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Abstract:

When a bank or a credit union turns you down for a loan because your debt-to-income ratio is too high, can you turn to total strangers to get the money? Yes, you can, and we are not talking about criminal acts. It's called peer-to-peer (P2P) lending or social lending. Prosper was the first company to take the vision of social lending and convert it into practice on the Internet in the United States, and it enjoyed fast growth after launch. Four years later, however, it is facing old and new challenges, and its survival is on the line. This case depicts the opportunities and pressures Prosper faced, its actions and reactions, and its future. Prosper has made and will make many important decisions, and Prosper's successes and challenges are rich material to study.

Keywords: P2P lending, www.prosper.com, financial business model, financial industry

Editor's Note: A teaching note for this case can be obtained from hwang26@radford.edu. Only active MIS faculty who are currently listed in the AIS Faculty Directory are eligible to receive the teaching note.

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I. INTRODUCTION: A BORROWER STORY

Like many others, Lara Miller is a talented young woman with a passion for fashion. She had a plan to turn that passion into a successful business. Her talent was recognized by the press and seventeen retail outlets, but Lara's business plan faced an obstacle. Without a credit history or sufficient collateral, traditional financing through a bank was difficult. The young designer and her small start-up faced a difficult challenge. "Fortunately, a friend told me about Prosper," Lara says. Within minutes of visiting Prosper's peer-to-peer lending site, Lara posted her loan request and, "[i]t was amazing. I posted the loan, and almost immediately, I had 8 bids" (from stories on Prosper.com). Total strangers bid on Lara's loan listing, and Lara's business was fueled to move forward. Over time, Lara took out three loans with Prosper. As of this writing, Lara's design career and her store are prospering. Her story is featured on Prosper's website, and Lara has a big smile on her face.

Jan (not the real name), another Prosper borrower, was introduced to a Prosper borrower group by her daughter. The group leader gave Jan the advice she needed for her first loan request. She kept the listing simple and honest, telling people who she was and what she needed the money for, and she requested $5000 to improve her financial situation. She was contacted by a few potential lenders, who inquired about how she got into the financial difficulty she was in and whether she was able to repay the money. As Jan recollected, the whole process was very "personal" and she felt "connected," very different from her experience with a financial institution, where "all they look at is my credit score, how much I owe, and how much they are making. It's very cold that way, whereas [on] Prosper… [I tell people] this is what I do, I am a single professional woman, and I have some grandkids, I want to have a nice yard for them to play in." As Jan watched on Prosper's website, strangers started to "chip in" on her listing, and then her loan was fully funded! With the money she got on Prosper, she paid off her high interest charge cards, and the monthly payment she was carrying was lowered from over $500 to less than $300.

With Prosper, Jan said "[It's] a lot more personal, rather than cold, institutional. ... It's very easy. I feel more connected, these people are willing to lend a hand to me, taking a chance on people, very philanthropic, I like that idea…. I felt more committed, people had taken a chance on me, loaned me money, in order for me to do this." Jan currently has two Prosper loans. She has paid off her high interest debts and put up a basketball court in her yard for her grandchildren. She is on her way to pay back both loans, and she has less than $1000 left on her first loan. "Prosper helped me to reach my dreams," says Jan. This happy ending might lead to many more happy endings; Jan said, "I would like to be in a position eventually to be a lender, because I know how valuable that has been to me. … I like the idea of philanthropy—somebody reaching out to help somebody else. ... [A lender] might have been in that [similar] position, or a relative in that position, as long as they feel secure that this person is not trying to get away with something, [they would like to help.]" That might be Prosper's dream—for people to reach out to help others and to live their dreams and prosper!

II. P2P LENDING: A MARKETPLACE FOR LENDERS AND BORROWERS

Peer-to-peer lending, also referred to as people-to-people lending, person-to-person lending, or social lending, is your lending and borrowing 2.0. Instead of applying for a loan from a bank or taking a cash advance from a credit card company at their rate, on a P2P lending website you can post a loan listing with the interest rate you are comfortable with, watch strangers declare the amount of money they'd like to fund your loan, and even watch the interest rate bid down. When the loan is fully funded, the money gets transferred to your bank account, and you start paying the loan back at the interest rate determined by the bids.

P2P lending is not new. The practice of lending money to family members or within communities dates back to ancient times, long before the rise of any financial institutions. The emergence of the Internet, however, has revived the concept; it allows P2P lending to go beyond the circle of friends, family, and community to reach a much larger scale over the largest network in the world. Individuals register to become a lender, a borrower, or both.

As eBay and Amazon have fundamentally changed the retail industry by connecting buyers and sellers directly, P2P lending marketplaces create an online platform to connect borrowers on the demand side and lenders on the supply side. Traditional loans involving a financial institution, such as a bank or a credit union, may be referred to as institution-to-people lending. In this model, financial institutions pool the money on the supply side (e.g., savings accounts and other investment instruments) and lend it to a pool of borrowers on the demand side, and earn a profit by charging fees and interest. In this traditional model, lenders do not have much say in the interest rate, nor do they have much control over who the money goes to or for what purpose. For instance, there is no way to know how a bank uses the money deposited in a money market account or a certificate of deposit. Borrowers, on the other hand, have little if any influence on the interest rate as evaluation instruments from traditional institutions often evaluate an individual using few hard credit criteria (e.g., credit score, existing debts, income, job) to evaluate credit risk. Soft information (such as relationships, emotional appeal, social connections) are rarely used by traditional financial institutions. Also, borrowers with an unfavorable credit history often have a hard time getting a good interest rate or even a loan at all from banks, and have to turn to payday loans or high interest credit cards. With P2P lending, the traditional financial services middlemen are bypassed. A lender can choose the borrowers to finance directly, and a borrower can affect lenders by leveraging his/her social capital.[1] These social features are attractive to both borrowers and lenders, and many of them have been well received.

Zopa, the oldest online P2P lending marketplace, was launched in the UK in December 2005, and Prosper, the oldest online P2P lending marketplace in the U.S., in February 2006. Awareness of P2P lending has continued to grow, and P2P lending marketplaces now exist in many different countries, with a few variations in form. P2P lending marketplaces differ in several ways. Some focus on certain interest groups and the mechanism for interest rate determination; others focus on student loans, loans to disabled people, or business loans for developing countries. The two primary mechanisms for determining interest rates are auction style and credit-based fixed interest rates. P2P lending marketplaces also differ by lenders' motivation to lend and the degree of separation between lenders and borrowers [Wang et al., 2009]. A lender's motivation may range from profit to pure philanthropy. Some lenders find P2P lending attractive because they can support the people in need while making some money. The degree of separation between lenders and borrowers ranges from close relationship, such as family, to stranger. Wang et al. [2009] provide an overview of P2P lending in the U.S., considering the motive for lending and degree of separation among participants (see Figure 1).

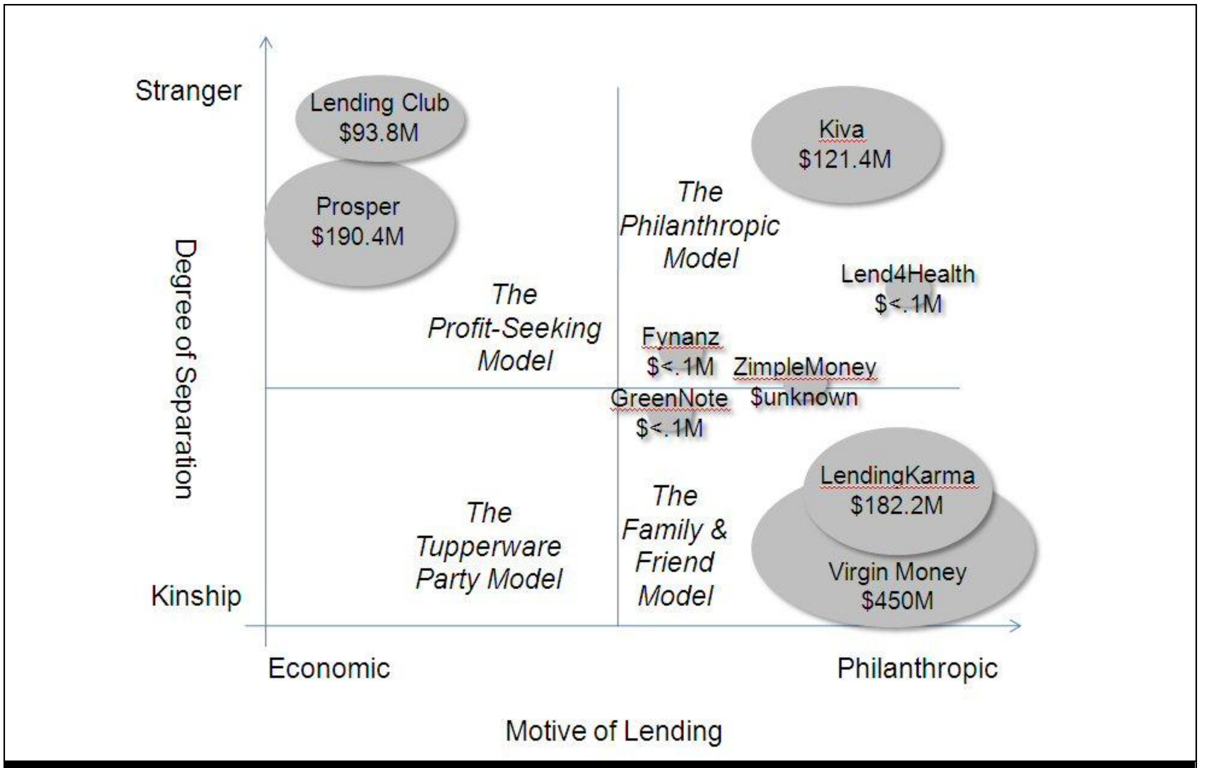

Figure 1. P2P Lending Marketplaces in the U.S.[2]

[1] Social capital refers to the value of an individual's social connections. In a lending context, this could include group affiliations, endorsements by other people, and emotional appeal through listing description.

[2] The size of the oval representing each company reflects its cumulative loan volume, which cannot be compared directly as the time spans for these companies differ due to the differences in their launch dates. Source of information with the timeframe in parentheses: Prosper (02/2006–02/2010), Lending Club (05/2007–02/2010), Kiva (11/2005–02/2010), Virgin Money (10/2007–Q4/2009, discontinued 2010), Lend4Health (06/2008–02/2010), LendingKarma (4/2009–02/2010). ZimpleMoney (12/2008; loan volume unknown). Fynanz, GreenNote from http://www.wiseclerk.com/group-news/services-p2p-lending-companies-by-loan-volume-jan-09/.

III. PROSPER: AMERICA'S FIRST ONLINE P2P LENDING MARKETPLACE

Chris Larsen's Vision

Chris Larsen, who co-founded E-Loan, Inc.[3] in 1997, had an early vision of using the Internet as an "online and distributed" platform for loan access. The idea was to put the control in the hands of individuals and allow them to play much more active roles in the whole process of lending and borrowing rather than accepting the terms dictated by banks. "You always need banking, but you don't need banks," said Larsen. Whereas banks and credit unions dictate the terms of lending, e.g., who gets the loans and at what price, P2P lending marketplaces "put the tools in the hands of everyone" and allow ordinary Americans to be the supplement of their own bank. And the result is a much more positive experience on both the borrower side and the lender side. Larsen explains the advantages for borrowers: "[P2P lending] is such a radical change from the way you interact with the bank. On the borrower side, you have the fundamental benefit of controlling the maximum rate you want to pay. You don't have to passively accept what's dictated to you. You can try it on your own. You can say Look, I have a good story, I have a good business, I'm going try for this rate, if it does get funded, OK, if not I'll try for another one. Rather than, OK, here is 12 percent, 19 percent, 25 percent, whatever it is. This is much more control by the individuals on both sides." For lenders, the experiences are equally rewarding. Besides making a good return on the money they invest, they can also feel good about using their money for good social reasons, for example, to help a business down the street.

Beside direct participation and control, Larsen anticipated that this distributed online platform would also financially benefit both lenders and borrowers. The gap between the interest rates paid and charged by banks is massive. The interest rates of 3-year CDs ranged from 3 percent to 5.5 percent from the 1990s to 2008, while the interest rates charged by banks on credit cards were easily 12 percent or much higher. Payday loans charge much higher interest rates, which can be upwards of 300 percent. For comparison, the average 3-year CD rate and average borrower rates are listed in Table 1. Larsen anticipated P2P lending to benefit both borrowers and lenders because it was a leaner operation than traditional financial institutions, as there are no physical branches and related infrastructure [Tedeschi, 2006]. For the service they receive, borrowers and lenders pay a service fee equal to a specified percentage of the principal.

Table 1: Average CD Rates and Borrower Rates on Prosper by Credit Grade

Year	2006	2007	2008
Average CD Rate 3 Year Term *	5.54%	5.55%	4.10%
Average Prosper Borrower Rate For AA**	9.31%	9.70%	10.09%
Average Prosper Borrower Rate For A**	11.24%	11.96%	13.40%
Average Prosper Borrower Rate For B**	14.17%	14.47%	16.43%
Average Prosper Borrower Rate For C**	16.89%	17.49%	18.82%
Average Prosper Borrower Rate For D**	20.45%	20.37%	22.42%
Average Prosper Borrower Rate For E**	24.31%	24.20%	29.00%
Average Prosper Borrower Rate For HR**	24.26%	24.38%	29.57%
Average Prosper Borrower Rate For NC**	22.47%	22.46%	

*Source: http://www.jumbocdinvestments.com/historicalcdrates.htm
**Source: Prosper Data
AA = best credit grade category, HR = worst credit grade category, NC = no credit score (discontinued in 2007)

Official Launch in 2006

After a two-month testing period, Prosper launched in February 2006, with headquarters in San Francisco. Chris Larsen brought his vision to reality and has been the CEO of America's first P2P lending marketplace since then.

One week after its official launch, Prosper had attracted lenders with a total of about $750,000 to lend [Tedeschi, 2006]. It also attracted the attention of the national media. That month, it was featured in news stories of top national media, including *Business Week*, the *New York Times*, two sections of the *Wall Street Journal*, and the *Economist*. In March 2006, it was featured on WCBS TV (New York), Yahoo! Finance, and CBS 5 News. In the first three years after its launch, Prosper attracted more than 890,000 members and generated $179 million in 29,000 loans. Listing and loan growths are displayed in Figure 2. As of February 2010, 138,074 borrowers had posted requests for loans, 28,164 borrowers had received loans, and 53,099 lenders had funded loans. On average, there were 18.5 bids per listing (on average, 139 bids per realized loan).

[3] A financial service company founded in 1997 to provide customers with access to mortgage loans over the Internet; an online loan broker.

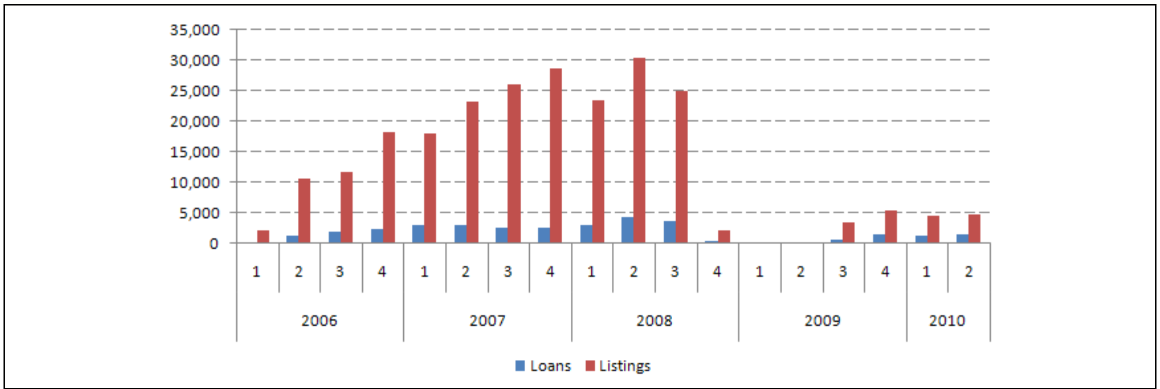

Figure 2. Listing and Loan Growth

How It Works

Only registered members can borrow or lend on Prosper. Although a member's identity remains anonymous to the public, Prosper authenticates the identity of each member at registration by checking his/her social security number. A bank account number, home address, and driver's license number (or state identification card number) are also required at registration. Prosper obtains a potential borrower's credit score from a third party credit bureau (Experian) and posts credit grades and historical credit information in the borrower's loan listing.

To borrow money, a borrower makes a loan listing, which specifies the amount of money requested (in 2009, $1,000 to $25,000) and the maximum interest rate the borrower is willing to pay (in 2009 up to 36 percent), subject to a minimum interest rate based on Prosper's rating of the listing. The borrower must also provide information about annual income, occupation, and employment status. The borrower also has the option to write a listing description, which typically states the purpose of the loan and information about the borrower's financial situation. Prosper determines a categorical label called "Prosper Rating" (AA, A, B, C, D, E, HR), which corresponds to a risk rating based on a proprietary risk model, to help lenders evaluate quickly the risk level for that borrower listing. Lenders choose to bid on attractive loan listings with the amount of money they want to lend. They even compete on interest rate if the money supplied outruns the requested amount. If a loan listing gets fully funded before the listing period ends, a loan is generated, and the money transferred to the borrower's bank account. All loans are fixed rate, unsecured, 3-year, fully amortizing loans with a simple interest rate.

Lenders can be a person or an institution. The lender must maintain funds sufficient for the bids they make in an FDIC-insured non-interest bearing account at Wells Fargo Bank. All payments payable to the lender are deposited in the funding account. Due to legal regulations, all loans are made to Prosper borrowers by WebBank, an FDIC-insured Utah-chartered industrial bank and direct lender. WebBank issues, sells, and assigns the promissory notes evidencing borrower loans to Prosper and to the Prosper lenders.

Lenders can invest on Prosper in three ways—bidding on loan listings manually, bidding on listings automatically by setting a portfolio, and purchasing existing Notes held by other lenders. To bid on a listing manually, a lender specifies the amount they want to lend and an interest rate equal to or less than the current auction yield percentage for the listing. Lenders usually bid only a portion of the loan amount to reduce risk. Should the listing receive bids totaling the full amount of the requested loan, lenders who have won the auction are obligated to purchase a "Note" in the principal amount of their bid.

A second way to invest is to set up a portfolio plan and allow Prosper to bid automatically on listings that fit pre-defined criteria. For example, a lender can set a portfolio plan that bids on listings under $5,000 with Prosper Ratings of AA and A and an estimated loss rate of less than 2 percent. A lender can set up as many portfolio plans as desired and place any amount of funds to them. Prosper offers three ready-made portfolio plans with different risk and return targets that can be used as is or modified. Portfolio plans save lenders time searching listings and help risk management through diversification.

Lenders can also sell the Notes they hold or buy Notes held by other lenders using the Prosper Trading Platform. Trading existing Notes increases liquidity, as lenders do not need to hold the Notes until they mature, making investment on Prosper more appealing.

IV. EN ROUTE TO BIG CHANGES

The innovative idea of borrowing from peers implemented on the Internet technology brings eminent changes and benefits. P2P lending holds many promises, allowing easy access to loans by borrowers, offering an alternative investment for lenders, and satisfying the human need for social embededness through social networking.

"[B]orrowers say they are able to get loans more quickly and with less paperwork than at a bank. And people with good credit are able to lock in lower rates—often 8 percent to 12 percent—than they would otherwise have to pay on credit cards or unsecured bank loans" [Kim, 2008]. The Internet allows Prosper to reach out to millions of lenders and borrowers dispersed all over the country and give them self-service 24/7. Cutting out the intermediaries in the banking system lowers cost, benefiting both the borrowers and lenders. Also, consumers obtain direct control over the terms and conditions of their financial relationships [Anonymous, 2008].

Prosper gives its lenders the chance to adopt a very hands-on and micro-management investment strategy. A lender with a small amount of funds, say $2500, can invest in 100 different borrowers, with $25 on each. A direct result of the micro-management investment strategy is that lenders gain much more control over where their money goes, a critical feature separating P2P lending from the traditional financial markets. P2P lenders can choose whether they lend and to whom they lend, and they are actively doing so. Based on data collected from Prosper from 2006 to 2008, the average amount bid by lenders on individual loans was about $90, whereas each lender lent about $3000 in total on average. On average, each lender invested in about thirty-three different loans.

The social aspect of P2P lending is attractive to lenders and borrowers alike. For borrowers, seeing people lend a hand for the cause that is so dear to you is encouraging and personal. Moreover, getting an e-mail from a lender praising you for paying back on time is something warm that is missing from interactions with banks and credit unions. For lenders, lending for a social cause is attractive because people feel good about using their money to help someone in need, and on Prosper they know what the money is used for and they can make an investment decision based on that. "[R]ather than saying 'which are purely social, purely financial,' I think the more typical idea is that unlike institutions which are purely financial, I think what you get when we talk about a person is they want to mostly get financial benefit. Of the lenders, 75 percent say their motivations are financial, and 25 percent say they are social as well as financial. So that's very different from an institution. I think a person carries both of those with them at all times. Just because of the nature of how individuals work, right? Individuals spend most of their time working for money, but at the same time will stop and help somebody on the street who would need help. I think it's the same thing here. I can make a good return, but I can also feel good about what I'm doing" (Prosper executive).

V. A MARKETPLACE BUILT ON INFORMATION TECHNOLOGY

Like other e-Commerce businesses, Prosper is built on information technology. The platform and capabilities built on IT allow Prosper to differentiate itself from institutional lending. At Prosper, information technology provides critical capabilities as a market maker and community builder.

IT as Market Maker

A fundamental function of a P2P lending marketplace is to provide a secure and efficient marketplace for borrowers and lenders to trade. At Prosper, information technologies are used to create tools for transaction, informing, and decision support. A series of fundamental transactions, such as authentication, account verification, credit reporting, loan processing, funds transfer, and settlement, are based on information systems. In addition to providing efficiency, these systems routinize processes as well as increase standardization, improve security, and cultivate trust, which is critical to the long-term success in the marketplace.

Prosper also uses information technology to provide decision support capabilities to its lenders. For instance, portfolio plans automate bidding as well as reduce investment risk through diversification. For hands-on lenders, Prosper's information systems provide rich data about the loan listings and the borrowers, including their credit histories and current financial status. Lenders can see what a loan is requested for, a borrower's delinquency history and amount in the last seven years, his/her open credit lines, income range, employment status, and length of employment. The database and advanced search on Prosper allow lenders to sift through thousands of loan listings and borrower profiles to find those that meet their investment preferences. Lenders can also save a search to preserve their criteria. Bidding tools such as a watch list and a funding forecast chart (which predicts how likely a listing is to be fully funded) help lenders to place bids for promising listings. In December 2009, Prosper released Prosper Mobile, a mobile version of the Prosper website exclusively for Prosper lenders. This service increases the ubiquity of Prosper's service; lenders can access "My Account" and the watch list, place bids, ask borrowers questions, and transfer funds using a smart phone.

IT as Community Builder

From the beginning, Prosper embraced the idea of leveraging the potential of social connections between its market participants. "We believe groups are at the heart of fostering a culture of responsible borrowers," Chris Larsen was quoted on paymentsnews.com [Anonymous, 2006]. The idea was simple: if borrowers and lenders are able to connect with each other, the social bonds that form between them will encourage funding and responsible behavior [Anonymous, 2008]. In developing countries, microcredit programs that utilize social connections have shown success; Grameen Bank[4] in Bangladesh gives small loans to poor people to help them improve their lives. Grameen Bank uses a solidarity lending approach that relies on tightly knitted groups and group members encouraging each other to repay the loan. The social connection between individuals (also called *social capital)* is the source Prosper wants to leverage on its online platform as well. A group system, where borrowers were able to create and join groups, was established from the beginning. Additional features were added to the group system to tweak the system. In addition, forums, endorsements, friend networks, and blogs are social features that Prosper implemented over the years to offer borrowers and lenders multiple venues to connect with each other. Some of these social features were more successful than others, and Prosper learned many lessons about the upsides and downsides of their design and effectiveness within its first three years.

VI. CHALLENGES AND PROSPER'S REACTIONS

Online P2P lending, as an innovative and new business model, carries challenges. The most prominent challenges Prosper faces are default rates, regulatory requirements, and leveraging social capital. Prosper has had to adjust its policies and strategies to respond.

Challenge for P2P Lending—Default Rates

The fundamental problem with lending money to complete strangers over the Internet is to get the money back. The loans offered through Prosper are unsecured, in other words, if a borrower does not pay back, the lender will lose the money. A lender may lose part of his/her investment even if the borrower pays back at the beginning. All prosper loans are amortized loans over a 36-month payment period. This means that it can take a long time for a lender to recover the nominal principal, opportunity cost excluded. For example, at an interest rate of 10, 20, and 30 percent, it takes 31, 27, and 24 monthly payments respectively to recover the nominal principal. If a borrower is delinquent, Prosper may sell the loan to a debt buyer, and the lenders receive a small portion of the loan, experiencing a loss.

A big unknown at the launch of Prosper was the expected delinquency rates of Prosper's loans. Lenders had to estimate the default rates based on credit grade in order to select listings that had the potential to offer a positive return-on-investment (ROI). Prosper initially used the historical average default rate by Experian to calculate expected lender ROI. However, lenders soon realized that these historical data were not a good indicator of Prosper loans and that the default rates on Prosper were higher than expected (see Table 2 and Figure 3).

Table 2: Default Rates for Prosper's First Year Loans

Prosper Credit Grade	AA	A	B	C	D	E	HR	NC
Credit Score Range *	760+	720–759	680–719	640–769	600–639	540–599	>539	No Credit Score
Loans made from 2/13/2006 to 2/12/2007	661	609	792	1119	1222	1456	1633	141
Lender Rate (Annualized; before service fees)	9.1%	11.0%	13.7%	16.5%	19.8%	23.5%	23.6%	21.6%
Experian: Historical Average Default Rate **	0.2%	0.9%	1.8%	3.3%	6.2%	9.1%	13.9%	N/A
Experian: Range (Default rate)	0.0%-0.4%	0.7%-1.1%	1.6%-2.1%	2.9%-3.7%	5.4%-7.2%	9.1%-11.8%	15.1%-28.2%	N/A
Prosper: Default Rat ***	9.7%	18.6%	24.5%	32.7%	36.3%	48.9%	64.4%	69.5%
Prosper: Default Rate (Annualized)	3.1%	5.8%	7.6%	9.9%	10.9%	14.2%	18.0%	19.2%

* In effect from 2/13/2006 to 2/12/2007; Credit Scores are based on Experian Scorex PLUS^{SM}.
** Experian historical average default rates by credit grade for borrowers with less than 20 percent debt-to-income ratio (Source: Prosper cited in http://www.bankrate.com/brm/news/investing/20061006a3.asp.)
*** Default rates as of Feb 2010 for loans made between 2/13/2006 and 2/12/2007

[4] Grameen bank: http://www.grameen-info.org/

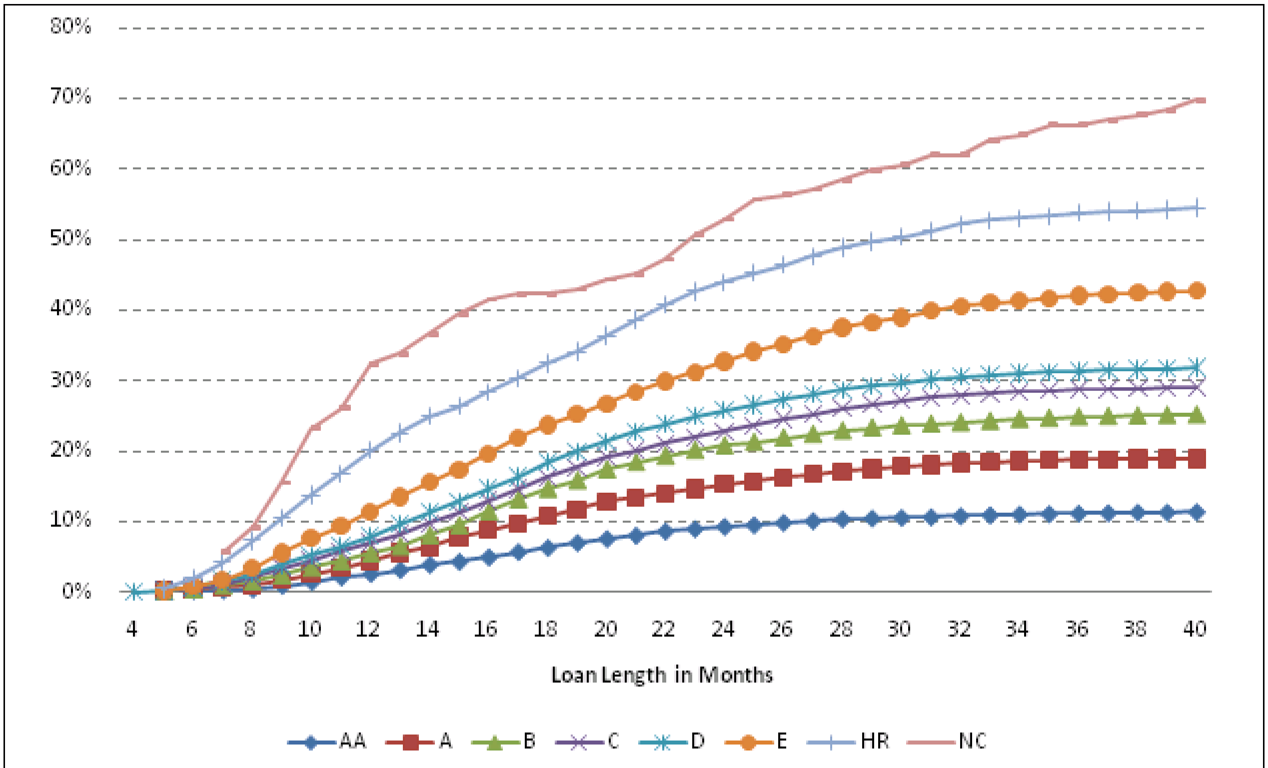

Figure 3. Delinquency Rates by Credit Grade and Loan Length[5]

Controlling Default Rates

"Ultimately," said a Prosper executive, "part of the challenge of our business is that certain borrowers are going to default. This is just a fact of life. They get into trouble, whatever it is. It doesn't mean they intended to do this from the get-go, but it is just a fact of life. And so what we want to do is help our lenders price for that risk and price the risk in correctly" (Prosper executive). High default rates are bad for lenders, borrowers, and Prosper alike because they decrease lender's ROI. Prosper's selling point to lenders is that P2P loans are an alternative investment instrument. So, the main challenge for lenders is to select listings with a high expectancy of repayment and for Prosper to help lenders to do so. This leads to several policy and strategy changes to decrease default rates and help lenders assess risks better.

- *Changes in Risk Ratings and Minimum Credit Score Requirements for Borrowers*
  At launch, Prosper assigned a credit grade to listings to help lenders evaluate the credit risk based on the past performance of the borrower. This credit grade was calculated based on the credit score obtained from Experian's credit report. The credit categories and corresponding credit score range are shown in Table 2. In February 2007, Prosper changed its policy and excluded borrowers in the NC (No Credit) category and allowed only borrowers with a credit score of 520 or higher to apply for a loan. In July 2009, Prosper raised the minimum credit score further from 520 to 640. In addition, Prosper introduced the "Prosper Rating," a custom risk model that does not rely on external credit data but uses historical data from Prosper to assess the risks of borrower listings.

- *Changes in Minimum Interest Rate and Minimum Bid Size*
  With auction-based bidding, interest rates can be bid down if multiple lenders want to participate in a loan. This may lead to situations where lenders would bid the interest rates down to lower than what sensible risk assessments would suggest. Prosper introduced a hard bid floor in July 2009. The bid floor is the minimum rate a lender can bid on a listing. A Prosper executive comments about the implementation of more controls to provide more safety in the business model: "So, for example, we allow open option bidding, but we do give a bid floor so that prevents someone from bidding well below what the very minimum risk return would be." In addition, Prosper encourages lenders to diversify their loan portfolio and make small bids on many

[5] Delinquency rates include late, default, and charged off loans; all loans originated from 2/13/2006 to 10/15/2008, and delinquency status is as of February 2010.

borrowers, so that loan defaults do not lead to over-proportional losses. In July 2009, the minimum bid was lowered from $50 to $25 to increase diversification.

- *Leveraging Social Capital to Reduce Default Rates*
  In the age of Web 2.0, Prosper embraced the idea of leveraging a borrower's social connections (i.e., social capital) to help funding a loan, lowering interest rates on loans, and decreasing default rates. This led to the introduction of several social features, including a group system, endorsements, and friend networks.

- *Providing Borrower Information*
  Borrower information is important for lenders to assess a borrower's credit risk. Prosper disclosed that between September 1, 2007, and August 31, 2008, self-reported information on borrower employment and income was verified only for approximately 23 percent of all borrower listings that had bids totaling 70 percent or more of the requested loan amount (3,486 out of 15,436 listings). Only approximately 56 percent (1,966 out of 3,486) of these borrowers undergoing verification during this period provided satisfactory responses and received a loan [Prosper Prospectus 2009.7.13, p. 42]. Verification of all borrowers' information might lower default rates; however, it would increase Prosper's operation cost considerably.

Regulatory Challenges—SEC Regulation and the Quiet Period

Prosper entered a highly regulated industry with an innovative business model. Being the first company with a new business model can create many challenges, and a legal strategy as part of the business model is required. Overcoming regulatory problems emerged as one of the most influential challenges Prosper faced in its first four years.

Lending activities are typically state regulated and require lending licenses. On Prosper, lenders do not directly lend money to borrowers. Instead, lenders purchase "promissory notes" issued by Prosper as portions of a loan. If these Notes are securities, then they need to be registered with and regulated by the U.S. Securities and Exchange Commission (SEC). Before launch, Prosper worked with counselors on this issue to bypass this regulatory hurdle. Prosper's position was that the Notes issued by Prosper were not securities and therefore did not need to be registered with the SEC. In October 2007, Prosper applied with SEC to open a secondary market that would allow lenders to trade Notes with each other.[6] During the approval process, the marketplace had to enter a "quiet period" during which all new lending operations were suspended and only existing loans were served. Prosper's quiet period started on October 15, 2008.

However, on November 24, 2008 Prosper received a cease and desist letter from the SEC. It was found that Prosper "from approximately January 2006 through October 14, 2008, violated Sections 5(a) and (c) of the Securities Act, which prohibit the offer or sale of securities without an effective registration statement or a valid exemption from registration."[7] The Notes that Prosper issued have to be regarded as securities and thus need to be overseen by the SEC. SEC prohibited Prosper from issuing Notes until it registered with the SEC. Except for a short re-open and re-close in the state of California, Prosper couldn't continue its operation for nine months until it received SEC approval in July 2009.

Prosper grew fast and substantially over its first three years, but being forced to halt for nine months after three years' of operation was traumatizing. Uncertainties surrounding the legal status of Notes led to confusion of borrowers and lenders and reduced trust. What is more, just before Prosper started its nine-month long quiet period, its major competitor, Lending Club, received SEC approval and emerged from its own six-month quiet period. Lending Club, launched in May 2007, applied for SEC approval within a year before its business grew too big. The timing of its return to the market was superb, as Prosper could not offer any new loans at that time, leaving it the only service provider for nine months.

The Challenge Designing Social Networks

The Prosper Group System

Chris Larsen stated in 2006: "Credit markets have destroyed the sense of commitment and shame if you don't pay. ... So we try to make sure buyers are tightly associated with a group whose reputation is directly impacted by one person not paying. That should dramatically lower default costs" [Hof, 2006].

[6] The Prospectus can be found at http://www.sec.gov/Archives/edgar/data/1416265/000110465907078072/a07-27421_1s1.htm.
[7] The Cease and Desist Letter from the SEC can be found at: http://www.sec.gov/litigation/admin/2008/33-8984.pdf.

Prosper experimented with different tools to allow borrowers and lenders to connect with each other and to allow Prosper to connect with its customers. Prosper introduced a group system for its borrowers and lenders. Each group was led by a group leader, usually its founder. When a borrower joined a group, the leader had the option to review the listing, receive more details about the borrower from Prosper, or confirm borrower information by requesting more information directly from the borrower, a process called vetting. Lenders were also able to join groups to show their support for the group. Each group received a star rating based on the collective loan performance of the group members. The star rating would increase if the group beat a particular default rate and decrease if the group underperformed. The star rating allowed differentiation between good and bad groups. Prosper expected the group system to help by:

- Lowering late payments and default rates as
    - Borrowers feel obligated to the group and repay loan in order to keep up the reputation of a group [Hogg, 1993].
    - Group members discipline members who cheat, do not pay a loan, or harm the group in any other ways.
    - Group leaders filter potential borrowers, select high-quality borrowers, and confirm borrower information by requesting additional information from borrowers.
- Signaling credibility, increasing funding chances, and lowering interest rates as
    - Lenders prefer borrowers who belong to a group, because they expect group members to be less delinquent due to group pressure.
    - More bids lead to increased funding chances (see Figure 4) and lower interest rates.
    - A bid from the group leader is expected to further signal credibility.
- Encouraging borrowers to access the collective knowledge of a group as
    - Group members consult and help each other, for example, by reviewing the listing and giving tips on how to improve it (see Jan's story at the beginning of the case).
- Attracting new borrowers and lenders as
    - Group leaders receive a group leader reward (0.5 percent to 4 percent) on each successful loan and are motivated to bring in borrowers from outside and build strong groups. Strong groups with low default rates would bring in lenders.

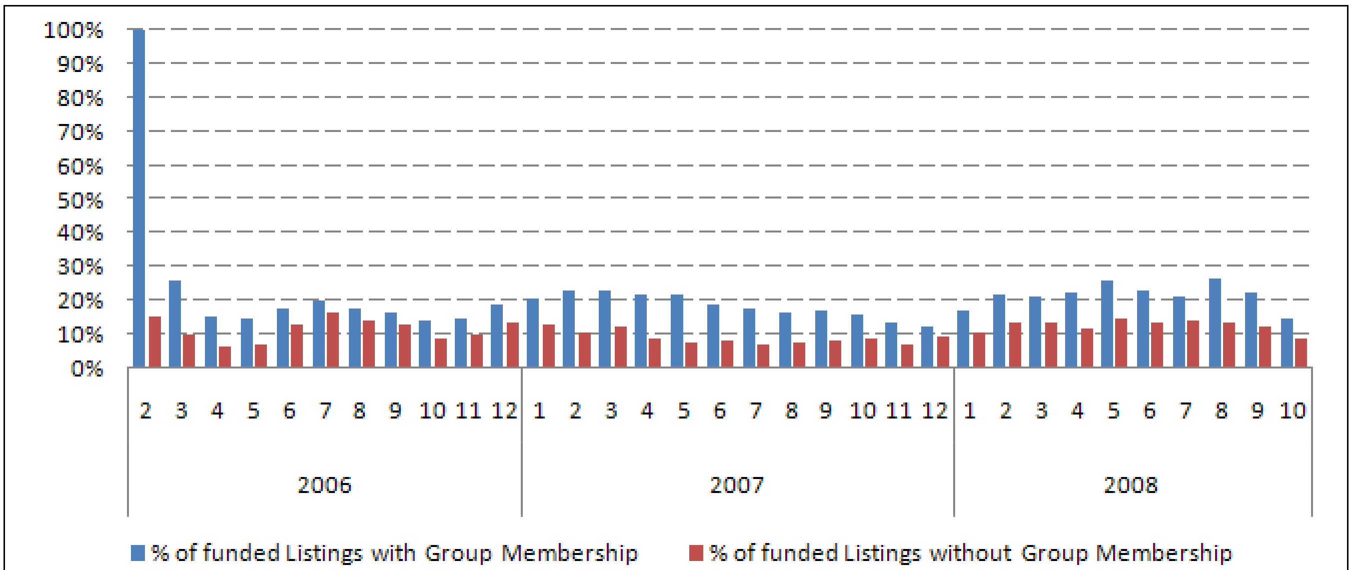

Figure 4. Funding Rates for Listings with and without Group Membership by Month

Problems with the Prosper Group System

Unfortunately, Prosper discovered that the benefits of Grameen Bank's solidarity lending using off-line—often closely knitted—groups was difficult to transfer to an electronic marketplace.

First, only in few instances did the groups have the spirit that Chris Larsen envisioned. A Prosper lender writes in an open letter to Prosper: "First, while there may be 1 or 2 groups out there somewhere in the 3600 Prosper groups that actually have the dynamic [Chris Larsen, Prosper's CEO] envisioned, 99.9% of them do not. Most are groups of people who don't know each other at all. No commitment. No shame" [Fred93, 2007]. Many borrowers never spoke to their fellow group members but communicated only with the group leader. Without knowing each other, it was difficult for the borrowers to develop a sense of community and responsibility toward their group. One borrower commented, “I’m not connected all the time…. It was a onetime connection. Once I got the loan ... I made my payments [and did not stay connected].”

Second, the group leader reward was created as compensation for vetting borrowers (performing the background check) and recruiting group members. Instead, some group leaders tried to maximize their personal financial gains by accepting and promoting borrowers regardless of their credibility. Some big groups (e.g., TwoMillionare debate) allowed up to sixty listings per day—filtering, selecting, and reviewing all borrowers is next to impossible in these cases. In addition, some groups used community payments (payments by the group in case a borrower does not pay) to keep their group’s rating artificially high to keep attracting lenders. This could skew the group rating system. Lenders criticized these practices fiercely on Prosper’s forum and on external forums and blogs such as www.prosper.org. The delinquency rates of loans associated with groups support this resentment (see Figure 5).

Some group leaders also used the system for their personal gain. Lenders’ portfolio plans might trigger automatic bidding if a listing is funded to a certain percentage. Group leaders would place multiple bids on their group members’ listings to trigger lenders’ portfolio plans, and they might even get outbid by subsequent bids. This practice soured some lenders.

The hope that Prosper had for groups acquiring outside borrowers and lenders was not fulfilled. Many of the big groups were not bringing in new borrowers from outside but were recruiting borrowers who already came to Prosper.

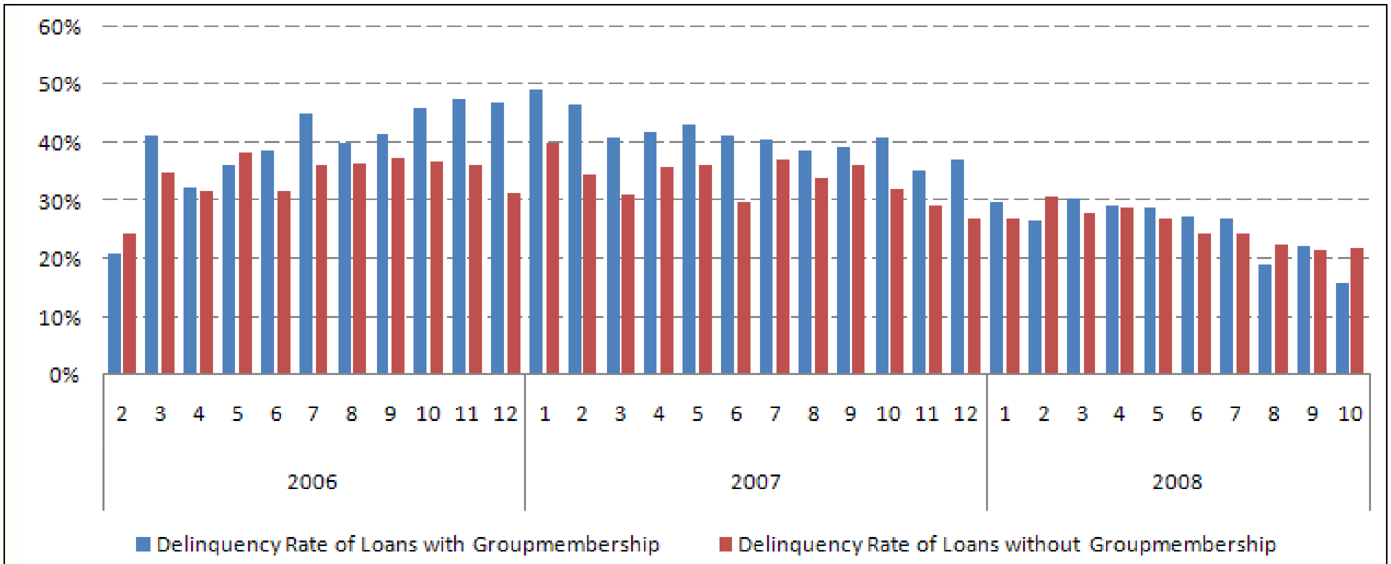

Figure 5. Delinquency Rates for Loans by Group Membership[8]

The Decline of Prosper's Group System

Prosper implemented the group system from the start and tweaked it during the next one and a half years (e.g., introducing community payments in August 2006, adding group leader endorsements in September 2006). Groups experienced their greatest success from mid-2006 to early 2007, with July 2006 having 65 percent of new listings belonging to a group (see Figure 6). Groups became less and less attractive after the first quarter of September 2007. The decline of Prosper’s group continued in September 2007 with the discontinuing of the group leader reward. Many group leaders did not continue with the groups because of the lack of incentive. The group system was not revived after Prosper’s quiet period and had not played a major role as of February 2010. Instead, the endorsement and friend system grew significantly.

A Prosper executive evaluates the success of the groups: “Early on we were really excited about groups. It felt like the right way to bring in the social bonding, and get better payback rates and things like that. I think due to some implementation details, it didn’t work out quite as well as we had hoped. ... I’d say we are trying to figure out what’s the next step with those. How to get them to function the way we want. It’s very hard to pull in the right group leaders. We phased out the group leader rewards because we felt it was driving the wrong behavior. So all along it has been a challenge to find out what’s going to drive the right behavior and make them work correctly. ... We are still working at it. It hasn’t been an unqualified success, nor has it been a complete failure” (Prosper executive).

[8] Loans originated from 2/2006 to 10/2008; delinquency status as of Feb 2010; month shows the month the loan originated in.

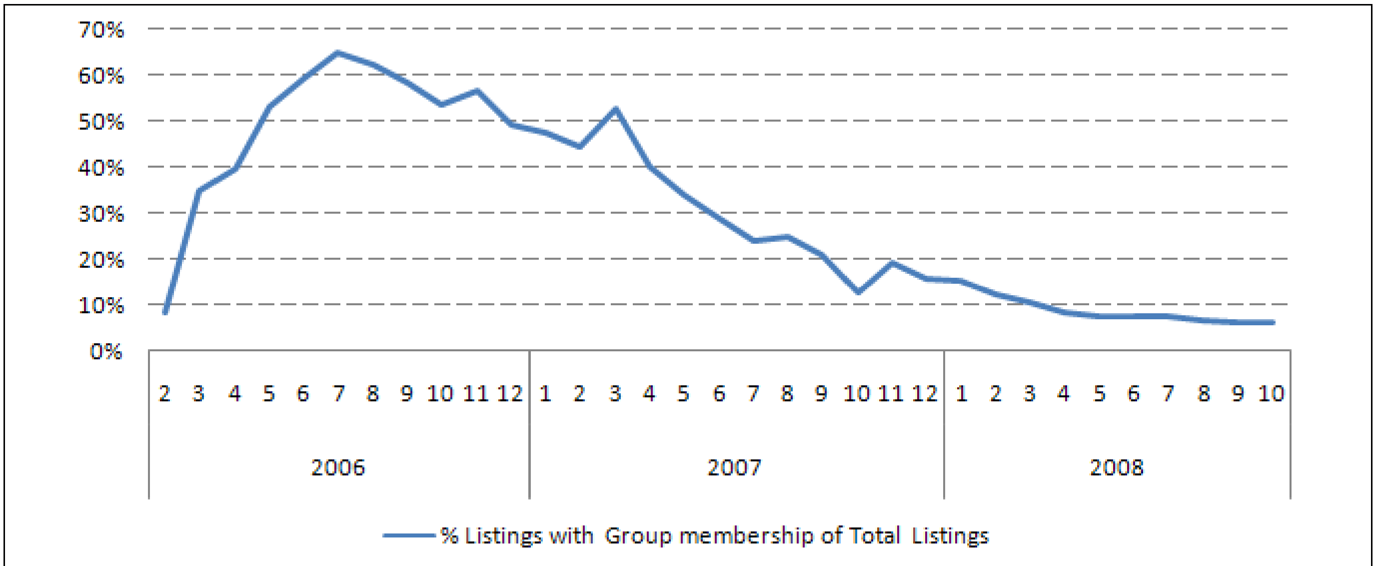

Figure 6. Percentage of Listings with Group Memberships

Endorsement and Friends

Endorsements were introduced in September 2006 to allow group leaders to endorse borrowers and write recommendations. In February 2007, this feature was expanded to allow other Prosper members to endorse borrowers. Furthermore, borrowers are able to add other Prosper members as "friends" to show that they have a connection within the Prosper community. Prosper also displays whether endorsement givers or friends have placed a bid on the related listing. Both endorsements and friends are expected to help lenders identify high quality listings as well as give borrowers higher social pressure and incentive to pay back their loans. Endorsements and friends are shown to have positive influences on funding chances and loan payment, although the results are mixed [Greiner and Wang, 2009; Lin et al., 2009].

Prosper Forums, Blog, and Websites

Borrowers and lenders had the opportunity to communicate with each other in forums organized by Prosper. These forums included a special corner for lenders, borrowers, and group leaders where topics interesting to groups were discussed. For example, in the borrower forums, new and potential borrowers could ask for help and information about how to write a listing, introduce themselves to lenders, and promote their own listings. These thriving forums were an important source of information for Prosper members. However, the forums were also a platform for criticism of individual borrowers, lenders, groups, or Prosper. Some topics were heavily discussed and both positive and negative opinions were voiced. In March 2007, Prosper locked several threads (many of them critical of a large group) and banned from the forums users who were identified as being in violation of forum policies. In November 2007 the forums were deleted and replaced with a forum where contributions were moderated by Prosper employees.[9] As a reaction, many former Prosper forum participants switched to third-party forums (e.g., www.prosper.org) and blogs in order to continue non-moderated discussion about Prosper. The official Prosper forum was discontinued in December 2009 due to lack of activity.

Prosper has used other venues for social networking. Prosper started a blog (http://blog.prosper.com/) in December 2007 that gives advice to borrowers and lenders, reports on important changes at Prosper, and discusses important topics in P2P lending. In March 2010, Prosper started a separate website called *Talk Taboo* where people can share their financial stories and learn about debt consolidation. So far this website is targeted toward borrowers and encourages P2P lending.

A Little More Safety, a Little Less Freedom

Initially, Prosper started with a wide open approach "being a pure web 2.0 company" (Prosper executive). Later on, the model shifted to include "a little more safety, a little less freedom, than where Web 2.0 started in [20]04/[20]05. … You need as much freedom as you can get, but you also need to have control" (Prosper executive). The shift in strategy required changes and support on the technology side. Most of the information systems were developed in-house, and only few third-party software packages were used. The system introduced at launch in February 2006

[9] An archive of the official forum before November 2007 can be viewed at http://www.prosperreport.com/.

has been tweaked and changed repeatedly. New features were added and existing features were improved or changed as a result of feedback from users and requirements from the business environment. Many changes were the results of abuse of the system, and unintended consequences. For example, initially, members were allowed to add as many bank accounts as they wanted. This was thought a nice service for lenders and borrowers, to be able to pay or receive money from different sources. However, some members were using Prosper as a cheap way to move money between accounts. On realizing this system abuse, Prosper limited the default number of bank accounts to one primary bank account. Some members were abusing the e-mail system and sending unsolicited e-mails that were not Prosper related to other users. Prosper's system had to change to add more control to stop this from happening. In a marketplace where participants remained largely anonymous, fraud detection was a technological challenge as well. To facilitate fraud investigation, IP addresses were recorded, and the Prosper system was integrated with a third-party system to do external checks on members.

VII. THE COMPETITIVE ENVIRONMENT AND THE FUTURE OF PROSPER

Prosper entered an established financial industry with its idea of circumventing the middleman—an idea that could threaten established players if the idea proved successful. Competitive forces for Prosper come from two different directions: traditional financial institutions such as banks and credit companies, and other existing and future P2P lending companies.

Competition from Traditional Banks and Credit Companies

Prosper sees credit companies as their main current competitor. "The competitors have changed so radically with the financial collapse, and it hasn't returned anything close to normal. But still, we would say, the traditional credit card companies are really our biggest competitor. This is really the way small business lending has happened in main street America" (Prosper executive).

Prosper differentiates itself from traditional financial institutions by not being the grantor of credit but rather providing the infrastructure to individuals who will then price and grant credit. A Prosper executive draws the analogy between a retailer and eBay: "The way we work is that we just give the tool to people who can decide on their own who is going to get the credit at what price. So that's what we define as infrastructure; there is no central grantor of a price or credit. It's a broad distributed market that uses our infrastructure. ... Think about eBay. They don't decide how much their items will be sold for; they just provide the tools to allow them to be sold."

Banks operate on a spread base. They pool money from individuals (lenders) who deposit money for a certain percentage rate and then grant credit to other individuals (borrowers) for a higher percentage rate. Banks earn money based on this spread. A Prosper executive expects P2P lending to fundamentally change the financial industry because it gives lenders and borrowers the power to eliminate banks as the middleman: "with P2P lending, [individuals] can be the banker themselves. So, spread modeling banking should be dead soon."

Competition from Other P2P Lending Companies

In the U.S., Prosper and Lending Club are the major players in the for-profit P2P lending area. Whereas Prosper deploys an auction-style lending process and lets the lenders decide the price of the credit, Lending Club sets a fixed rate on loans. Prosper CEO identifies how Prosper differentiates itself from Lending Club: "They have taken a much more dictatorial view. We put them in the category of a credit company. Their management are the ones who decide who gets credit at what price, rather than let the community do that. We don't think that's the right way to go. ... So, we are unique in our approach." In addition to the auction-based style, Prosper claims that capturing and monetizing the social capital of borrowers are the major differences from Lending Club. A Prosper executive comments: "[Prosper's] model uniquely has the ability to capture and more important monetize social [element]. If you look at a bank, or even Lending Club, [they] are dictating credit and price. There is no way to value that social [element]. Prosper is the first model where you can see the social, which could be community, friends, family, ... that can now be valued by individuals who control the granting of credits and the price of the credit. So that's really the breakout here."

Looking Forward: The Future of P2P Lending and Prosper

"I think [P2P lending] will have its place next to lending from banks because people are always anxious for new avenues for credit. Ideas like the open market that we have could be really interesting as far as credit moves in the U.S. or even around the world and level of involvement of individual investors. And on the borrowing side … that 'Oh, I need to borrow money, well, one of my options is P2P lending' will expand. How rapidly is the big question" (Prosper executive).

Prosper is still the largest P2P lending marketplace in the U.S. with almost $191 million of loans generated in its first four years. As of March 2010, Lending Club almost reached the $100 million threshold. Prosper's advantage was its early entry into the market in February 2006, one and half years before Lending Club. Lending activities prospered, and the majority of the loans were made in its first three years of existence. Lending Club launched in May 2007 and closed for SEC registration from April 2008 to October 2008. After Lending Club emerged from its quiet period, Prosper was closed down for nine months for SEC registration. During this time, Prosper was not able to create new loans. Lending Club grew and surpassed Prosper in terms of monthly loan origination amount (see Figure 7) and reduced the gap in overall loan origination (see Figure 8). As of February 2010, Prosper has not been able to repeat its success before the quiet period. Loan originations by month are still a fraction of what they were before the quiet period and considerably lower than the loan originations of Lending Club. Currently, it is unclear whether Prosper can recover from the quiet period and which of the two P2P lending marketplaces will play the bigger role. Another round of competition for dominance in the United States' P2P lending market has begun.

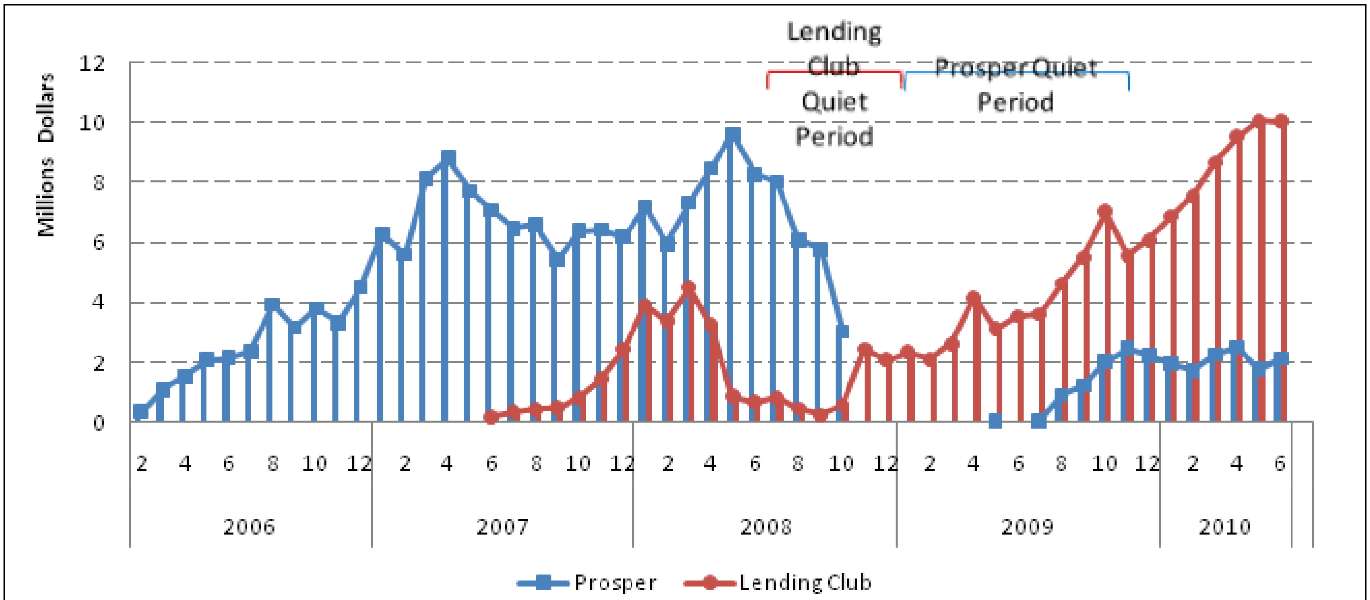

Figure 7. Loan Origination Prosper and Lending Club by Month and Dollar Amount

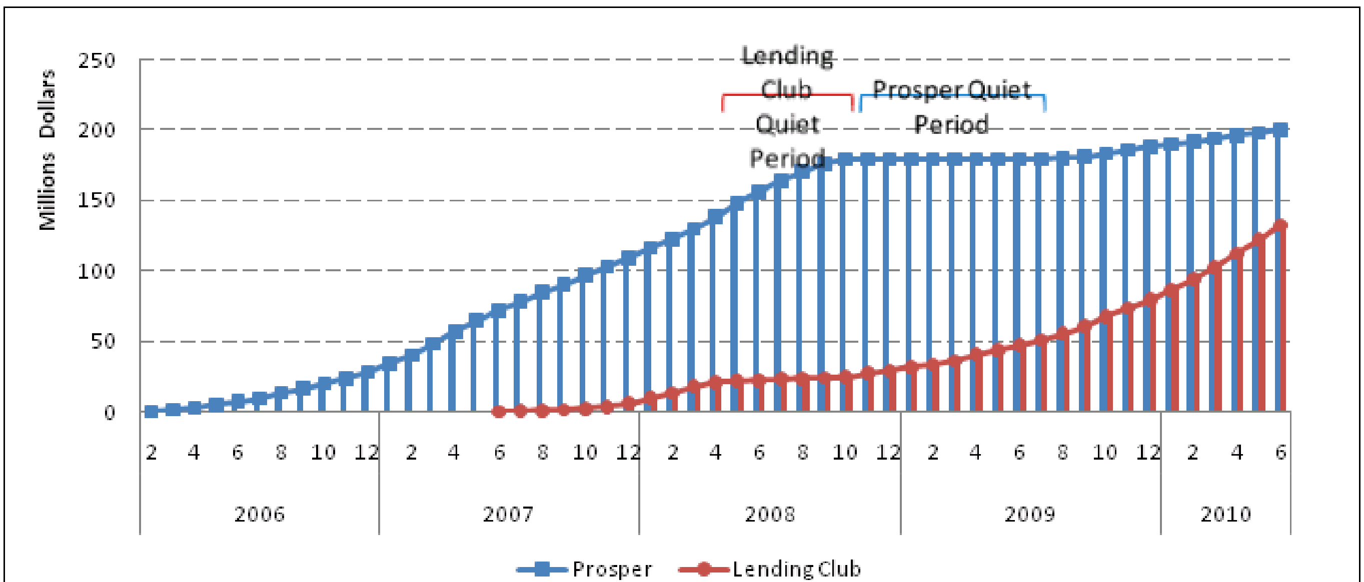

Figure 8. Cumulative Loan Amounts by Month and Dollar Amount

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Editor's Note: The following reference list contains hyperlinks to World Wide Web pages. Readers who have the ability to access the Web directly from their word processor or are reading the article on the Web, can gain direct access to these linked references. Readers are warned, however, that:

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