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On Lending Club Portfolios

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Executive Summary

Lending Club is a relatively new peer to peer lending platform. In the context of historical data provided by the company, this white paper examines the claim that 95% of Lending Club IRA accounts are seeing returns of 6% to 18% or more.

In fact, historical returns are in the 2% to 3% range for portfolios that are not actively managed. In the case of active management, where all coupon payments are immediately reinvested, historical returns are in the 7% to 8% neighborhood.

Introduction

Peer to peer lending platforms are popping up as a new type of investment vehicle. They provide a matchmaking service between individuals seeking loans and individuals willing to invest in those loans. In effect, these P2P services are attempting to disrupt the long-held monopoly that banks and credit card companies have enjoyed as lenders.

Lending Club is one such P2P service. They have been making loans since before 2008 and, to date, have facilitated the sale of nearly two and a half billion dollars of debt. Roughly 75% of these loans are issued for credit card or debt consolidation at a lower interest rate. While cheaper than a predatory credit card rate, Lending Club's rates are still relatively high. 59% of Lending Club obligors pay more than a 15% APR.

On the other hand, most investors find the prospect of a 15% return too good to ignore. A savvy investor would certainly inquire about the credit worthiness of such an asset, and, to their credit, Lending Club provides a fairly useful risk snapshot of each of the available loans made availabe on the platform. However, the site fails to underscore just how damaging that risk can be to the overall success of a portfolio.

This creates an opportunity for their marketing team to exploit certain features of the data while ignoring other components. For example, most loans pay to completion . This means that if new investors, say those just testing the water, tend to buy a single loan, upwards of 85% will see a full payoff and feel great about their decision to try Lending Club. 85% satistfaction among new customers is a great marketing bulletpoint. However, this fails to account for the customer that then comes back to invest in a second or third loan. With the additional exposure to default events, average returns over larger portfolios will tend to drop. Moreover, investors, not wanting to admit that their first success wasn't indicative of a larger, long term strategy, may stay in the platform longer than they would otherwise.

In short, this short white paper is an attempt to add transparency to what the Lending Club marketing team would never be able to communicate. Namely, as you get more invested in Lending Club, the portfolio returns that you'll see are likely to fall far short of your initial expectations.

Historical Performance

Lending Club rates loans by a letter grade system. Loans marked as 'A' are supposed to be lower risk and, accordingly, will have lower returns. Loans marked as 'F' or 'G' are riskier with higher payouts. Below, in Table 1, we aggregate a number of rates associated with loans within each of these classes. The main points of interest are in the distinctions between static and managed portfolios and then between the ideal, no-default case and the historical data.

A static portfolio strategy would be one in which money was invested in a loan or portfolio of loans, and then, 36 months later, the balance was compared against the initial investment. For a managaged account, coupon payments are immediately reinvested in a loan or portfolio identical to the original.

Ideal versus historical is the second contrast. The ideal rates shown the returns that would be enjoyed in the case of no default risk. These are the numbers that are exciting to investors. Historical rates, however, show the returns that were actually observed in an environment where defaults do happen. Historical rates are a much better benchmark of the performance that an investor should anticipate from a real Lending Club portfolio.

			Static		Managed	
Loan Grade	Quoted	Actual	Ideal	Historical	Ideal	Historical
A	7.88	8.17	4.04	2.57	8.17	7.05
B	11.26	11.86	5.76	2.80	11.86	7.44
C	13.23	14.06	6.76	3.06	14.06	7.93
D	14.96	16.03	7.64	3.26	16.03	8.35
E	16.45	17.75	8.40	3.18	17.75	8.13
F	18.43	20.07	9.40	2.40	20.07	7.12
G	20.13	22.10	10.26	1.43	22.10	5.30

Table 1: Lending Club Historical Performance (annualized)

The rates in Table 1 are as follows:

Quoted	The annual interest rate quoted on a Lending Club loan. The median rate is reported for each grade.
Actual	The actual interest rate obtained from monthly compounding of the Quoted Rate.
Static Ideal	The annualized rate for a non-managed loan at the Quoted Rate in an ideal environment with no defaults and no prepayments.
Static Historical	The annualized rate for a non-managed portolio—an index fund—based on historical data containing both defaults and prepayments.
Managed Ideal	The annualized rate for a managed loan at the Quoted Rate with immediate reinvestment of coupon payments into a (hypothetical) identical loan. This is based on an ideal environment with no defaults and no prepayments. Although computed in a different way, this will be equivalent to the Actual Rate.
Managed Historical	The annualized rate for a managed portfolio with immediate reinvestment of coupon payments into a (hypothetical) identical basket of loans. This is based on historical data containing both defaults and prepayments.

Historical data are comprised of all 36-month, completed loans issuing from March 4, 2008 to August 15, 2010.

For our purposes, portfolios are constructed by a uniform investment in each loan at baseline.

Unwinding a Lending Club Investment

At the end of a static investment, assets will be held in cash. This is in contrast to a managed investment, where assets are always reinvested in the Lending Club platform. Hence, as a managed portfolio unwinds over a 36-month period, it will generate lower returns comparable to a static investment over the unwinding period.

Default Risk

To satisfy curiosity, we plot here the survival probability curves by loan grade in Figure 1. These show that the 'A' loans survive the longest while the 'F' and 'G' loans tend to suffer from default events much earlier. For a concrete example, roughly 80% of 'D' loans make it to month 36 without a default.

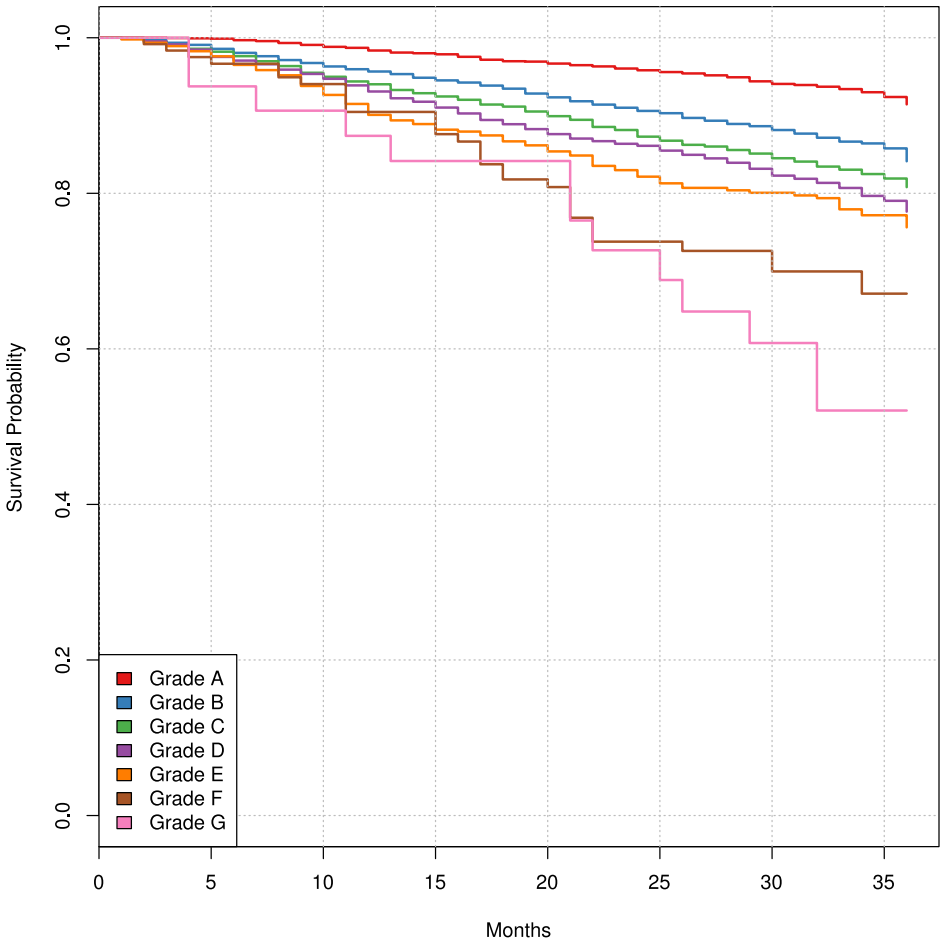

Figure 1: Historical Survival Curves. These are the usual Kaplan Meier estimates for survival.

Reproducible Results

The dataset is available directly from Lending Club. Python code to download and parse this dataset, as well as the R code used to generate Table 1 and Figure 1, can be obtained at http://inferentialist.com.