Volume 6

Marketplace Insights.

Marketplace Loans: How Might They Perform During A Downturn?

March 2019

LendingClub

Overview

Given the length of the current economic cycle, recent financial market volatility, and growing recession concerns, investors have begun positioning for a less benign investment environment.

LendingClub's inception in 2007 and our experience of growth through the post-financial crisis period – to become the marketplace loan industry's U.S. leader – underpins our belief that marketplace loans' unique characteristics make them potentially powerful portfolio diversifiers. This should foster their resilience in a range of economic environments, including the next downturn.

In this piece we discuss marketplace loans' role in an investment portfolio, review their historical performance, and discuss implications for how they might perform during a downturn. We also highlight the key strengths the credit model provides and how we are preparing for a more challenging economic environment.

Highlights

- Marketplace loans have defensive properties that may offer competitive returns in a range of economic environments.
- Marketplace loans may provide resiliency and a degree of downside protection to diversified portfolios thanks to a combination of:
  - Different return drivers than other asset classes;
  - Short duration;
  - Historically steady consumer demand for credit across economic cycles.
- LendingClub boasts deep insights into and expertise with consumer credit given our inception and growth in the immediate aftermath of the worst financial crisis since the Great Depression. We believe our platform is well-positioned to sustain performance through changing economic cycles.

Marketplace loans are a unique asset class

Marketplace loans have three unique characteristics which make them valuable additions to investment portfolios in a variety of market environments.

First, as with other types of unsecured consumer credit products, marketplace loans' return drivers differ from those of more traditional investable asset classes. Specifically, consumer credit shows sensitivity to broad trends impacting consumer health such as unemployment, cyclical downturns and recessions, and idiosyncratic credit risk factors (e.g., individual FICO scores). In contrast, traditional fixed income investments are particularly susceptible to changes in interest rates, economic growth rates, and technical factors such as secondary market liquidity and issuance trends—in addition to being affected by cyclical downturns and recessions.

Second, marketplace loans typically have short duration thanks to maturities that range from 36 to 60 months. Additionally, they are fully amortizing, so their regular principal and interest payments further reduce effective duration. As an example, average loan duration on the LendingClub Prime platform ranges from 1.1 to 1.9 years[1], versus roughly 6.13 years for the Bloomberg Barclays U.S. Aggregate Bond Index.[2] This short duration means marketplace loans may show reduced price sensitivity to changes in prevailing interest rates versus other fixed-income assets.

1 Based on forecasts for grade and maturity mix of loans issued as of Q3 2018.
2 Bloomberg Barclays U.S. Aggregate Bond Index (U.S. Unhedged) as of 9/30/2018.
3 Source: LendingClub Prime loans, returns as calculated by Brismo (see methodology: https://www.altfidata.com/methodology-guide/). Morningstar and Bloomberg, based on monthly net total unhedged USD returns: "U.S. Treasurys"= Bloomberg Barclays U.S. Treasury Index, "U.S. Aggregate"= Bloomberg Barclays Aggregate Index, "U.S. Investment Grade Corporates"= Bloomberg Barclays Corporate Investment Grade Index, "High Yield Corporates"= Bloomberg Barclays U.S. Corporate High Yield Index, "Short-Term Treasurys" = Bloomberg Barclays U.S. Treasury 1-3 Year Index, "Munis" = Bloomberg Barclays Total Return Unhedged USD U.S. Municipal Bond Index, "Short-Term U.S. Investment Grade Credit" = Bloomberg Barclays 1-3 Year Credit Index.

Lastly, historical data shows robust and growing consumer demand for credit through different economic cycles despite persistently high interest rates. This contrasts with periodic and sometimes rapid shifts in investor demand and risk sentiment in bond markets. Strong consumer demand, paired with an unmet need for credit particularly during periods when lenders are tightening, are also characteristic of the consumer credit market. Together, these features—different return drivers, short duration, and persistent demand for consumer credit—suggest returns on marketplace loans should exhibit relatively low correlations to a range of other asset classes. Indeed, the chart below, depicting returns for a variety of financial assets over the 10-year period from January 2009 through December 2018, showed little relationship between returns for LendingClub platform loans and those of either bonds or stocks. (Correlation, or relationship, is measured on a scale of -1 to +1, with 1 indicating 100% correlation.) While correlations between asset classes do change over time, as Figure 1 [3] shows historical data suggests that marketplace loans may exert a stabilizing influence on a diversified portfolio.

How have different asset classes performed during prior recessions?

In past recessionary periods, and particularly during the financial crisis of 2007-2009, prices on a range of assets experienced material declines. During 2001's relatively short, stock market-driven recession, returns for risky assets experienced declines ranging from a mild 3% for emerging markets to a precipitous 21% for international equities[4].

In contrast, the financial crisis period saw stocks, bonds, and hedge funds decline by 26% to 53%[5]. And investment losses were only part of the story. Cross-asset correlations rose[6] during the financial crisis, which featured the bursting of twin credit and real estate bubbles—just when investors were most in need of the benefits of diversification[7]. The

Figure 1: Correlations by Asset 2009-2018

	LendingClub Prime Program Loans	U.S. Treasurys	U.S. Aggregate	Investment Grade Corporates	High Yield Corporates	Mortgage-Backed Securities	Munis	Short-Term Treasurys	Short-Term Investment Grade	U.S. Stocks	International Stocks
LendingClub Prime Program Loans											
U.S. Treasurys	0.07										
U.S. Aggregate	-0.06	0.89									
Investment Grade Corporates	-0.1	0.47	0.8								
High Yield Corporates	-0.2	-0.26	0.15	0.59							
Mortgage-Backed Securities	-0.11	0.79	0.9	0.59	0.07						
Munis	-0.11	0.51	0.66	0.6	0.24	0.6					
Short-Term Treasurys	-0.08	0.81	0.78	0.44	-0.06	0.77	0.4				
Short-Term Investment Grade	-0.3	0.06	0.45	0.75	0.76	0.38	0.45	0.35			
U.S. Stocks	0.06	-0.27	-0.06	0.23	0.63	-0.14	-0.1	-0.14	0.3		
International Stocks	-0.03	-0.24	0.05	0.4	0.75	-0.03	0.03	-0.07	0.47	0.87	

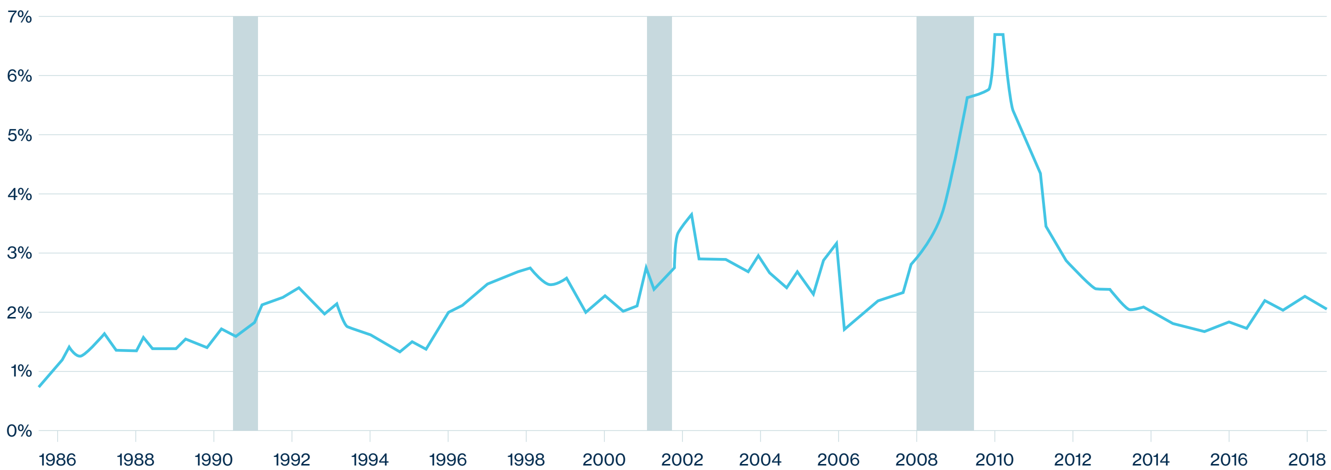
4 Source: https://www.callan.com/wp-content/uploads/2018/01/Callan-PeriodicTbl_KeyInd_2018.pdf.
5 Source: Morningstar based on monthly net total returns for MSCI ACWI (USD), Bloomberg Barclays High Yield Bond Index, the S&P 500, MSCI Emerging Markets index (USD), Hedge Fund Research, Inc., "HFRI Monthly Indices – 2008 Monthly Performance, https://www.hse.ru/data/2011/10/27/1269589620/2011%2005%20HFR%20Report.pdf.
6 Source: PIMCO, "Asset Class Correlation: Untangling the Web,"https://www.advisorperspectives.com/commentaries/2016/10/26/asset-class-correlation-untangling-the-web [advisorperspectives.com].
7 "Quantifying the Behavior of Stock Correlations Under Market Stress," https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3475344/.

of the benefits of diversification[7]. The effect was amplified investment losses across many investors' portfolios. By comparison, consumer credit has not suffered the dramatic declines that other asset classes have in prior recessionary periods.

We observed in "Marketplace Loans in A Rising Rate Environment," that while recessions do adversely impact consumer credit, the nature of the recession matters. The length of the recession matters too. For instance, consumer credit was not affected to the same degree during the 1991 and 2001 recessions that it was during 2007-2009's severe and prolonged recession. The magnitude of the impact on delinquency rates and charge-offs has also not been uniform across recessions.

As Figure 2 shows, while charge-off rates on consumer loans rose during the 1991 and 2007-2009 recessions, the latter's jump was particularly pronounced. During the much shallower 2000-2001 recession charge-offs increased, but they did not spike[8]. Similarly, the 2001 recession saw credit card default rates rise by 50%, or 1.5 times, while they more than doubled during the 2007-2009 recession.[9] Extrapolating based on these categories of consumer credit, we expect the timing of a recession will also have a significant role to play on the degree to which marketplace loan returns are affected.

Figure 2: Charge-off Rate on Consumer Loans, All Commercial Banks



Shaded areas indicate U.S. recessions

Source: Board of Governors of the Federal Reserve System (US)

What implications might this have for marketplace loans going forward?

To gauge how marketplace loans might perform in the next downturn, we looked at both the broad category of consumer credit and the narrower subset of credit cards as proxies for potential marketplace loan performance. Credit cards are not a perfect substitute for marketplace loans. But as unsecured consumer credit, we believe they are a useful proxy for assessing how marketplace loans might respond under different scenarios, particularly given there is less data available for personal loans. While these assets differ in some important ways from loans made on LendingClub's platform (for example, borrower creditworthiness, fixed versus floating rates, and fixed term versus revolving credit lines), observing data over multiple cycles can help provide more depth to the analysis. Importantly, extensive historical performance data exists for both the broad consumer credit category and for credit cards.

First, we studied correlations between credit card and corporate bond default rates, using Moody's data for Ba-Caa-C bond categories and Federal Reserve statistics on credit cards. As Figure 3 depicts, credit card defaults showed low correlation to bond defaults, suggesting potential diversification benefits to fixed income investors during volatile market environments.[10]

Second, we looked at when charge-off rates might peak during a potential recession to determine when loans could experience their maximum losses. LendingClub's study[11] of historical loan charge-off rates during the 2001

8 Board of Governors of the Federal Reserve System (US), Charge-Off Rate on Consumer Loans, All Commercial Banks [CORCACBN], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/CORCACBS, January 10, 2019. Consumer loans are defined as "Commercial (time and demand) and all other loans," "Real estate loans," "Installment loans," and "Credit cards and related plans."
9 Federal Reserve Bank of St. Louis. https://fred.stlouisfed.org/series/CORCCT100S#. Annualized net charge-off rates, representing all commercial banks. Not seasonally adjusted. We compute Board of Governors' charge-off rates by taking net charge-offs (gross charge-off minus recoveries) for a quarter and dividing by the average level of loans outstanding over that quarter. We obtain an annualized rate by multiplying the percentage by 4.

Figure 3: Charge-off Rate on Consumer Loans, All Commercial Banks

	Ba	B	Caa-C	Credit Card
Ba	1.00			
B	0.85	1.00		
Caa-C	0.67	0.79	1.00	
Credit Card	0.06	0.03	0.24	1.00

and 2007-2009 recessions suggests that across all loan grades the biggest potential impact on losses would occur if a recession started within six months of loan origination.[12] This is due to the short duration and amortizing nature of the loans. In our back-testing, charge-off rates for loans originated roughly two years before the onset of a recession experienced relatively muted impact, with rates approaching the pre-recession baseline level.[13] Our study also showed a material difference in peak charge-off rates during the 2001 recessionary period versus the 2007-2009 one—they rose to 8.1% and 11.2% respectively. Lastly, we estimated returns for a hypothetical LendingClub portfolio comprised of loans originated from Q1 2017-Q4 2017 under three different recession scenarios: 1991 (Moderate Recession), 2001 (Shallow Recession), and 2007-2009 (Protracted Recession). While worst case returns, assuming a recession began within six months of loan origination, would have been negative in all three scenarios, even assuming a recession as severe as 2007-2009's, our data suggest loan performance would compare favorably to the double-digit declines that global equities and some sectors of the corporate debt markets experienced. Specifically, we estimate that in a severe recession, returns could fall into negative single digits. When we forecasted 2001 and 2007-2009 downturns, we observed an increase in annualized charge-off rates of 70-100%. We did not observe a material impact from prepayments.

LendingClub's Approach to Downturn Forecasting

As the market leader in personal loans in the U.S., LendingClub is uniquely positioned to leverage data for actionable insight into consumer loan trends. We take a proactive approach to planning for a range of different economic environments, including future downturns. Our approach rests on three pillars: the strength of the credit model, rigorous and ongoing monitoring of a wide range of macroeconomic and credit data and indicators, and dynamic loan servicing. One of the benefits of the credit model is that it is informed by 10+ years of performance and behavioral data. It also employs sophisticated machine learning that considers more than 100 individual credit attributes and rank-orders borrowers, enabling us to assign them to dozens of possible loan price-points. While no forecast has perfect predictive ability, by leveraging this robust data set to assess credit risk we believe LendingClub can better predict borrower behavior, and adapt quickly to incipient changes in the credit environment.

Turning to our marketplace model, our two-way marketplace brings together broad consumer demand and investor risk appetite, enabling a holistic picture plus rich data profiles of both investors and borrowers. It is designed to be resilient to changes in the investing and credit environments. Highly scalable without being capital-intensive, it has facilitated more than $40 billion of loans to 2 million-plus borrowers. On the investor side of the equation, we have served more than 150 institutions and tens of thousands of individual investors.

Along with the credit model's predictive ability and the strength of our marketplace model, rigorous and constant monitoring allows for real-time adjustments as the credit environment shifts. Among other efforts, our data infrastructure enables us to run more tests on the platform such as those around pricing and loan size. We recently enhanced our ability to detect borrowers who are more likely to default early in their loan cycle. That, in addition to flexible loan servicing capabilities will allow us to be even more proactive in anticipating potential credit deterioration as well as agile in ramping up servicing as needed in a downturn. Lastly, we are making ongoing investments in future capabilities that will help us weather both an extended period of rising rates or another prolonged downturn.

10 Moody's Annual Default Study: Corporate Default and Recovery Rates, 1920-2017, February 2018. https://www.researchpool.com/download/?report_id=1751185&show_pdf_data=true.
Federal Reserve Bank of St. Louis, Charge-Off Rate on Credit Card Loans, Top 100 Banks Ranked by Assets. https://fred.stlouisfed.org/series/CORCCT100S#.
11 This analysis uses elements of back-testing, which is hypothetical and provided for information purposes only. Back-tested data has inherent limitations, including that historical borrower populations are not necessarily indicative of future borrower population.
12 Baseline is based on LendingClub internal data and is based on the forecasts published on 8/7/2018. These projected charge-off rates are theoretical, for illustrative purposes only, and do not show the actual performance of any LendingClub loan. Actual performance of loans may materially differ from the projections described above.
13 Our baseline scenario is defined as LendingClub's loss forecast for existing loan vintages from Q12017 to Q42017.

Bottom Line

While no one can predict exactly how the next downturn will unfold, we believe an allocation to marketplace loans offers diversification benefits, including the potential to better withstand shifts in the economic environment. This is due to the asset's unique features which may result in relatively low correlation with more traditional asset classes, as well as to resilient consumer demand for credit. While the asset class was in its infancy during the extraordinary market dislocations of the 2007-2009 financial crisis, our stress-test forecasts comparing consumer credit performance relative to broad equities and corporate bond indexes provide an indication as to how they might perform in a future downturn.

About LendingClub

LendingClub was founded to transform the banking system to make credit more affordable and investing more rewarding. Today, LendingClub's online credit marketplace connects borrowers and investors to deliver more efficient and affordable access to credit. Through its technology platform, LendingClub is ableto create cost efficiencies and passes those savings onto borrowers in the form of lower rates and to investors in the form of solid returns. LendingClub is based in San Francisco, California.

For more information, please contact us at Investing@LendingClub.com or call us at 888.596.3159 (7 am-5 pm PT, Monday-Friday).

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