</th>
<th>Credit Spectrum</th>
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<tr>
<td>Lending Club</td>
<td>$1,000 to $35,000</td>
<td>$15,000</td>
<td>5%-30%</td>
<td>13.4%</td>
<td>3 or 5 years, unsecured, non-revolving</td>
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<td>Prosper</td>
<td>$2,000 to $35,000</td>
<td>$13,000</td>
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THE PLATFORMS

The marketplaces are just as they sound: organizations that bring together borrowers and investors—and make money by charging an origination fee for this matching process, as well as servicing the loan. Instead of holding a loan on its balance sheet, the marketplace lending platforms sell them off. Lending Club and Prosper, the two biggest peer-to-peer lending marketplaces, fill a gap left by the exit of retail banks and offer more attractive rates than those of credit cards to borrowers with medium to low credit risk.

Principally, they reject all applicants outside of their strict cut-offs for credit score, debt-to-income ratio, credit inquiries, delinquencies, and various other measures. Both major platforms reject around 90% of applicants. This includes all subprime borrowers (FICO score below 640) as well as two-thirds of prime borrowers, predominantly those with a short employment or credit history or above-average debt. Basic underwriting rules are completely transparent and the platform’s entire loan book is available to investors to examine. Investors can verify for themselves that these strict criteria are holding up over time.

As is the case in many other industries, technology slashes the costs of doing business in consumer lending. Marketplace lenders’ technology and operations structures reduce their costs of making a loan to one-half of what it would cost a bank. In fact, the cost for a Prosper or Lending Club to originate a loan is 2.5% of value of loan as compared to 6% and up to 10% for Capital One and a traditional retail bank, respectively. With lower operating costs and a much safer loan structure than those offered by banks, marketplace lenders can profitably offer rates at a 10-40% discount to credit cards.

The platforms make money through fees. They charge the borrower a 2.5% origination fee and charge the lender a 1% servicing fee. The platforms sell every loan they offer, so they have no balance sheet. Like eBay, Uber, Etsy, they are two-sided marketplaces that match borrowers with lenders.
INVESTORS

The lenders buy single loans or a portfolio of loans. They derive a profit from the difference between the interest rate charged by the platform and the annual default rate and service fee paid to the platform.

While many individuals buy P2P loans, professional investors also buy loans on all major marketplaces. As marketplace loan volumes have increased, the average loan has gotten safer. In fact, more than 99.9% of diversified marketplace investors have made money. Meanwhile, the average return is 6.5%, nearly 20 times the equivalent Treasury yield. Considering this data, it is not surprising that large institutions are entering the space.

Marketplace lending loans are unsecured, fully amortized term loans. Terms are typically 3 year or 5 years until maturity. Interest rates are fixed for the term of the loan, and borrowers face no penalty for prepayment. This structure is highly advantageous to both borrowers and investors. The fully amortized nature of the loan provides borrowers with a clear path out of debt. Amortization and the lack of revolving facilities also protects investors by reducing their principal balance with each monthly payment.

BORROWERS

Since marketplace terms are so much more attractive than banks’ terms, borrowers come to the marketplace from all across the credit spectrum. This gives marketplace lenders the freedom to focus on the safest, most reliable borrowers.

The combination of a safe loan structure, well-aligned borrower incentives and strong filtering creates a borrower population with a strong credit profile. This environment gives platforms the freedom to decline 90% of all applicants in order to maintain these standards.

Even as the number of borrowers has increased tenfold, the average marketplace loan quality has improved. Rather than reaching deeper into the credit spectrum, marketplaces are expanding both geographically and into new verticals, like small business lending and medical debt. (In fact, marketplaces are increasing their marketing spend specifically to high quality borrowers.) As a result, the investor returns have steadily increased with each vintage of loans, even as the platforms have grown.
Marketplace lending platforms connect pent-up demand with yield-starved supply to benefit the investors, lending platforms, and borrowers.

**THE DRIVERS**

Marketplace lending platforms connect pent-up demand with yield-starved supply to benefit the investors, lending platforms, and borrowers.

Unburdened by legacy technology and costs, these platforms have much lower overhead than traditional banks and credit card companies, and streamline processes. They earn a fee for connecting borrowers and investors.

Apply online and those that qualify obtain almost instant approval, receiving the money in a few days for a lower interest rate than those available from any other lending product.

Directly fund the loans they choose on the platform, cut out the expensive and opaque securitization middlemen, and receive a 5-25% yields, for a low-risk, steady return.

Until recently, two trends occurred in parallel: borrowers had pent-up demand for reasonably priced loans while investors sought low-risk, decent return options besides fixed. When peer-to-peer lending became an option, lenders and borrowers could finally meet and both have a satisfactory outcome.

**THE MARKET NEED**

Historically, banks regularly sourced personal loans. The banks kept these loans on their balance sheets, opening themselves up to default risk and regulation. Around the year 2000, however, most banks stopped making personal, unsecured loans. They opted to issue credit cards like Visa, Mastercard and others instead of underwriting fixed term, fixed amortized loans. For banks, credit cards are a scalable product, which offer potentially very high interest payments and generate processing fees with little risk and lower processing costs than personal loans.

Though the consumer credit market has rebounded since the financial crisis, banks don’t make $10,000 unsecured loans anymore. A confluence of factors following the crisis— the Card Act (2009), Dodd-Frank Act/Consumer Protection Act (2010), Basel Accords and implementation of Basel III, as well as regulation of foreign banks by Federal Reserve Bank of New York (by 2016)—triggered increased regulatory capital requirements and higher implementation costs. The end result? Many banks withdrew from traditional consumer banking businesses; it simply wasn’t worth the costs. At the same time, technology advances have given online platforms the chance to achieve greater cost and underwriting efficiencies relative to traditional banks. Marketplace lenders can originate loans at almost half the cost of a traditional bank. Since they don’t have balance sheets, platforms also have dramatically lower capital costs. Diversified investors may buy over 100 loans where no one loan equals more than 3% of the portfolio. This helps maximize return while limiting risk. But they have to move quickly; investors must make their decisions in a fraction of a second or lose access to the best loans.
The marketplace lending industry has three major components: platforms, borrowers, and lenders. This section will describe the players, the loan origination process, and the lifecycle of a peer-to-peer loan.
MECHANICS OF BUYING A LOAN

Acquisition
Platform acquire borrowers through extensive marketing campaigns. They mainly use direct mail, but also rely on online advertisements, radio, email, and affiliate marketing. Once a borrower is brought to the platform’s website, the borrower can begin the loan application process. The application process collects information from the borrower and authorizes the platform to pull the borrower’s credit report.

Underwriting
Underwriting is the process whereby the platform sets the interest rate. The rate takes into account both credit risk and market conditions. The platform uses a credit grid to rate the loan and assign it to a group: A to G for Lending Club, and AA to HR for Prosper. Platforms use proprietary models based on the historical performance of similar borrowers, including their credit history, and financial health. This model outputs an expected annual loss rate for the borrower. To get the final interest rate, an adjustment for risk and volatility is added to the loss rate and making the loan NPV positive. For example, if the borrower’s annual loss rate is 12%, the platform might set the interest rate at 19% to ensure that the investor makes a return in expectation.

Funding
Once the platform has set the interest rate, it sells the loan to investors in the form of an offering. The loans are sold to investors at par on to the first bidder. Platforms offer loans daily, 7 days a week. The platform provides investors with the borrower’s FICO score, loan application and other information relevant to the borrower’s credit.

Prospective lenders have two buying options: they can view loans on the platform’s online website or via an application programming interface (API). Prospective lenders look at each loan and decide whether to fund it. Whichever method they choose, however, they will buy the loan at par. This is not an auction. There is no price action and no negotiation. All loans are fixed price and purchased on a first-come, first-served basis.

Investors can rely on the platform’s loss rate and interest rate estimates or develop their own credit model, but many asset managers use the platform’s assess individual loan risk and then to guarantee the fastest execution to of bids. In contrast to equity investing, if investors believe a stock is undervalued, their bidding pushes up the price and eliminates inefficiency. This cannot occur here because price is fixed. However, if a platform operator prices a loan too low in an auction, marketplace participants who identify this mispricing—or alpha—can profit by grabbing the loan quickly. The median time a loan is available is less than 2 seconds.

Origination
Once the interest rate is set, the borrower’s identity verified, and the loan funded, the platform originates the loan. As loan origination requires a state bank charter, another entity actually originates the loan. Lending Club and Prosper rely on WebBank, an FDIC-insured, Utah-chartered industrial bank. After WebBank originates the loan it sells it to the platform, which in turns sells a note to each investor that made a commitment towards the loan. WebBank sells 100% of the loans it originates for the platforms.

Typically, this entire process takes only four to six days. The borrower pays an origination fee of 1-5% of the loan’s value, which is the platform’s main source of revenue.

Servicing
Post-origination, the originating platform collects borrower payments, remits them to investors, and provides customer service. Payments are typically made by automatic ACH transfer from the borrower’s bank account. As long as the account is sufficiently funded, the platform automatically deducts the payment without any action by the borrower. This process dramatically increases payment success. If a borrower misses a payment, platforms have in house and outside servicing teams that contact the borrower to complete payment. The platforms also partner with 3rd party collections agencies to collect on delinquent loans. Should the borrower continue to miss payments, the platforms aggressively report delinquencies to the major credit reporting agencies.

Collections
Should the borrower miss five payments, the loan is “charged off” and the platform writes down the remaining principal. The platform may keep trying to collect the loan or sell it to a third-party collections agency. In either case, any recovered principal is distributed to investors on a pro rata basis less collections fees. The charge off is also reported to the credit bureaus.

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What happens to a single loan on a peer-to-peer platform?
INVESTING IN MARKETPLACE LENDING

It's hard to find a portfolio allocation strategy that does not include fixed income. Marketplace lending is an alternative for fixed income—but actually a far superior product as it provides equity style returns for fixed income risks.

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Peer-to-peer loans as an asset class sits above the efficient frontier. These loans are structurally safer than fixed income loans because they derive their return from the difference between the interest charged and the default rate. Additionally, by investing via an institutional investment manager, investors can potentially capture even higher returns for the same level of risk.

While peer-to-peer online lending is a new lending product, it should be viewed as a new—but stable—form of consumer credit, similar to credit card lending. For centuries, consumers have borrowed to pay for major expenses like a home. Further, credit card lending data is readily available and shows steady returns across market cycles and low volatility. While not recession-proof, we would have to experience a downturn of 1.8x the magnitude of the 2008 recession to reach only a breakeven (0% IRR) return.

Nevertheless, marketplace lending is still a new asset class, so new investors should understand how the land lies before taking advantage of this opportunity. They need to know who the borrowers are and how the marketplace works.

Marketplace lending offers steady returns, uncorrelated with other asset classes.
Prepayment
Borrowers can pay off loans, in whole or in part. This is consistent with credit cards. Generally, prepayment risk (borrower prepays and reduces interest payments) is minimal because of the short duration of the loan and the ability to redeploy into new loans. Prepayment also helps minimize risk in a rising rate environment.

Recession Risk
Marketplace lending actually outperformed other asset classes in the last recession, with the Lending Club index returning over 3% on 2008 vintage loans. This low loss risk is driven by structural factors, primarily the huge gap between nominal interest rates, which are above 10%, and loss rates, which are less than 5% on average. The non-revolving, fully amortized structure of the loans provides additional safeguards versus alternative consumer finance investing options. Active selection can further help identify the most “recession proof” loans.

Diversification
Diversification is a key element in building stable portfolios. The chart below shows that 99.9% of marketplace lenders with diversified portfolios (meaning they hold more than 100 loans and no loan comprises more than 3% of the portfolio) have generated positive returns.

Tax Treatment
If lenders invest on a platform directly, they pay ordinary income tax on interest and long-term capital loss on the loans that default. If they choose to invest via certain asset managers, they may be able to reduce their tax burden.
INVESTING IN MARKETPLACE LENDING

To invest in the peer-to-peer lending market, individuals and institutions have two options:
• Purchase loans from a platform like Prosper or Lending Club.
• Invest via an asset manager who buys loans from a marketplace.

The direct route is very easy to access and can offer reasonably attractive returns; around 6-7% is the average return. Some investors prefer very limited exposure to this asset class. They log on to a platform and take out two loans, which increases investor risk. But if one borrower defaults, they lose half their money. In contrast, diversified investors may buy over 100 loans where no one loan equals more than 3% of the portfolio. This helps maximize return while limiting risk. But they have to move quickly; investors must make their decisions in a fraction of a second or lose access to the best loans.

Sophisticated asset managers use complex algorithms to find alpha and generate higher returns. They take into account both the borrower’s expanded credit history and thousands of other demographic and market data points. They then use data science to pinpoint the loans that will have the highest return and purchase them quickly. They are also able to manage the portfolio across the business cycle. Investments through asset managers generally provide greater liquidity than investing directly as the investor is a small part of a larger pool of capital. However, asset managers typically charge additional fees for their services.

CONCLUSION

What’s behind the success of marketplace lending? It’s a dramatically more efficient, transparent way for investors to connect with borrowers. That means that, compared to traditional consumer credit, borrowers can get a better deal while investors make higher and more stable returns.

Marketplace lending still has plenty of room to grow. In the U.S. alone, consumers hold nearly $900 billion in credit card debt—enough for a hundred more Lending Clubs. Yet, today, only 1% of all credit card debt is being refinanced. Not surprisingly, many new entrants—beyond Lending Club and Prosper—have appeared. These include Soft (student loan refinancing), CommonBond (student loan refinancing), Upstart, On Deck Capital, and loanDepot. These other credit markets, from medical debt ($200 billion) and small business lending ($750 billion) to student loans ($1.2 trillion) and mortgages ($13+ trillion) have enormous potential. The interest due on mortgages alone is larger than the entire U.S. technology sector—a practically unlimited potential for growth.

Online peer-to-peer lending is truly the next wave in consumer financing and follows a pattern of growth similar to that of the corporate bond market in 1980s. While corporate lending initially involved large banks making loans to corporations, corporate lending has more recently become a more open and efficient capital market. We see a similar trend in consumer lending.
ABOUT THE AUTHOR

Hugh Edmundson is the cofounder, managing partner and portfolio manager of Theorem, where he has dual roles managing the firm and overseeing its research and investment processes. He has a background in mathematics, statistics and machine learning and developed the initial algorithmic strategies used to drive the firm’s marketplace lending investment strategies.

Before founding Theorem, Hugh worked at Morgan Stanley in New York as a Credit Derivatives Trader, where he specialized in structuring, trading and hedging derivatives linked to corporate debt and CDS, primarily synthetic collateralized debt obligations. He holds a B.S. in Computational Finance from Carnegie Mellon University, where he specialized in machine learning algorithms for classification. He is also a graduate of the Y Combinator program in Silicon Valley.

ABOUT THEOREM

Theorem Partners LLC (“Theorem”) is an investment manager in the marketplace lending space. Theorem’s objective is to provide investors with strong, consistent returns through a rigorous, scientific approach to understanding the marketplace lending space. Theorem’s team of researchers, data scientists and programmers build systems for analyzing individual loans and constructing robust loan portfolios. Using these proprietary tools, Theorem measures the impact of every origination platform and every loan in order to improve returns and minimize risk of loss across the business cycle.